Title: 2016 Excellence Award entry

Name of category: Special Waste

Name of entrant organization as you want it to appear on the award trophy if you win: San Luis Obispo County Integrated Waste Management Authority

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Title of entry as you want it to appear on the website: Special Treatment for Special Waste

Jurisdiction (city, county, parish, province, state, region, multiple states, etc.): The San Luis Obispo County Integrated Waste Management Authority is a Regional Joint Powers Authority that includes San Luis Obispo County, California and the 7 cities within the County, Arroyo Grande, Atascadero, Grover Beach, Morro Bay, Paso Robles, Pismo Beach and San Luis Obispo.

Approximate population of the jurisdiction: 280,000

Cost per household for the project: 30 cents per month per household

Approximate budget: $415,000
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Executive Summary

Special Waste deserves special treatment. Waste becomes special waste when it cannot be managed like garbage. Some characteristic of the waste results in a need to manage the waste in a different way than garbage. For example special waste may be toxic, flammable, pose handling risks or are likely to be diverted.

The San Luis Obispo County Integrated Waste Management Authority (IWMA) is a regional agency in California which includes San Luis Obispo County and all seven cities within the County. To better service its member jurisdictions with a combined population of approximately 280,000, the IWMA designed a state of the art special waste program that includes household hazardous waste, universal waste, sharps, pharmaceutical waste, CESQG, electronic waste, thermostats and used oil. Depending on the waste stream, different management strategies are used for safe disposal. The IWMA's innovative program leads the nation in both comprehensiveness and collection rates.

Introduction

The San Luis Obispo County Integrated Waste Management Authority (IWMA) is a regional government agency in California which includes all seven cities within the County and the unincorporated area. The IWMA was formed in 1994 using a joint powers agreement and has a mandate to implement regional waste programs. The 13 person IWMA Board of Directors includes the 5 elected members of the San Luis Obispo County Board of Supervisors and either the Mayor or city council member from each of the 7 member cities. The IWMA Board also includes an elected representative from the 10 Special Districts which manage solid waste.

One of the duties of the IWMA was to develop regional programs for the safe management of special waste. In the beginning, the IWMA special waste categories included household hazardous waste and used oil. However, over the next 22 years the list of special waste has grown to include universal waste, sharps, pharmaceutical waste, CESQG, thermostats and electronic waste. With each new special waste, the IWMA has developed a unique program to properly manage each.

Design and Planning

When designing a special waste program there are two primary considerations: (1) the program must be convenient and easy for the public to use and (2) the program must be cost effective. The IWMA sees these two considerations as the yin yang in that these opposite or contrary considerations are actually complementary, interconnected, and interdependent.
Garbage service exists at almost every household and is usually very convenient and low cost. The challenge with special waste is that you are asking the public to treat this waste differently and in a way that may be less convenient and potentially more costly. To be successful, a program must be convenient and easy for the public to use. At the same time, it is almost impossible to charge the public to use a special waste program. Thus, since the public does not pay through a user fee, the program must be cost effective. If the program is not cost effective, the alternative funding sources will not be sufficient to keep the program going. The following describes the design and planning of the comprehensive IWMA special waste program.

**Household Hazardous Waste.** The most convenient and cost effective method to collect household hazardous waste is through the use of permanent facilities. Permanent facilities are typically open every week and have the equipment to cost effectively manage hazardous waste. The other option, a temporary event, is only open only for one day, and because of the high setup, labor and waste management costs, typically cost twice as much per person as a permanent facility. The challenge with a permanent facility is to keep the construction costs low enough that you can have conveniently located facilities.

The IWMA has built and currently operates six permanent household hazardous waste collection
Paso Robles Landfill Household Hazardous Waste Facility

Cold Canyon Landfill Household Hazardous Waste Facility

Chicago Grade Landfill Household Hazardous Waste Facility
facilities throughout the County. (see above for examples of HHW facilities) By using an innovative design approach, the IWMA has been able to construct its HHW facilities at an average cost of less than $100,000 per facility. This is substantially less than the cost to construct HHW facilities in other California communities. In addition, unlike many communities who take years to build each HHW facilities, the average time for the IWMA to site, design and construct an HHW facility is less than one year.

The key to low cost, quick construction is placing modular units on a concrete pad. The specially designed hazmat modular units include secondary containment and fire suppression. A typical installation includes 1 or 2 hazmat units for receiving, packaging and storage of full drums, a waste oil tank, a storage shed for equipment and supplies and an electronic waste bin.

**Conditionally Exempt Small Quantity Generator (CESQG) Business Program.** Initially the IWMA permanent HHW facilities were not open to CESQG businesses. Businesses, that generate less than 27 gallons of hazardous waste per month, lacked a cost effective way to manage their limited quantity of hazardous waste. Working with the businesses and modifying the HHW facility permits, the IWMA established a CESQG business program at the 5 permanent HHW facilities located near businesses.

This program is by appointment only and there is a charge to use it. The fee paid is the disposal cost plus 20% to cover processing and management. Thus, CESQG businesses now have a convenient and cost effective method of disposing of hazardous waste.

**Electronic waste.** The California Electronic Waste Recycling Act of 2003 essentially prohibited the disposal of most electronic waste in landfills. Working with a local company, the IWMA established electronic waste drop-off sites at the 6 existing permanent HHW facilities. Because of the value of the scrap metal and the payment for TV and computer monitors, it was possible to establish this program at no additional cost.

**Universal waste, sharps and pharmaceutical waste.** Universal waste includes many items, such as fluorescent lamps, cathode ray tubes, batteries and thermostats. On February 8, 2006, California prohibited the disposal of universal wastes in landfills. Additionally California law prohibited the disposal of home-generated sharps waste in landfills effective September 1, 2008. In September 2014 the United States Drug Enforcement Administration (DEA) adopted regulations governing the disposal of unwanted medicine classified as controlled substances. While unwanted medicine can still be disposed of in landfills, for a number of reasons, this should be avoided.

The six existing permanent HHW facilities, while strategically located to maximize hazardous waste collection, fail from the public's perspective to be convenient enough to change longtime disposal habits (i.e. tossing universal waste into the garbage). Studies show that the public is willing to drive up to 24 miles to dispose of hazardous waste, however, they are reluctant to drive that far to dispose of household batteries, fluorescent lighting, sharps and mercury thermostats.
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A more convenient program than the permanent HHW facility was needed to manage universal waste, sharps and pharmaceutical waste. The IWMA solution was to have the retailers who sold these items take them back from the public at no cost to the public. This would be a convenient and cost effective program.

The IWMA applied for and received a grant from California to establish a take back program initially for fluorescent tubes and batteries. Initially a free program was offered to the retailers, while the local retailers were willing to participate, the large national chains refused to participate. Without all retailers participating, the burden of take back was not being shares among all the stores and the public was confused as to which stores were participating.

To overcome this barrier, the IWMA adopted mandatory retail take-back ordinances. These ordinances require any retail location selling household batteries, fluorescent lighting, medical sharps, mercury thermostats and unwanted medicine must take back the item(s) from the public for FREE. The IWMA worked with the retailers to implement these take back programs. For example, the IWMA provided retail staff education, collection containers and signage at no cost to the retailers. In addition the IWMA provided a pickup service for those retailers who wanted the IWMA to pickup these special wastes.

The IWMA was the first jurisdiction in the United States to adopt these types of comprehensive retail take-back ordinances, because the IWMA believes that properly disposing of special waste should be as easy as purchasing it. Now, instead of only six permanent HHW facilities, the public has more than 250 retail take-back locations for batteries, more than 100 retail take-back locations for fluorescent lighting, 44 take back locations for medical sharps and unwanted medicine, and 21 take back locations for mercury thermostats.

**Used Oil.** In California used oil is considered a special waste. An exemption allows used oil to be picked up on the curb. The IWMA worked with the 5 franchised waste haulers to implement curbside used oil pickup throughout the County. The IWMA provides the haulers with oil collection containers, oil filter bags and oil collection vehicles so that this program can be offered to the public at not cost. The IWMA costs are covered by a grant from California.

**Use of Equipment/Systems and Technologies**

As previously mentioned, when designing a special waste program there must be a balance between convenient and easy for the public to use and cost effectiveness. This balance also applies when selecting equipment and technologies.

Equipment and technology should be suitable for the function that is being performed. For example, battery buckets should be simple but properly labeled so that the
public knows to put their batteries in the bucket. Another example is that permanent HHW facilities have hazmat units with secondary containment and fire suppression. These units cost $100 per square foot. On the other hand, a storage shed cost $10 per square foot. Thus full drums of hazardous waste are stored in the hazmat units, but supplies, such as bags of absorbent and tyvek coveralls, are stored in the storage shed not the hazmat facility.

The IWMA is also very aware that equipment provided to the public must be easy to use and have the appropriate instruction attached to the equipment. For example the IWMA provides pharmacies with sharps containers to give to the public. The container has clear instructions on the label that says, “Return full container to the San Luis Obispo County pharmacy of your choice for FREE disposal.” This insures that the sharps containers are returned to pharmacies and that the pharmacies only receive sharps in a proper container. If the IWMA provided a standard labeled sharps container with separate instruction sheet, the sheet would likely be lost by the time the sharps container was full.

In addition the IWMA provided pharmacies with kiosks for the collection of unwanted medicine from the public. These kiosks, which are handicapped accessible, allow the public to dispose of their unwanted medicine in a kiosk that complies with the DEA regulations.

1 quart sharps container  Kiosk for unwanted medicine
For the curbside oil collection program, the IWMA also provides franchise haulers with oil containers and oil filter bags with instructions on them. This insures that oil is properly handled. The IWMA also received a grant to provide the franchised haulers with CNG powered oil collection vehicles. Thus, not only is oil being collected, but the environmental impact to do the collection is minimized by the CNG powered truck. According to the California Air Resources Board, CNG vehicle reduce smog-forming emissions of CO by 70%, NOx by 87% and greenhouse gas emissions by 20%.

CNG Powered Oil Collection Truck

Environmental Benefits and Regulatory Compliance

Special wastes are those wastes which cannot or should not be disposed of in a landfill. The IWMA has been proactive in establishing programs to manage these special wastes. The residents of San Luis Obispo County have convenient programs to properly dispose of household hazardous waste, universal waste, sharps, pharmaceutical waste, CESQG, electronic waste and used oil. For example most communities have no locations that will collect household batteries yet there are hundreds of retail locations collecting household batteries.

All IWMA programs have been designed to comply with applicable federal and state regulations. The 6 permanent HHW facilities are inspected on an annual basis by the Environmental Health Department. The sharps program includes California Department of Public Health permits. The unwanted medicine take back program has been specifically designed to comply with DEA regulations. In the 22 years of operations, the IWMA has never been fined by a regulator agency. In addition, when there is any minor citation, such as a mislabeled drum, the problem is immediately corrected.
Worker Health and Safety

Worker health and safety are the number one priority at the IWMA. In 22 years, the IWMA has never had an accident or a workers comp claim. On a monthly basis staff is provided with safety information. Each of the 6 permanent HHW facilities have operations manuals that include a section on workers safety. All workers at the HHW facilities have 40 hour Hazwopper training that includes an 8-hour annual refresher course.

The IWMA is always concerned with the public’s safety. For example the public is not allowed out of their cars at the permanent HHW facilities. Instead technicians, with the proper safety equipment, unloads the waste. With the sharps program, the public is provided with free sharps containers to insure that sharps are in appropriate containers and not coffee cans, bleach bottles, etc. With the oil program the public is provided with oil collection containers and oil filter bags, a significant improvement over milk jugs and plastic lunch bags.

Performance, Economics and Cost Effectiveness

Performance is directly related to public convenience. The IWMA has what we believe is the most convenient special waste program in the United States. For a County with only 280,000 residents, the following is provided:

- 6 Permanent Household Hazardous Waste Facilities conveniently located throughout the County and open every week
- Curbside used oil collection available to every resident
- Over 250 businesses collecting household batteries
- Over 100 retail take-back locations for fluorescent lighting
- 44 businesses collecting sharps and unwanted medicine including controlled substances
- 21 businesses collecting mercury thermostats
- CESQG business program

With this level of convenience, the amount of special waste collected has been significant. Using the numbers submitted to California for last fiscal year, the IWMA reported the following:

- 7,840 visits to a permanent HHW facilities or about 7% of all households
- 1,975,000 pounds (1,300,000 electronic waste and 675,000 hazardous waste) collected at the HHW facilities
- 12,761 gallons of curbside collected used oil
- 1,230,000 household batteries
- 1,050,000 sharps
- 118,000 fluorescent lamps and CFLs
- 5,000 pounds of unwanted medicine
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All of the above special waste programs are offered at no cost to participants. Thus, any resident can: (1) bring household hazardous waste and electronic waste to a HHW facility, (2) leave oil on the curbside for collection, and (3) drop off universal waste, sharps and unwanted medicine to businesses that sell those items. For these programs a surcharge of 30 cents per month is added to the monthly garbage bill. Additional funding is provided by grants from the state of California and by businesses who serve as take back locations.

When implementing these programs, the IWMA did not incur any debt. All 6 permanent HHW facilities were either funded with grants or through the operating budget. This was possible because of the low capital cost of these facilities. While other communities may have spent 10s of millions of dollars on HHW facilities, the IWMA spent $100,000 per facility.

Customers are happy when they come to IWMA facilities. With 6 HHW facilities no appointments are needed and there is seldom a wait to drop-off waste. In addition, customers can go to their local retail store to drop-off their most common universal wastes such as batteries and fluorescent tubes. Sharps and unwanted medicine can be disposed of at all the pharmacies.

Public Acceptance, Appearance and Aesthetics

The IWMA was able to site all 6 permanent HHW facilities with no public opposition. Three of the facilities are located at existing landfills and 3 are located at government wastewater treatment facilities. There are no neighbors close to these locations and the HHW facilities are a minor part of the existing operation.

The IWMA takes great pride in its special waste program and wants the appearance of the program to reflect the quality of the program. As part of the operating budget, the permanent HHW facilities have an annual refurbishment. This involves painting both the inside and outside of the buildings. In addition retail take back collection containers are routinely checked and any damaged or worn one is replaced with a new container.

Finally the IWMA’s outreach program includes a website (www.iwma.com), recycling guide in the phone book and numerous brochures provided to outreach locations. Education material also targets specific audiences. For example the brochure about the sharps program has been provided to doctor offices so that when they write a prescription that involves sharps, a brochure can be provided to the patient. In addition the brochures are printed in both English and Spanish. The following pages include examples of the IWMA brochures.

In the past, the IWMA’s special waste program has been recognized by CAL/EPA with two awards, the Program Excellence Award and The Outstanding Policy Advancement Award. In addition, in 2011, the IWMA was once recognized by the North American Hazardous Material Management Association with a Program Excellence Award.
FREE Pharmacy Medicine TAKE-BACK

A program for San Luis Obispo County residents to safely dispose of unwanted household medications. NO BUSINESSES PLEASE

RECEPCIÓN GRATUITA de medicamentos farmacéuticos

Un programa para los residentes del Condado de San Luis Obispo para eliminar de manera segura los medicamentos de uso doméstico no deseados. EMPRESAS POR FAVOR ABSTENERSE
Don't Flush or Trash....
Proper disposal of unwanted medication is safer for our community and the environment.

Wastewater treatment facilities are not designed to remove medications, so these materials pass untreated into our water systems. Medications thrown into the trash can be retrieved by individuals, pets, and wildlife resulting in accidental poisonings.

Ask Your Pharmacist for FREE Unwanted Medication Disposal Options
Starting September 1, 2015, all pharmacies in San Luis Obispo County will have a kiosk for unwanted medication disposal or offer you a FREE pre-paid mail-back envelope for your unwanted medications.

What Items are NOT accepted?
- No sharps (the pharmacy has a separate program for needles), no illegal drugs, no thermometers, no medicines from businesses and no non-prescription personal care products such as shampoo, soap, lotions, etc.

Who Can Use This Program?
Any resident of San Luis Obispo County may dispose of their unwanted medication through their pharmacy's program. Business and health care professionals CANNOT use this program.

What's Home Generated Medication?
Prescription drugs, including lotions and ointments used for home medical care.

How Do You Use the Mail Back Envelope?
When you pick up your prescription, the pharmacy will offer you a FREE prepaid, preaddressed envelope which you can use to mail unwanted medicine off for safe disposal. You can also ask your pharmacist for an envelope if you previously purchased the unwanted medication from them.

How Do You Use the In Store Kiosk?
Place your home generated medicine in the kiosk. You may want to place all unwanted pills in a small plastic bag. Then, bring that bag into the pharmacy and place it in the kiosk.
Sharps Brochures in English and Spanish
Oil Collection Brochures in English and Spanish