



Household Hazardous Waste Programs Are Making a Difference

Every day, each one of us does something in our daily lives that creates some small amount of waste. Many non-hazardous wastes are easily recycled because it is cheaper to reuse the packaging material than it is to create new materials from the forest or the mine. The aluminum in soda containers can be melted and formed into new cans and the fibers in cardboard can be made into new paper products. Plastics are new to the human experience, as indicated by this word first being used as a noun in 1905, according to Webster. Plastics cover a wide range of products and uses, and describe almost any material not made of metal or wood. While most of us can differentiate between the handful of metals that we're often in contact with (iron, copper, aluminum, silver and gold), we can't easily differentiate between a 1, 2 or 5 resin. The recycling of plastics is complex chemistry, but generally, non-hazardous. (That's not to say that a discarded plastic grocery bag blowing in the wind can't stick to your car's hot exhaust pipes and start a fire!)

If you have taken the necessary time to contemplate the complexity of the recycling of solid wastes, let's move on to the recycling of liquid wastes. Human wastes are typically treated by wastewater treatment plants or lagoons where homes and businesses in close proximity make these possible. Where homes are more widely spaced, individual septic systems or wastewater lagoons recycle the wastewater through the soil or atmosphere. These systems are designed for human waste, not "industrial" wastes. Effluent, the recycled wastewater from large treatment plants, is typically returned to rivers and the environment of aquatic wildlife. Some will become a downstream resident's drinking water.

Household hazardous wastes (HHW) are leftover products used in a home that contain corrosive, toxic, ignitable or reactive ingredients. These materials are at their worst when they are improperly disposed. First and foremost, these wastes in liquid form are not to be disposed by dumping

them down the sink or floor drain. Doing so may compromise a septic system, leading to premature failure and cause sewage to surface where children and pets can be exposed. On a sanitary sewage system, these chemicals may pass directly through the plant and into the environment. With just a little bit of effort, these household hazardous wastes can be taken out of the home and reused, recycled or disposed, safely. The Kansas Department of Health and Environment's Bureau of Waste Management estimates that

one percent of all "solid" waste in Kansas should be classified as Household Hazardous Waste.

To better understand this program, I visited Shawnee County's Household Hazardous Waste Facility on May 4, 2012. Upon arrival, Manager Eddie Spencer and his co-worker, Andrew Kopp, met me. They gave me a tour of the building (in reverse order) and showed me how it is operated.

My first stop was to the Reuse Room. I was told that it is common for people to bring relatively fresh items that don't need to be recycled if the products can be reused. Maybe someone bought an economy-sized package that had a lot more product than they needed but was so much "cheaper" on price-per-ounce than a smaller package, so they opted for the larger size. Or maybe the product did not work as well as a similar name-brand product and they now choose not to use it. For example, a nearly full bottle of window cleaner may be left at the facility because the purchaser doesn't like the scent or its performance. The bottle of window cleaner, and anything else that can still be used, can be available for a less discriminating user for free. On any particular day, a person might be able to find a half-full can of a brush-killing herbicide, a tub of car wax or some furniture polish. Mr. Spencer says that a number of people stop at the Reuse Room to check for free items before driving to the grocery or hardware store.

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The Reuse Room in the Shawnee County HHW Facility has many household products free for the taking. The blue walls of this room have been painted with remixed latex paint brought in for reuse.

The second stop on the tour was the Paint Mixing Room. Many gallons of latex paint are collected at the HHW Facility and at paint collection days sponsored by local paint stores. The paint collected, if it has not solidified, is mixed together and offered for free to the public for reuse. It used to be that the free paint offered for reuse always came in some shade of tan. Now, with the efficient layout of the facility and the large quantity of paint received, the five gallon cans of paint can be mixed with similar colors, so there are often shades of greens, blues and browns, in addition to tans and off-whites, available. If you have a shed or a basement room that doesn't need an exact match, the Shawnee County HHW Facility will likely have a color that will complement the color scheme of your home.

The only cost to the public for the paint is a \$5 deposit on the 5-gallon paint can. If you bring an empty can, it can be

exchanged for a full one at no cost. They routinely see 500 gallons of remixed paint go out the door every month.

The third stop on my tour was the Flammable Room. This part of the facility is separate from the rest of the facility to contain any fumes that could escape during repackaging. Here, old fuels, oil-based paints, etc., are removed from their old containers and packed with similar fluids in new steel drums. The room is ventilated to reduce the risk of explosion. These liquids are usually blended with fuels for cement kilns and consumed in the cement making process.

This room has been recently renovated to lower the original light fixtures. It used to take two people to use what could be the largest stepladder ever sold for commercial use, to change out light bulbs when needed. Lighting in this room will likely be improved, making work in the room safer. New steel doors have also been installed which will



Eddie Spencer of the Shawnee County HHW Facility demonstrates how 5-gallon buckets of latex paint are moved from carts to the mixing table and back. The same device is used to lift the less than full buckets for pouring into buckets ready for mixing.



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Andrew Kopp of the Shawnee County HHW Facility demonstrates how gas cylinders are checked for pressure and how the same device can remove the valve holding the flammable gas inside. With the valve removed and the gas evacuated, the steel cylinder can be safely recycled.

now allow the facility's drum mover (a forklift-like vehicle) to move drums of explosive liquids in and out much more efficiently and safely. This project was paid with a grant from the Bureau of Waste Management.

The fourth stop on my tour was the area where corrosive liquids (acids, caustics) are stored. These items are collected until enough is present to justify a pick-up by one of their contractors. In this area, mercury is also stored. Mercury may arrive in older thermostats, in thermometers, or in an old peanut butter jars. Fluorescent light tubes and the new style "CFL's" are also accepted and recycled.

The Sorting Room is the area that has the most activity, especially on collection days. It is here that quick decisions are made regarding the items are brought in by the public. Shawnee County's HHW Facility is open during the week and on the first Saturday of every month except January and July. These Saturday collection days seem to be the most popular for the general public. It is not uncommon for more than 200 vehicles to come through on a Saturday morning to drop off items found under sinks, in basements, garages, sheds and barns. To get these people through the facility without them losing their patience and potentially discarding their hazardous waste inappropriately, decisions must be reached quickly that are accurate. In this area, uncommon items are often held until properly handling can be determined. On the day of my visit, a number of old handheld fire extinguishers were being stored until arrangements could be made to properly recondition them or recycle their constituents.

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Near the drive-through drop-off zone, a dumpster of disposable butane and propane cylinders is present. Some of these containers have been brought by Shawnee County's Recycling Department, where the cylinders were left for recycling with steel food and aluminum beverage cans. Some have been brought here for recycling by individuals. Because they cannot be refilled, the metallic containers are perfect candidates for recycling. However, before these cylinders can be recycled, they must have their filing valves removed and any remaining



After gathering the required information from a customer, Mr. Kopp and Mr. Spencer discuss the best way to remove these barrels of unknown fluids brought to the of the Shawnee County HHW Facility. The challenge of addressing these problems and knowing these potentially dangerous chemicals have been removed from the environment gives the HHW staff a strong sense of satisfaction.

flammable gases evacuated. The HHW Facility has a special device to check the internal pressure of the cylinder and if it has a substantial amount of gas remaining, it may go to the reuse room. If it is nearly empty, the same device can remove the valve and ready the cylinder for recycling.

As the cylinder decommissioning demonstration was ending, a Shawnee County resident arrived with two drums of unknown contents on a trailer. He explained that a previous resident of his property may have operated an automotive repair shop - maybe for personal use, maybe unadvertised commercial use - and the drums likely contained use motor oil and antifreeze, respectively. He wasn't sure of any of the details from the past but he was sure that the liquids needed to go somewhere safe,

especially before the steel drum rusted through. Mr. Spencer and Mr. Kopp had the resident move the trailer forward so that they could get the drum mover in position to lift the drums off of the trailer. The drums were placed on a rack for future content confirmation by the contractors that routinely pick up these liquids.

The last stop on my tour was an area outside the building. Shawnee County has recently installed a waste oil recycling tank where individuals can dump their own used motor oil for recycling. Adjacent to the waste motor oil is a receptacle for used cooking oil, just like those found behind many restaurants. As outdoor deep-frying has increased in popularity, so has the need for proper disposal of used cooking oil. While cooking oil is probably is not as

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Household hazardous waste

hazardous as used motor oils to the environment, it is an item that doesn't need to be disposed in a landfill, if another disposal option is available.

The amount of hazardous household waste generated in a community can be very unsettling if you can visualize all of it collected in one place. It is amazing how much of this hazardous material is now collected statewide that does not go into someone's drinking water. Shawnee County's HHW Facility opened in 1995 and had just over 500 individuals leave unwanted hazardous materials that first year. In Fiscal Year 2011, Shawnee County's HHW Facility had 2,098 individuals drop off one or more hazardous materials. The first ten months of Fiscal Year 2012 has seen an increase of 38 percent in users, as compared to the entire year of 2011. They likely exceeded the mark of 3,000 individuals at May's Saturday Collection Day. This facility is no longer a quiet building tucked away in a corner of the old sanitarium grounds. It has become an important resource for the residents of Shawnee County.

The Bureau of Waste Management at the Kansas Department of Health and Environment believes that the Household Hazardous Waste program in Kansas is the nation's strongest. Funding for this program was started in 1989, and later made permanent. Since inception, \$4.6 million has been raised through landfill tipping fees and returned to the counties of Kansas to operate the various county programs. Last year alone, it is estimated that 5.5 million pounds of household hazardous waste was



intercepted from landfills and sewers, and of that 5.5 million pounds, 3.8 million pounds were returned for beneficial uses. No direct federal funding is used in this program. It is a success story owned by Kansans.

Do you want to do more to protect your local water supplies and promote your local HHW facility? There is a regulation that encourages the recycling of used motor oil but I suspect that most Kansans are unaware of it.

K.A.R. 28-31-16(d). Each seller of more than 500 gallons per year of lubricating oil or other oil in containers for use

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For Immediate Release – April 19, 2012

Miranda Steele, 785-296-5795 KDHE, Board of Pharmacy Announce Kansas Medication Disposal Program

Topeka – The Kansas Medication Disposal Program was introduced today at the Statehouse by the Kansas Department of Health and Environment (KDHE) and the Kansas Board of Pharmacy. Senator Vicki Schmidt, Representative Tom Sloan and Representative Doug Gatewood joined KDHE and the Board for this announcement. The purpose of the disposal program is to make collection centers available statewide for the disposal of uncontrolled medications generated by households, long-term care facilities and hospice care facilities.

Under the Kansas Medication Disposal Program, participating pharmacies and household hazardous waste (HHW) facilities can serve as collection centers for uncontrolled medications while law enforcement agencies can collect both uncontrolled and controlled medications in accordance with the Controlled Substances Act.

“Storing unwanted or expired medications in the home poses a significant health risk to Kansas families. Children can be injured or even die from accidental ingestion. This Medication Disposal Program is a collaborative effort in providing a way for Kansans to safely and conveniently get rid of uncontrolled medications,” said Robert Moser, M.D., KDHE Secretary and State Health Officer.

Without this program, there are limited proper disposal opportunities for uncontrolled medications in Kansas, said Bureau of Waste Management Director Bill Bider. “While disposal at a participating HHW facility is acceptable, there are few participating locations at the present time,” said Bider. “In addition, residents may dispose of unwanted pills in their routinely generated household trash, but unless the medications are mixed with other

trash to render them unusable, they may still be recovered and misused.”

Due to a lack of convenient disposal options, some people may inappropriately dump medications down the drain presenting risks to the environment since medications generally bypass wastewater treatment facilities impacting wildlife and public water supplies.

“Removing unwanted medications from the home and disposing of them in this recommended manner is important to reduce the risk of accidental ingestion for our families and neighbors. Our pharmacies are very excited about this medication disposal program. Soon Kansans will see both our independent and our national pharmacies in Kansas participating, so please check the online map in the coming months to see where those pharmacies are located,” said Debra Billingsley, Executive Secretary of the Kansas Board of Pharmacy.

The State of Kansas hopes this new disposal program will ease the burden on Kansans looking to rid their homes of unused medications. Since 2000, Kansas has seen an increase of 150 percent in the hospital discharge rate for unintentional drug poisoning. Between 2007 and 2009, Kansas children ages five years and younger had the highest emergency department visit rate (157.6 per 100,000, or 952 children total) for unintentional drug poisonings among all age groups (2,499 people).

An interactive map is available on the KDHE website showing the location of participating pharmacies and HHW facilities. With today’s rollout of the program, pharmacies statewide are expected to enroll in the coming weeks. More information about the Kansas Medication Disposal Program can be found online at http://www.kdheks.gov/waste/about_medwaste.html.

off the premises shall post and maintain, near the point of sale, durable and legible signs informing the public of the importance of the collection and recycling of used oil. The signs shall indicate how and where used oil can be recycled and shall include locations and hours of operation of conveniently located collection facilities.

Have you seen such a sign where motor oil is sold? Ask the staff at your local HHW facility if you can help create these signs and deliver them to your local auto parts retailers and farm supply stores. Find your local HHW facility at <http://www.kdheks.gov/waste/hhw/HHWpointofcontact.pdf>.

Recently, the State of Kansas started a Medication Disposal Program for unneeded over-the-counter

medications and pharmaceuticals not subject to the Controlled Substances Act. This program, once in full operation, should intercept more potentially dangerous chemicals from entering our water supplies. The press release announcing this new program is printed above.

Douglas S. Helmke has been the Water Rights Tech at KRWA since June 2000, and also a Wellhead / Sourcewater Protection Tech since 2003. He holds professional geologist certification in Kansas and Missouri. Doug received a B.S. degree in geology from Kansas State University.



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