Business Pollution Prevention Program

Auto Recyclers Technical Assistance Campaign

Thurston County Hazardous Waste Program

August 2003

THURSTON COUNTY
WASHINGTON
SINCE 1852

BUSINESS POLLUTION PREVENTION

Acknowledgments

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The Thurston County Hazardous Waste Program serves small businesses in Thurston County and the cities of Bucoda, Lacey, Olympia, Rainier, Tenino, Tumwater, and Yelm.

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Introduction

This report summarizes the business inspection campaign completed for the auto recycling industry. The campaign was conducted by the Thurston County Environmental Health Department as part of their Business Pollution Prevention Program. The campaign was funded through tipping fees and a grant from the Washington State Department of Ecology. Activities were designed to address issues relating to pollution prevention and compliance with current hazardous waste regulations.

Technical assistance visits began in the fall of 2001 and follow-up visits were performed throughout 2002 and ended in the spring of 2003. The technical assistance provided to the facilities focused on storage of hazardous material, disposal and reuse options, documentation of waste disposition, and site contamination. Follow-up visits were made to insure all facilities were compliant with the Thurston County Nonpoint Source Pollution Ordinance and to verify each businesses small quantity generator status. The ordinance is designed to prevent pollution of water resources by requiring proper management of hazardous materials. The campaign also focused on presenting the industry with a set of best management practices that if conducted would minimize hazardous waste generation and the potential for their release.

The county regulates businesses with small quantity generators (SQG) status, while the Washington State Department of Ecology regulates businesses with medium (MQG) and large quantity generator (LQG) status. Small quantity generators (as defined in WAC 173-303-070) may not generate more than 220 pounds of hazardous waste per month or batch, and may not accumulate or store more than 2,200 pounds at any time.

Goals

Industry campaigns are an element of the Thurston County Business Pollution Prevention Program. Success of the Business Pollution Prevention Program is measured by goals established in the 1998 Hazardous Waste Plan for Thurston County. The goals are:

1. Protect ground water, surface water, soils, sediments, and private property from hazardous materials and hazardous waste contamination.
2. Increase the rate of waste reduction, which conserves resources and reduces demand for disposal and recycling services.
3. Increase the percentage of hazardous waste collected (that cannot be prevented through waste reduction in the first place).
4. Reduce the amount of hazardous materials that is improperly stored, improperly disposed, and accidentally spilled into the environment.
5. Reduce damage to collection and transfer vehicles, and disposal equipment, and reduce disruption of treatment facilities by ensuring hazardous waste is kept out of these facilities or systems.
6. Reduce potential for causing publicly-owned facilities such as the landfill or sewage treatment plants, to exceed pollutant discharge limits.

Methodology

The campaign began by contacting the Washington State Department of Ecology's Hazardous Waste Toxics Reduction program to obtain existing industry information. This educational material was reformatted to present to Thurston County facilities and to better reflect an emphasis on complying with the county's Nonpoint Source Pollution Ordinance. Thurston County then looked at the hazardous materials that are contained in vehicles and made a determination as to which materials may cause a vehicle to be designated as hazardous waste if they were not removed prior to disposal. For this industry, the hazardous materials required to be removed were; antifreeze, gasoline/diesel, crank case oil, batteries, refrigerants (freon), lead tire weights, and residual crusher fluids. The residual crusher fluids are a mixed hazardous waste generated at the time of crushing and collected from a sump area beneath the crusher. Batteries and tire weights were included in the hazardous wastes because when a facility removes them from a vehicle, as required by the crushing companies, they are likely to be designated hazardous waste. Voluntary best management practices were presented for the removal of mercury switches, brake fluid, windshield wiper fluid, undeployed air bags, mercury containing light bulbs and petroleum contaminated soil.

Once the program was set up a list of the licensed auto recyclers was compiled. These businesses were mailed a letter inviting them to participate in the campaign and asked to set a time for an initial technical assistance visit. All seventeen licensed auto recyclers participated in the campaign.

At the initial site visit an inventory was collected of the types and amounts of hazardous materials stored, how it is collected, as well as other facility design and procedural information. The county inspectors looked for documentation of each hazardous waste stream a facility claimed to remove from incoming vehicles. If the facility did not have proper documentation for the waste's disposition, then the inspectors provided examples of what would satisfy the requirement. Receipts were required for wastes that get picked up by vendors and manifesting (type, amount, recipient, date) for wastes that get reused on-site. Facilities that removed more than the required seven hazardous waste streams were encouraged to continue to collect and separate them but had to document the disposition of all hazardous wastes. Facilities that did not have documentation for all hazardous waste streams collected continued to receive follow-up inspections until they achieved compliance.

Overview and Results

Table 1: Basic Information

Project team:	Patrick Soderberg, John Libby, Tara Chestnut
Start and end dates:	August 2001 – May 2003
Funding source:	Coordinated Prevention Grant
Today's date:	7/1/03
For more information:	Patrick Soderberg (360) 754-4111x7273 or soderbp@co.thurston.wa.us

Table 2: List of Licensed Auto Wreckers in Thurston County

Name	Address	City
Allen Auto Parts	1630 South Bay Rd NE	Olympia
B & H Auto Wrecking & Sales	17505 - 110th Ave SE	Yelm
Barlow Auto Wrecking	15822 Vail Loop, PO Box 668	Rainier
Pick A Part	8010 Old Highway 99 SE	Olympia
Black Lake Auto	5612 Black Lake Blvd	Olympia
Columbia Industries Wrecking Yard	17005 Old Highway 99 SE	Tenino
Fine Family Motors	6130 SW 203rd Ave	Rochester
U-Save Foreign Auto Parts	5825 SE 89th	Olympia
John's Auto Wrecking	411 - 93rd Ave SW	Olympia
Lacey Auto Wrecking	109-B Carpenter Rd NE	Lacey
Nisqually Auto Wrecking & Towing	9319 Martin Way E	Olympia
Ram Auto & Truck Recycling	8048 Martin Way	Olympia
Tom's TLC Towing	18010 - 119th Ave SE	Yelm

Table 3: Audience Size

Number of sites targeted for inspections:	17
Number of sites that received an inspection:	17
Number of sites that were referred to another agency:	1
Number of sites that refused to grant access:	0
Number of licensed auto wreckers:	13
Number of sites that were found not to be operating a wrecking yard:	4

Table 4: Initial and Follow-Up Inspections

Number of initial inspections:	17
Number of follow-up inspections:	26
Number of total initial and follow-up inspections:	43

Table 5: Compliance Results

Compliance Status	At the time of the Initial Inspection	After Follow-Up Inspections	At the end of Campaign
In compliance	4	10	12
Out of compliance	9	3	0
Notice of violation issued:	N/A	3	0
Total Sites	13	13	12*

* After the follow-up visits documentation from a crushing event showed that one operator was not a small quantity generator of hazardous waste and was referred to the Department of Ecology.

Table 6: Compliance Issues

Compliance Issue	At the time of the Initial Inspection	After the Follow-up Inspections
Hazardous material with secondary containment (est.)	3720 Gallons	5490 Gallons
Hazardous waste streams with improper disposal	Unknown	0
Waste streams without disposal/reuse documentation	30	0

Table 7: Secondary Containment and Proper Disposal

Amount of secondary containment installed b/c of site visits (estimate)	1770 Gallons
Amount of hazardous materials verified to be safely stored (estimate)	5490 Gallons

Table 8: Types and Amounts of Hazardous Materials Stored

Hazardous Material	Number of Facilities	Amount*
Antifreeze	9	720 Gallon
Gas	6	796 Gallons
Oil	11	3355 Gallons
Solvent	4	70 Gallons
Mixed Waste (mostly crusher fluids)	8	175 Gallons
Batteries	9	374 Each
Shop Towels	4	4 Boxes
Freon	1	5 Pounds
Mercury Switches	1	12 Switches
Lead Weights	2	35 Pounds

* Estimated at time of initial site visits.

Table 9: Best Management Practices for the Auto Recycling Industry

Already Doing	Suggested	Implemented	The following suggestions were made to the industry for managing their hazardous waste. The Thurston County Nonpoint Source Pollution Ordinance does not require these practices, however, we recommended them as they will lessen the potential for a release of hazardous materials to the environment. Many sites were already doing some of these practices prior to the campaign.
			Spill Containment and Clean-up
4	8	0	• Create a spill plan and train staff on how to prevent, contain, and clean up spills.
9	3	3	• Clean-up spills and leaks immediately using absorbents or by excavating contaminated soil.
4	8	2	• Maintain a drum for petroleum contaminated soil.
			Site Maintenance
7	0	0	• Maintain all sumps and fluid containment units regularly and empty sludge and accumulated fluids.
9	2	0	• Sweep all floors before washing them to prevent discharges of contaminated wash water.
5	7	0	• Obtain and have available Material Safety Data Sheets for hazardous materials handled at facility.
			Storage
11	1	0	• Use compatible storage containers with sealed lids for all fluids.
3	9	0	• Provide fluid storage containers with level indicators on them to prevent overfilling.
1	11	0	• Set up separate waste containers for mercury switches, oil filters, and lead parts.
9	3	0	• Store batteries upright and stack them no more than 5 high, ideally in a closed container.
9	3	0	• Label all waste containers clearly.
11	1	0	• Avoid stacking waste fluid containers.
			Solvents
3	0	0	• Use a solvent recycling service for parts washers.
6	0	0	• Keep solvents in closed containers.
			Hazardous Material Management
9	3	0	• Remove all fluids, undeployed air-bags, and tires before crushing.
8	4	0	• Install and maintain impervious surfaces in all fluid drainage areas.
12	0	0	• Use portable steel trays/drip pans to collect residual fluids.
11	1	0	• Dismantle and drain fluids as soon as possible after receiving vehicles.
0	11	0	• Close off all cut fluid lines to prevent drips and leaks.
5	7	2	• Use pumps, siphons or funnels to transfer fluids rather than pouring from open trays and pans.
2	10	0	• Remove mercury switches and handle as hazardous waste.
			Recyclable and Solid Waste
12	0	0	• Reuse or recycle used oil.
12	0	0	• Reuse or recycle antifreeze.
11	1	0	• Reuse or recycle gasoline.
3	9	0	• Reuse or recycle windshield wiper fluid.
6	6	1	• Recycle oil filters, making sure to drain them for 24 hours.
7	5	0	• Recycle old tires frequently. (No more that 800 may be accumulated at any time.)
12	0	0	• Recycle spent batteries.
7	4	0	• Recycle or launder shop rags by an industrial laundry service.
11	1	1	• Maintain frequent garbage service.

Table 10: Customer Survey Response (Three surveys returned)

Survey Question	Yes	No	Unsure	No change needed
1. Was your business in compliance at the initial visit?	**2**	**1**	**0**	**0**
2. Did the program provide you with helpful information?	**3**	**0**	**0**	**0**
3. Did the visit assist you in making changes in the way you mange your hazardous materials?	**2**	**0**	**0**	**1**
4. Did the specialist answer specific questions and help solve specific problems?	**1**	**2**	**0**	**0**
5. Did the technical assistance program provide you with any new information about the auto recycling industry?	**2**	**1**	**0**	**0**
6.Would your business be willing to participate in a future technical assistance campaign?	**3**	**0**	**0**	**0**
7. In addition to technical assistance program, TCEH provides businesses with a hotline, disposal site, and workshops. Do you currently use or will you use these services?	**2**	**1**	**0**	**0**
Which services: **1. Workshops.** **2. Low cost disposal site (Hazo House).**				
8. Are there additional services TCEH can provide? **A lower cost tire disposal option.**				
9. What frequency would seem appropriate for technical assistance site revisits?	**Annually** **0**	**2 Years** **1**	**3 Years** **1**	**5 Years** **1**
10. What is your opinion of the technical assistance approach that Thurston County took to achieve industry compliance with the local hazardous waste ordinance: **1. Waste disposal should be less expensive.** **2. Secondary containment should be waived if the primary containment is sturdy enough (1/2" thick steel walled tank).** **3. It helps the keep the industry up on current standards.**				

Meeting the Goals of the Regional Hazardous Waste Plan

Protect ground water, surface water, soils, sediments, and private property from hazardous materials and hazardous waste contamination.

- ✓ An entire industry with a great potential to release hazardous material to the environment was inspected and worked with until they gained compliance with the Thurston County Nonpoint Source Pollution Ordinance. Facilities were presented with procedures on how to remove all hazardous materials from all vehicles prior to placing into the yard to help reduce the risk of releases. Four facilities removed petroleum-contaminated soil as suggested during the site inspections. Each facility was asked to maintain a drum for the collection of petroleum-contaminated soil to keep surface soil from contributing to off-site contamination (nearly half of the yards had such a drum or started one after the site visit).

Increase the rate of waste reduction, which conserves resources and reduces demand for disposal and recycling services.

- ✓ Thurston County suggested 118 best management practices to the industry that would help promote reuse and recycling of hazardous materials. At least nine of the best management practices that were suggested to the industry were implemented. The campaign verified that an additional 217 best management practices were being performed voluntarily by the local industry.

Increase the percentage of hazardous waste collected (that cannot be prevented through waste reduction in the first place).

- ✓ Nearly all the facilities were already set up to collect and recover hazardous materials from vehicles and so the inspectors urged these waste streams to be reused or recycled instead of processed as hazardous waste. During the site visits the operators were provided information on how to keep from generating a mixed waste stream that would have to be disposed of as hazardous.

- ✓ Information was provided to facilities on how to remove undeployed air bags (which contain sodium azide) and mercury switches. One facility requested and was provided information on pumps, began using a pump to evacuate hazardous liquids from their tanks and reservoirs so as not to cut lines and cause incidental leaking.

Reduce the amount of hazardous materials that is improperly stored, improperly disposed, and accidentally spilled into the environment.

- ✓ The campaign focused on on-site practices so each facility received at least two site visits in which the inspectors looked at the entire facility and all operations. This approach allowed the inspectors to see how each hazardous material was removed, stored and left the site. The inspection process ensured that each facility understood which vehicular components were designated as hazardous and that they provided documentation for their ultimate reuse or disposal.

- ✓ Six facilities had improper storage of hazardous liquids resulting in the installation of 1,770 gallons of secondary containment due to on-site inspections. The inspection process verified that the industry is storing 5,490 gallons of hazardous liquids properly.

Reduce damage to collection and transfer vehicles, and disposal equipment, and reduce disruption of treatment facilities by ensuring hazardous waste is kept out of these facilities or systems.

- ✓ The inspectors that provided technical assistance to the industry represented the County's Solid and Hazardous Waste sections of the Environmental Health Department, ensuring that both Article V and Article VI of the Non-Point Source Pollution Ordinance were being met. The inspectors looked at both solid and hazardous waste receipts to determine if proper disposal was taking place. As a result of the site visits, one yard obtained ongoing services of a solid waste disposal company. The industry was presented with optional management practices that would allow each yard to further separate hazardous materials found in vehicles and to lessen the amount of mixed hazardous waste generated. If all optional management practices were performed at each yard then the only hazardous waste that would be generated that could not be recycled would be mercury from mercury switches and the occasional water contaminated fluids.

Reduce potential for causing publicly-owned facilities such as the landfill or sewage treatment plants to exceed pollutant discharge limits.

The campaign focused on each facility documenting the reuse, recycling and disposal of all hazardous waste streams. At the beginning of the campaign only two facilities had all the required documentation for hazardous waste management, at the end of the campaign they all had documented waste streams.

Conclusions and Recommendations

What were the most important things learned about this audience?

- ✓ The auto recycling industry is unique from other industries in that they do not have control over the amounts of hazardous material that they accumulate from day to day. With each car that gets towed to the yard, the facility can get over twenty gallons of hazardous liquids and ten different hazardous waste streams. Because of this, regulatory agencies need to help the industry identify the potential hazardous waste streams and explain what is required for documentation and proper disposal (or reuse). Additionally, most of the waste streams can be recycled or reused on-site, which results in businesses having to document the end life of wastes they have never paid attention to before. For instance, recovered gasoline is most often used in on-site rigs or in employees' vehicles.

- ✓ Prior to this campaign, the local industry had not been presented with a guideline stating exactly which hazardous materials contained in a vehicle needs managing. Now that they have a list of seven mandatory waste streams that require documentation, it would be beneficial if there was ongoing regulatory oversight for the near future to reinforce the practice of retaining documentation.

What improvements would you recommend for the next round of inspections for this industry?

- ✓ I would coordinate the campaign with the Washington State Patrol (who licenses the facilities) and precede the campaign with a notification letter detailing what is expected in the form of secondary containment and disposal documentation. This letter would be sent out four to six months prior to any inspections and instead of providing three opportunities to get into compliance, the facilities would be expected to be in compliance right from the start. Any facility not in compliance would be given one chance to make required changes before getting issued a notice of violation (which could hinder them getting re-licensed). I believe this would give more emphasis on maintaining compliance and help bolster the regulatory coordination between WSP and Thurston.

What were the greatest environmental threats that you observed?

- ✓ Facilities that do not remove the fluids from incoming vehicles before they are put out into the yard represent the greatest potential risk to the environment. These facilities rely on the existing integrity of the vehicles parts to continue to retain these liquids. Since most of these vehicles have been in an accident there is a high likelihood of a release of any of the seven hazardous liquids contained in vehicles. Additionally, some of these facilities wait until they contract with a mobile crusher and have the contractor remove residual gasoline. This method does not remove any of the other hazardous liquids in the vehicle and so they are collected in the crusher event (this results in a mixed hazardous waste that cannot be recycled and has to be handled as a hazardous waste).

Overall, what is your impression on how well businesses in this industry are handling their hazardous materials and hazardous wastes?

- ✓ If each facility maintained a petroleum-contaminated soil drum and had all employees diligently clean up spills and leaks as they occur then all the yards would look better. Also, each facility needs to keep up with their hazardous material disposal or recycling and not let them accumulate. Many facilities wait too long before they call their vendors and they often resort to poor or inadequate storage (drums without lids, no secondary containment, and/or stacking waste containers precariously). The industry also lacked documentation for waste streams that were reused (gas used in company vehicles, used oil for burners, antifreeze given to customers, etc.). Most of the wastes were being reused or disposed of correctly but the industry could not verify it.

Other Conclusions or Recommendations

It is a must that auto recyclers provide documentation from their auto-crushing vendor stating how much hazardous material was generated during the crush event. If a facility does not remove all hazardous liquids (process the vehicle) before they have a vendor crush the vehicles, then the crush operator will remove most of the gasoline prior to crushing. This practice will result in the facility generating two waste streams, gas and mixed waste liquid. The gasoline may or may not be a waste, but the combined waste liquid will be designated as a hazardous waste. If the facility generates more than half of a 55-gallon drum of hazardous waste during the crush event then they are not a small quantity generator of hazardous waste and need to report annually to the Washington State Department of Ecology.

Each facility needs to process their vehicles as soon as possible and definitely before they go out into their main yard. During the processing of a vehicle the workers should, at a minimum, drain the crank case oil, drain the transmission, drain the gas tank, drain the radiator, drain brake lines, remove any freon, remove battery, remove tires and their weights, and it would be preferable if they also removed any mercury switches, undeployed air bags, battery clamps, and oil filters.

Because each facility can get a great deal of hazardous material during the processing phase of operation they need to have a lot of secondary containment available. These containment units work the best if they are covered and every employee understands how the waste streams are separated.

I believe this industry should have follow-up inspections every three years at least for the next ten years. I also believe that the hulk hauling industry is so closely linked to the auto recycling industry that they should also be included in the next campaign. The only waste stream that hulk haulers don't produce is the mixed waste from the crushing operation. Getting hulk haulers to process vehicles and document the reuse or disposal of hazardous materials using the same procedures as auto recyclers would be appropriate.

Several approaches could be used to improve the response rate of the customer survey. A follow-up telephone call could be made to the site contact several days after he or she receives the survey. The call would be made by the program supervisor to inquire whether the site contact received the survey and to

encourage him or her to return it. If the site contact does not recall receiving the survey, another copy could be faxed or sent right away. Other approaches for increasing the response rate could be to offer an incentive for returning the surveys or immediately sending a follow-up reminder post card.