



# **TOP TEN HAZARDOUS WASTE VIOLATIONS MEDICAL FACILITIES**

**ARIZONA DEPARTMENT OF ENVIRONMENTAL  
QUALITY**

[www.adeq.state.az.us](http://www.adeq.state.az.us)  
602-771-4104; 800-234-5677

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The Way Things Were – Municipal Landfill, Liquids Disposal Pit  
Along the Salt River, Circa 1980



# Common Sources of Pollutants and Wastes at Medical Facilities

- Pathology/Histology/Cytology Labs; solvents, acids, bases, reactive laboratory chemicals
- Analytical testing/therapeutic drug and poisons labs; solvents, in-organics
- X-ray machines - photo processing liquids and sludges
- Morgue
- Pharmacy
- Basements and surplus yards
- Shipping/receiving;
- Chemical warehouse/stockroom
- Mechanical/paint and other support shops

- Power Plant, HVAC
- Grounds keeping
- Vehicles and Fleet management
- Information Technology & Computers – E-waste
- Waste Storage
- Dumpsters
  
- IPA, xylene, formalin, methanol, mercury, silver



# Mercury Sources

## Common

- Mercury blood pressure devices - sphygmomanometers
- Mercury thermometers
- Mercury thermostats (HVAC)
- Fluorescent lamps

## Other

- Esophageal dilators
- Batteries
- Dental Amalgam
- Mercury switches (boilers)



# Mercury Sources

- Stains
  - Alum Hematoxylin (Solution A)
  - Cajal's Carbol Gentian Violet
  - Gomori's
  - Gogi's
  - Gram Iodine
  - Mercury Chloride
- Fixatives
  - Mercuric Chloride
  - B5
  - Carnoy-Lebrun
  - Helly
  - Ohl amacher
  - Shardin
  - Zeneker's Solution

# Mercury Sources

## ➤ Reagents

- Camco
- Hitergent
- Immu-sal
- **Mercuric Oxide (Stabilur Tablets)**
- Mercury Iodide
- MercMury Nitrate
- Mercury Sulfate
- Mercurochrome
- Mercurophyline
- Million's Reagent
- Nessler's Solution
- Phenl Mercuric Acetate
- Takata's Reagent
- Thimerosal (Buffers, Merthiolate, Mucolex)

# #10 - Reporting & Fees

- Failure to File an Annual Report of your Hazardous Waste activities
  - Due March 1<sup>st</sup> of each year
- Failure to pay all applicable Hazardous Waste Fees
  - Registration Fee
    - \$100 SQG - \$300 LQG
  - Generation Fee
    - \$10 per ton, or
    - \$5 per ton with approved Pollution Prevention Plan
  - Due March 1<sup>st</sup> of each year; or as noted on invoice
- Call HW Data Line: 602-771-4363



## Arizona Department of Environmental Quality

### 2002 FACILITY ANNUAL REPORT (FAR)

for Conditionally Exempt Small Quantity Generators  
Hazardous Waste

Arizona Department of Environmental Quality  
Facility Assistance Unit - 4415A-1  
1110 W Washington St  
Phoenix, AZ 85007-2935

If you have any questions about this form, call the  
Facility Assistance Unit at (602) 771-4363  
or toll-free within Arizona at (800) 234-5677, extension 771-4363

**Instructions for filling out this report are written below.**

Review the information below and correct any errors.

Account Number:	EPA #:
To:	Due Date:

Site Address: \_\_\_\_\_

Standard Industrial Classification (SIC) code(s): \_\_\_\_\_

#### INSTRUCTIONS

**All hazardous waste generators, transporters, treatment and disposal facilities and resource recovery facilities must file a Facility Annual Report.** The reporting year is January 1 through December 31, 2002. Check all pre-printed information and make the necessary corrections. The site address should be pre-printed above. If it is not, enter the site address associated with the EPA ID number on this form. The EPA ID number is site-specific and cannot be transferred to a new facility.

Line 1: Print the name and phone number of the person we can contact if we have any questions about this report.

Line 2: If this facility was in business AT ANY TIME during 2002, check "Yes". If this facility was out of business PRIOR TO January 1, 2002, check "No" and provide the date the facility went out of business.

Line 3: If you want to deactivate your EPA ID number, check "Yes". Also, the date to deactivate.

Line 4: List the total number of pounds of RCRA hazardous waste MANIFESTED OFF-SITE during 2002.

If your site generated more than 1,000 kg (2,200 lbs) of hazardous waste or 1 kg (2.2 lbs) of acute hazardous waste in any month in 2002, or if

# #9 - Satellite Containers

- Failure to limit to 55 gallons at each point of generation.
- Failure to maintain at or near each point of generation.
- Failure to label satellite containers with the accumulation start date, when 55 gallons has been exceeded.
- Failure to move excess of 55 gallons to appropriate storage area within 3 days



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# #8 - Size Class Identification

- Failure to accurately determine your generator status.
- Large Quantity Generators
  - 2200 pounds or more
- Small Quantity Generators
  - More than 220 pounds and less than 2200 pounds
- Conditionally Exempt Small Quantity Generators
  - 220 pounds or less

	<i>CESQG</i>	<i>SQG</i>	<i>LQG</i>
<b>MONTHLY GENERATION RATE</b>	<p><b><math>\leq 100</math> kg/mo</b>  <b><math>\leq 1</math> kg/mo Acute</b>            1 kg = 2.2 pounds            1 kg <math>\approx</math> 1 quart, water weight  <b><math>\leq 100</math> kg/mo Acute, Residue, debris, soil</b></p>	<p><b><math>&gt; 100 - \leq 1000</math> kg/mo</b>            100 kg <math>\approx</math> 1 drum, water weight</p>	<p><b><math>&gt; 1000</math> kg/mo</b>            1000 kg = 2200 pounds or a little more than <math>\approx</math> 5 drums, water weight            1 ton.</p>
<b>MAXIMUM AMOUNT STORED</b>	<p><b><math>\leq 1000</math> kg</b> (Total acute plus non-acute)  <math>\approx</math> 5 drums, water weight  <b><math>\leq 1</math> kg Acute</b>  <b><math>\leq 100</math> kg Acute, Residue, debris, soil</b></p>	<p><b><math>\leq 6000</math> kg</b> (Total acute plus non-acute)  <math>\approx</math> 29 drums, water weight  <b><math>\leq 1</math> kg Acute</b>  <b><math>\leq 100</math> kg Acute, Residue, debris, soil</b></p>	<p><b>NO AMOUNT LIMIT</b>  <b><math>\leq 20,000</math> kg for F006</b>            About 2 roll-offs/15 yards each; About 1 standard 44,000 pound truck load (approximate DOT weight limit for travel on highways).</p>
<b>STORAGE TIME LIMIT</b>	NO TIME LIMIT	<p><b><math>\leq 180</math></b> If less than 200 miles to TSD  <b><math>\leq 270</math></b> If 200 miles or greater to TSD            30 day extension with prior approval from ADEQ</p>	<p><b><math>\leq 90</math> days</b>  <b><math>\leq 180</math> days for F006 Sludge when &lt; 200 miles to TSD</b>  <b><math>\leq 270</math> days for F006 Sludge when <math>\geq 200</math> miles to TSD</b>            30 day extension with prior approval from ADEQ</p>
	40 CFR 261.5	40 CFR 262.34(d)&(e)	40 CFR 262.34(a)&(b)

# Size Class – What to Count

- Regulated Hazardous Waste
- Hazardous waste in Satellite Containers.
- Hazardous waste in CESQG, SQG and LQG storage areas.
- Hazardous waste accumulated in other areas; secondary containment, improperly discharged.
- Counted month to month.
- Call HW Data Line: 602-771-4363 to maintain appropriate size class registration.

# #7 - Training

- Facility staff must “successfully complete” training in safe handling of hazardous waste, and emergency procedures.
- Recommended:

CESQG -OSHA Hazard Communication

SQG -OSHA Hazard Communication  
-40 CFR 262.34(d)(5)

LQG -OSHA Hazard Communication  
-OSHA HAZWOPER 24 hrs  
-40 CFR 265.16



Photo by USDA NRCS



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# #7 - Equipment

- Failure to provide appropriate communication, fire control, spill control, and decontamination equipment, and water at adequate volume and pressure.

<b>NIC</b>	<b>Required Equipment testing &amp; maintenance 265.32</b>
<b>NIC</b>	<b>Is equipment selected to specifically address the: Types of chemicals / Amounts of chemicals / Building, facility type / Type of hazards presented / Site specific factors</b>
<b>NIC</b>	<b>Do MSD Do MDSD's, safety plans, reference materials, or other programs require or suggest use of specific equipment?</b>
<b>NIC</b>	<b>Internal communication or alarm system; immediately available; voice or signal i.e. intercom speaker, siren, fire alarm 265.32a      Location:</b>
<b>NIC</b>	<b>When HW is being poured, mixed or otherwise handled do all personnel have access to internal alarm system? 265.34a</b>
<b>NIC</b>	<b>External communications system; immediately available at operations scene; phone or radio 265.32b      Location:</b>
<b>NIC</b>	<b>If only one staff while operating, do they have immediate access to external communications? 265.34b</b>
<b>NIC</b>	<b>Portable fire extinguishers. A - paper      B - fuels/solvents      C - electrical D - metals Type:      Size:      Location:      Pressure: Monthly inspect: Yearly refurbish date:</b>
<b>NIC</b>	<b>Fire control equipment: Sprinkler systems      Standpipes      Hose systems</b>
<b>NIC</b>	<b>Special extinguishing equipment, foam, inert gas, dry chemical. ID types and amounts: Mixing and application equip. Inspect/test date/record?</b>

# #6 - Contingency Planning

- LQGs – Failure to have a complete, written Contingency Plan, and implement it appropriately.
- SQGs – Failure to have emergency information posted next to the telephone, and implement emergency procedures appropriately.

# Contingency Plan Components

- Evacuation
- Hazard Identification
- Immediate Spill Reporting
  - All Offsite spills of Hazardous Waste
  - Any CERCLA Reportable Quantities, on or off-site
- Extinguishing and Containment
- Clean up
- Follow up written reports

- ADEQ 24 Hour Spill Line: 602-771-2330

# #5 - Illegal Disposal

- Failure to control, contain, cleanup and dispose of properly, any and all releases of hazardous waste.
- Discharge without a permit.
- Storage, treatment or disposal without a permit or interim status or appropriate generator status.





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## #4 - Potential Hazards

- Failure to operate and maintain the facility to minimize the possibility of fires, explosions or sudden or non-sudden releases of Hazardous Wastes to air, soil or surface water that could threaten human health or the environment.
- Failure to “Minimize Hazards”
- Potential fire, spill, chemical and safety hazards.

- Maintain your structures and secondary containment.
- Concrete floors, sumps, trenches, berms.
- Maintain spill control equipment.
- Look for weak points in your design.
- Maintain fire safety equipment – prevention and response.
- Do you comply with Fire Permit and OSHA safety codes?
- Electrical code and building codes??



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# # 3 - Waste Determinations

- Failure to determine if any of your solid wastes are Hazardous Wastes
- Testing – Characteristics
  - Arizona Certified Laboratory
- By Knowledge
  - Material Safety Data Sheets
  - Disposal Service Waste Materials Profile Sheet
  - Product Label and Manufacture's Info.



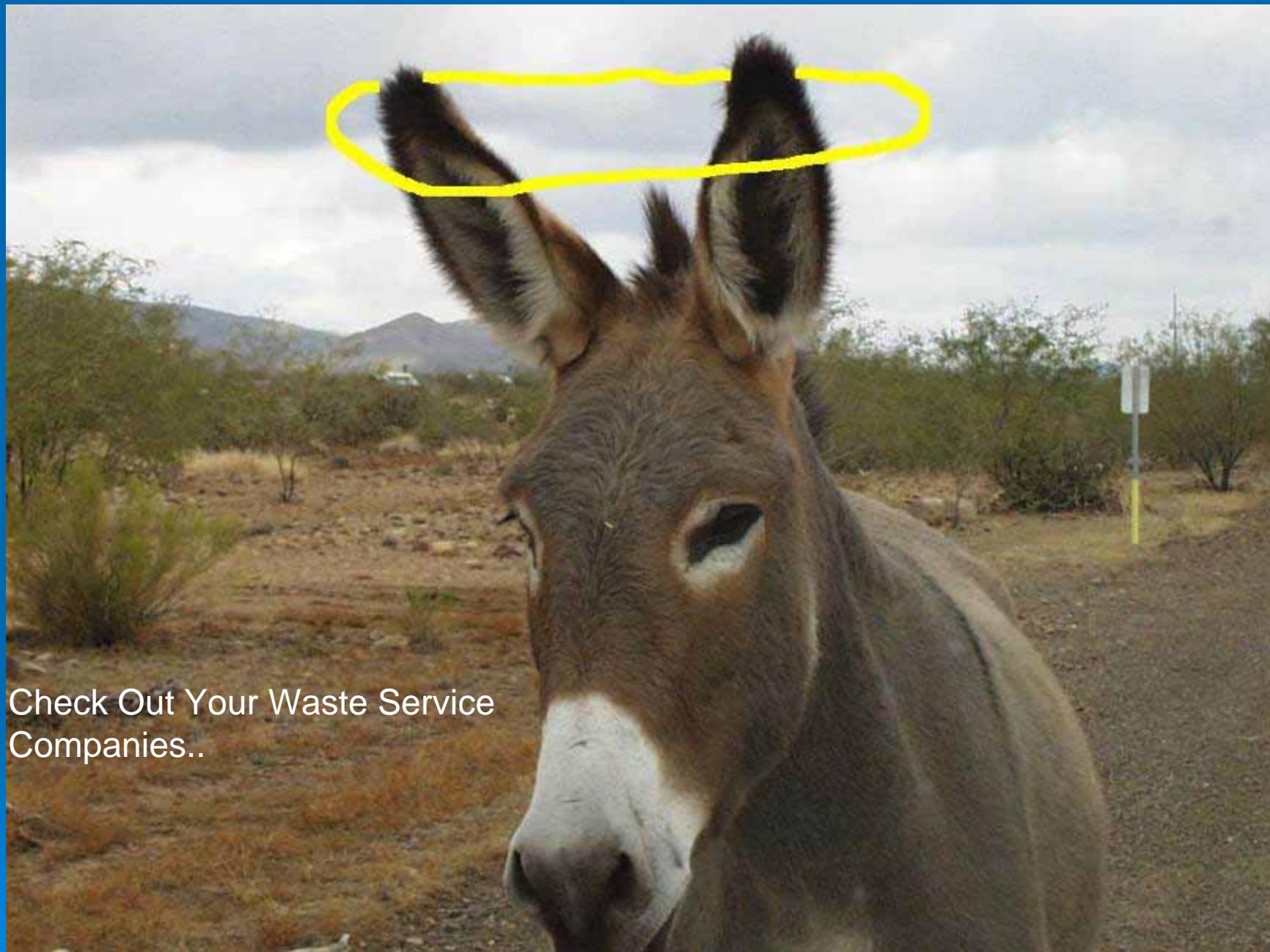
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## WASTE DETERMINATION AND GENERATOR STATUS

WASTE PRODUCING PROCESS DESCRIPTION	WASTE STREAMS/WASTE TYPES FOR EACH PROCESS NAME AND EPA WASTE NUMBER	WASTE DETERMINATION METHOD *	WASTE HANDLING UNIT DESCRIPTION CONTAINER/TANK/PILE/SPILL/ETC STORAGE/TREATMENT/DISPOSAL	UNIT STATIC OR MAXIMUM CAPACITY	MONT HLY GENERATION AND/OR PROCESS RATE	AMOUNT ON-SITE	PROCESS DESTINATION ON-SITE/OFF-SITE TSD/RECYCLED/ETC
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Check Out Your Waste Service  
Companies..

# #2 – Keep Containers Closed

- Failure to keep containers of hazardous waste closed except when adding or removing waste.



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# #1 – Marking Requirements

- Failure to mark containers with the:
  - Words “HAZARDOUS WASTE”
  - The accumulation start date; when waste is first placed in the container





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# Maintaining Compliance

## Things To Do

- Inspect Your Facility
- Inventory Your Materials, Structures, & their State of Repair
- Respond to Problems
- Use an Inspection Checklist/Schedule
- Create an Environmental Calendar for due dates and records
- Initiate Pollution Prevention
- Establish an Environmental Management System



Janet Napolitano, Governor  
Stephen A. Owens, ADEQ Director

**HAZARDOUS WASTE INSPECTIONS AND COMPLIANCE UNIT**  
**HAZARDOUS WASTE INSPECTION CHECKLIST**  
**For Small Quantity (SQG) and Conditionally Exempt (CESQG) Generators**

FACILITY NAME: \_\_\_\_\_

EPA ID NUMBER: \_\_\_\_\_

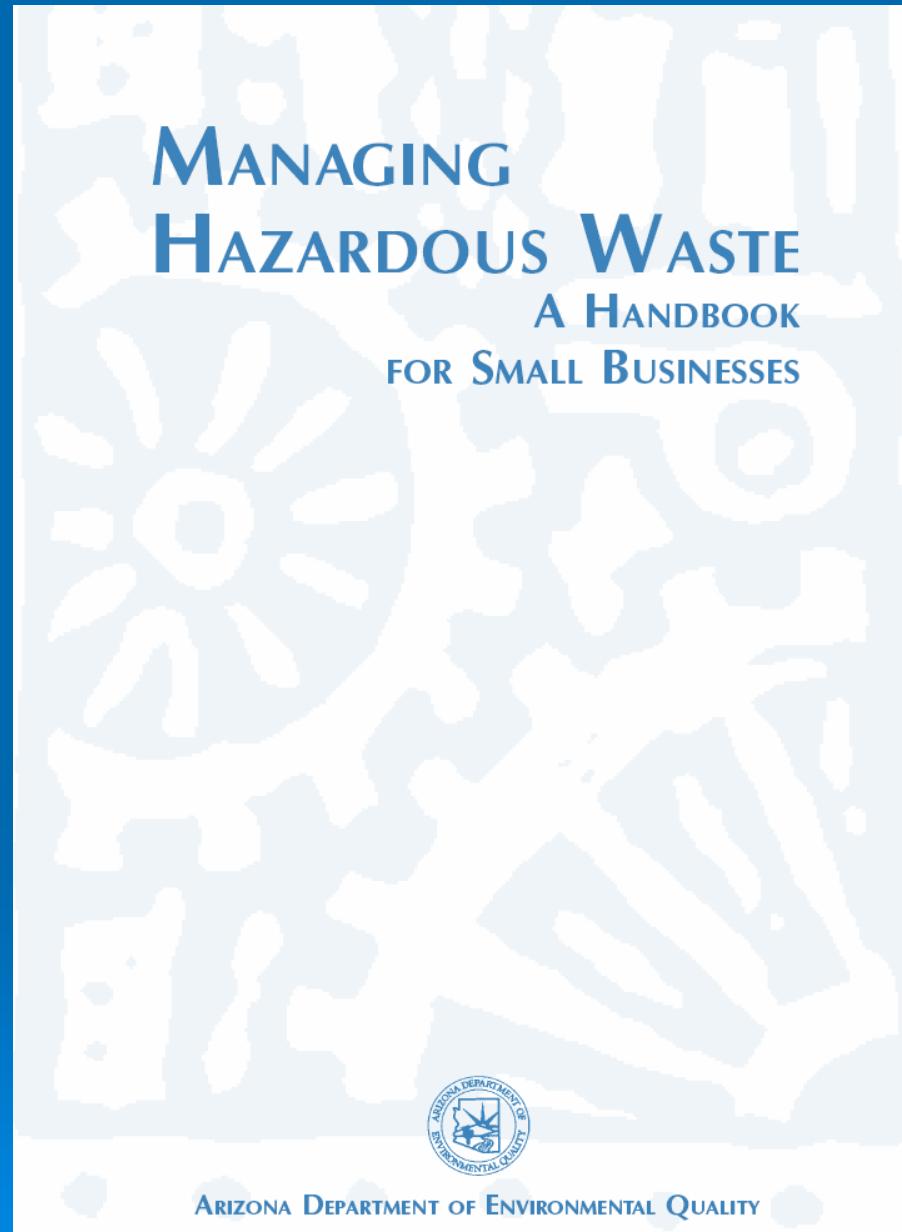
STREET ADDRESS: \_\_\_\_\_

CITY/STATE/ZIP: \_\_\_\_\_

TELEPHONE NUMBER: \_\_\_\_\_ Fax: \_\_\_\_\_

E-MAIL ADDRESS: \_\_\_\_\_ Lat/Long: \_\_\_\_\_

MAILING ADDRESS: \_\_\_\_\_



## BASIC DATA REQUIREMENTS For The Arizona Hazardous Waste Program

### 1. EPA ID Number Issuance

All hazardous waste small and large quantity generators, transporters, recyclers, treatment, storage, and disposal facilities ("TSDs") and other hazardous waste handling facilities must have an EPA ID number. This is required by federal and Arizona law. The GIS-IT Unit maintains the original signed forms required from facilities applying for these numbers, and the database used to record numbers, facility locations, facility types, and responsible parties. There are over 10,000 facilities in Arizona with an EPA ID number or account number in the hazardous waste database. Approximately 400 new numbers are issued per year. Facilities are also required to update their application information as changes are made in their handling status, owners or operators. Original applications and updates must be sent to the GIS-IT Unit.

### 2. Shipping Manifest Tracking.

There are about 22,000 manifested shipments of hazardous waste in Arizona each year. The Hazardous Waste Manifest document itself is required by federal and Arizona law. The generator, transporter and destination facility are each required to send completed copies of the manifest to the GIS-IT Unit. Generators are required to send GIS-IT copies within 45 days of the end of the month of shipment. Transporters and destinations facilities are required to send GIS-IT copies within 30 days of the end of the month of shipment. This information is entered into the Revenue Management System database. The database system is designed to compare manifest and other information to ensure all hazardous waste reaches its proper destination.

### 3. Facility Annual Reports.

Large quantity hazardous waste generators, recyclers, storage facilities, and "TSD" facilities, are required to file an annual report with the types and amounts of hazardous waste generated or handled each year. This is a requirement of Arizona law. (Federal law requires these reports biannually.) Arizona also requires small-quantity generators and conditionally exempt generators to file annual reports. Approximately 4000 reports are received each year. This information is used to ensure all hazardous waste is reported and to track the overall trends of the hazardous waste industry in Arizona. Report forms are typically sent out to facilities in January of each year, and are typically due back to the GIS-IT Unit on March 1<sup>st</sup> of each year. (Small generators report on their Annual Registration form; see below. Conditionally exempt generators, large generators, TSDs, and recyclers are sent a separate report form.)

### 4. Annual Registration and Fees.

Hazardous waste generators and handling facilities are required to notify ADEQ each year and pay a fee based on the amount of hazardous waste they generated and the type of storage, treatment, recycling or disposal they conduct. This is a requirement of Arizona law. Small generators pay \$100 per year, large generators pay \$1,000 per year, and storage facilities pay \$1,500 per year. About \$260,000 was collected in 2002. This money goes into the Water Quality Assurance Revolving Fund. The GIS-IT Unit processes and records information necessary to properly bill these facilities. The information is recorded in the Revenue Management System database. (ADEQ Accounts Receivable Unit operates the actual invoicing system.) Invoices are typically sent out to facilities in January of each year, and are typically due back to the Accounts Receivable Unit on March 1<sup>st</sup> of each year.

# Ask Questions; Ask for Help Participate in Professional Associations

- ADEQ - [www.adeq.state.az.us](http://www.adeq.state.az.us) 602-771-2300; 1-800-234-5677
  - Hazardous Waste Data - 602-771-4363
  - HW Inspections and Compliance Unit - 602-771-4673
- EPA Hazardous Waste (RCRA) Orientation Manual  
<http://www.epa.gov/epaoswer/general/orientat/index.htm>
- Compliance Assistance Clearinghouse Industry and Government Sectors: Health Care <http://cfpub.epa.gov/clearinghouse/>
- Hospitals for a Healthy Environment: <http://www.h2e-online.org/>
- Pollution Prevention Resource Exchange; Medical Hub  
<http://www.p2rx.org/>

