

Slide 1



Welcome

**Dangerous Waste
Management Workshop
On-line 2009**

Welcome to the Department of Ecology's Online Dangerous Waste Management Workshops.

It is based on the 2007 Dangerous Waste Management Workshops presented at locations across Washington.

It covers the same subjects in a tutorial format. If you have any questions about dangerous waste management as you are going through this, please call your local Ecology Regional Office and ask to speak to the staff in the Hazardous Waste and Toxics Reduction office.

Getting Started

You need these materials

- Dangerous Waste Regulations
 - [WAC 173-303](#)
- Designation exercise materials
 - Find in the Attachments Folder
 - (under development)
 - Designation checklist
 - MSDSs for Red Primer and Zip Strip



You will need these items to follow the presentation.

- Dangerous Waste Regulations, Chapter 173-303 of the Washington Administrative Code. (Fondly known as “The Regs” or “303”). This is the rule you’ll be learning about. It is the State of Washington’s requirements for managing dangerous waste and incorporates the federal requirements. If you are new to Washington you may find that some of this state’s requirements differ from those of other states. The most recent printed version (Jan. 2005) includes a six-page sheet on the changes adopted in 2005.

- The current regulations can be found online in a PDF at <http://www.ecy.wa.gov/biblio/wac173303.html> and in HTML at <http://apps.leg.wa.gov/WAC/default.aspx?cite=173-303>

- New regulations are scheduled to be adopted in June 2009. The updated regs should be available at the same web address.

- These are just the dangerous waste requirements. There may be other requirements you need to follow, such as the fire code, local ordinances, or Labor and Industry training, which are not part of this training.

- Designation exercise materials. You can find these in the Appendix Folder (in development). Print off 2 copies of the Designation Checklist and one copy of the MSDSs for the Red Primer and Zip Strip

Getting Started/Feedback

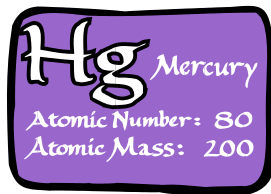
- The Appendix Folder also has
 - Quick Reference Guide for DW Generators
 - List of acronyms
 - Emergency coordinator form
 - Draft training plan
 - Weekly facility inspection checklist
 - Related websites
- Questions about DW management?
 - Call your [local Ecology office](#)
- Comments on the tutorial
 - Mariann Cook Andrews at: maco461@ecy.wa.gov

The Appendix Folder also has items you may find useful. Download and print these off as needed.

If you have questions about managing your dangerous waste, call your local Ecology office and ask to speak to the Hazardous Waste and Toxics Reduction staff. The offices and contact information are at: <http://www.ecy.wa.gov/org.html>

If you have any feedback on this presentation, please e-mail your comments, questions and suggestions to Mariann Cook-Andrews at: maco461@ecy.wa.gov.

Not in 173-303, but still pertinent



- Ban on sales of mercury-containing products
 - (RCW 70.95M)
 - <http://www.ecy.wa.gov/mercury>

- Electronic waste recycling (WAC 173-900)

- <http://www.ecy.wa.gov/programs/s/wfa/eproductrecycle/>



Washington state now prohibits the sale of products containing mercury. This is part of a long-term, state-wide program focused on getting mercury out of the environment, and out of us.

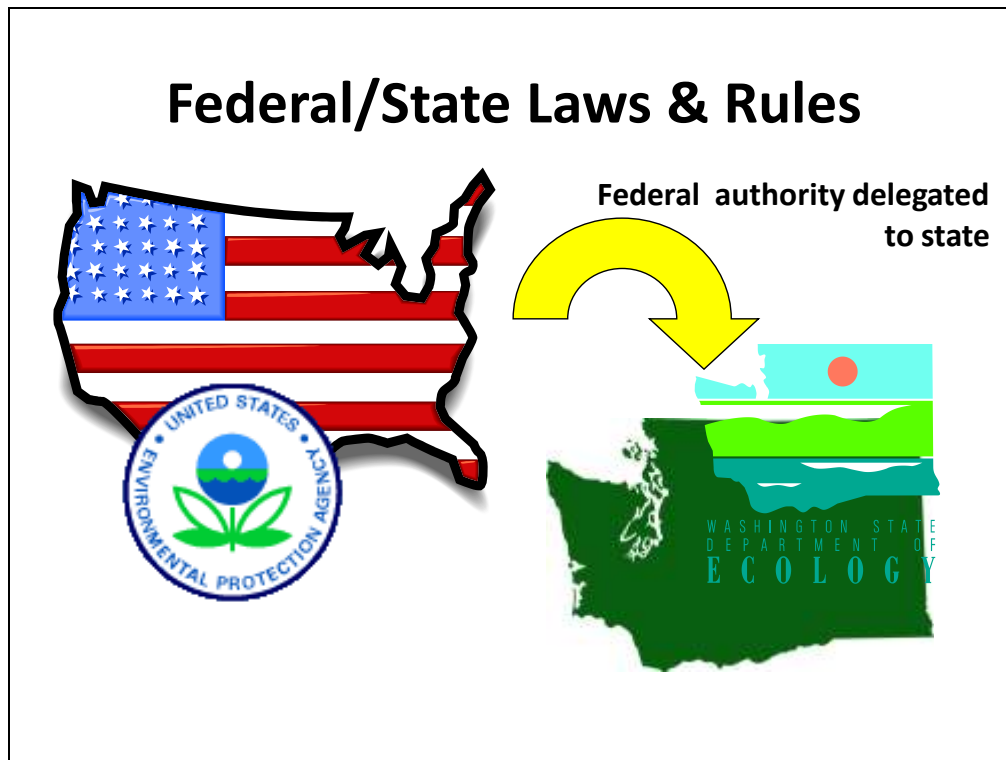
The state has also started a program to deal with electronic, or e-waste – computers, televisions, and such – to get them out of the waste stream.

Dangerous Waste 101

Putting all this into context

This Section, “Dangerous Waste 101”, will help those who are new to dangerous waste management put the tutorial into context.

- This simple, non-technical thumbnail review describes how we got to where we are today with dangerous waste rules.
- Remember, your best source of information for your facility and for your specific situation comes from your local Ecology dangerous waste compliance and technical assistance people.



- If you are new to Washington state, you may find that the rules regarding dangerous waste differ from other states. There are federal laws and rules that the Environmental Protection Agency enforces. And there are state laws and rules, enforced in Washington by the Department of Ecology.
- EPA has delegated to Ecology the enforcement of dangerous waste rules. Washington was originally ahead of the rest of the country regarding managing dangerous waste, so in some instances the state rules are more stringent than the federal rules.

Then and Now

- “Dangerous” waste in “the good old days”
 - 1,200 tons manure/day
 - 13,000 horse carcasses/year



Garbage is something that has always been with us. Before the Industrial Revolution, dangerous waste was smelly things.

The thought of manure as dangerous waste may seem funny now, but think of what that really meant for cities in the early 1900s. Sanitation workers were collecting 1,200 tons of manure each day from the streets of New York City!

More than that, in 1880 scavengers removed 13,000 dead horses from the city. The average lifespan of a New York cart horse at the time was 3 years!

Then and Now

- Dangerous waste now
 - tremendous growth after WWII
 - 75,000+ chemicals

**Toxic
Substances
Control Act
“TSCA”
(1976)**



In the 20th century we began living better due to new products and new processes. World War II greatly expanded the growth of new chemicals, in plastics, pesticides, etc. By 1976, when the country's first chemical registry began, there were more than 75,000 chemicals in use in this country.

That chemical registry is the Toxics Substances Control Act, sometimes known as TSCA (tos-ka). It's a federal law, and the reason you have information such as Material Safety Data Sheets, or MSDSs, to help you figure out "What is that stuff?" The presentation on designation will cover t Material Safety Data Sheets and how to use them.

What can go wrong

- Polluted rivers – and drinking water



Resource Conservation and Recovery Act "RCRA" (1976)

The down side was we had lots of byproducts and wastes that needed to go "somewhere." We made the mistake of thinking "out of sight, out of mind." We thought we could send this stuff "away." But one person's "away" is always someone else's "here."

We dumped wastes directly into rivers, old quarries and mines, over the fence, in the back 40, anywhere we could find a place. Including the Cuyahoga River in Ohio, which returned the favor by catching on fire – more than once. We also began finding weird things in our drinking water. So we realized that indiscriminate dumping into rivers and the environment wasn't such a good idea.

The need to protect people's health led to better control of dangerous wastes through the Resource Conservation and Recovery Act, known as RCRA, (rick-rah). This was to answer the question, "What do I do with this stuff?"

The Resource Conservation and Recovery Act is a federal law. Its requirements are incorporated into the Washington state law, Hazardous Waste Management, also known as Chapter 70.105 RCW. That is the parent law to the state dangerous waste rules.

What can go wrong

- When disposal isn't disposal



Comprehensive Environmental Response, Compensation and Liability Act CERCLA (1980)

Laws were passed against dumping into rivers and that made people dispose into landfills and other “contained” areas. But we found that some people were pretty creative in getting around those laws. You could find a cut-rate company to take your wastes for less than the landfill charged. And that company could make money because they wouldn't bother taking the waste for legal disposal. They'd just drop it where it was “out of sight, out of mind.” Except it didn't just disappear.

To make sure dangerous wastes were properly disposed, we passed laws that it had to be tracked from the point of generation to the point of final disposal – the “cradle to grave” approach. The law regarding that is the Comprehensive Environmental Response, Compensation and Liability Act, or CERCLA, (cir-cla). This was the law that established the “Superfund” to clean up contaminated sites.

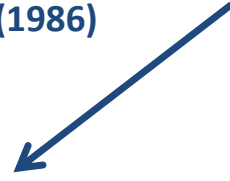
That's the federal law. The state law covering toxic site cleanup and responsibility is the Model Toxics Control Act, also known as MTCA (mot-ka)

What can go wrong

➤ Recontamination



Superfund Amendments & Reauthorization Act SARA (1986)



Emergency Planning & Community Right to Know Act

Title III (chemical reporting)

After several years we realized that just cleaning up a contaminated site doesn't mean it will remain clean. It can be recontaminated unless the cleanup and site protection are made permanent. We also recognized that emergency responders, like firefighters, and the surrounding community need to know what is happening with dangerous substances in their area.

So those aspects of CERCLA were addressed by the Superfund Amendments and Reauthorization Act, or SARA. It sets out what must be done to prevent recontamination. It also requires anyone using dangerous chemicals to notify emergency planners and the community about the presence of those chemicals, as well as the dangerous waste created. These are the Emergency Planning and Community Right to Know, or EPCRA (EP-krah), requirements and the Title Three, chemical reporting requirements.

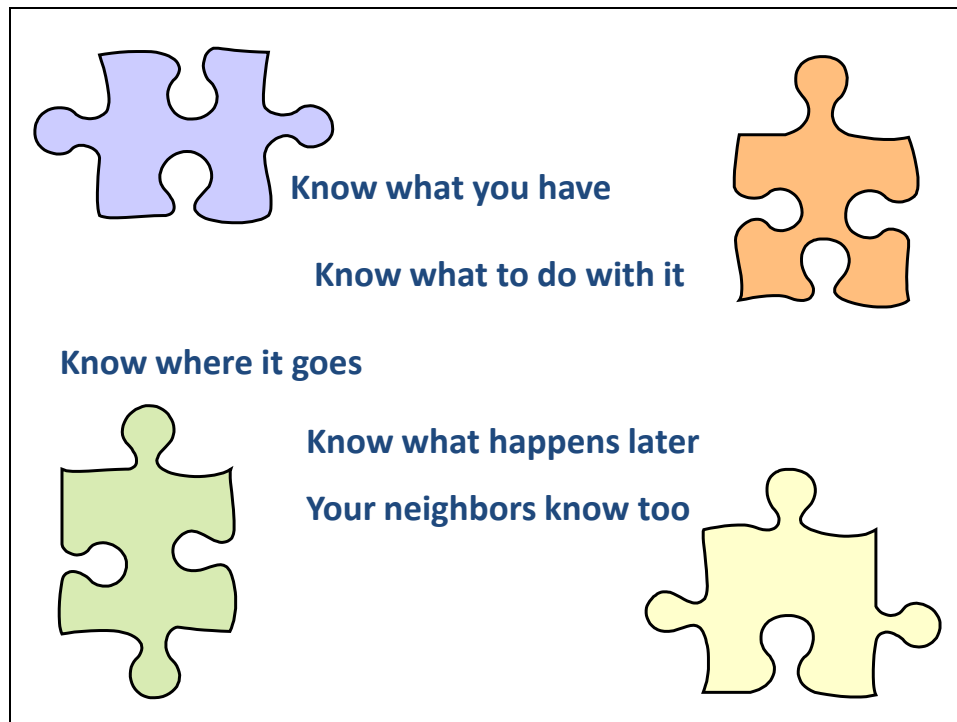
What can go wrong

- Oops – but not the worst case scenario



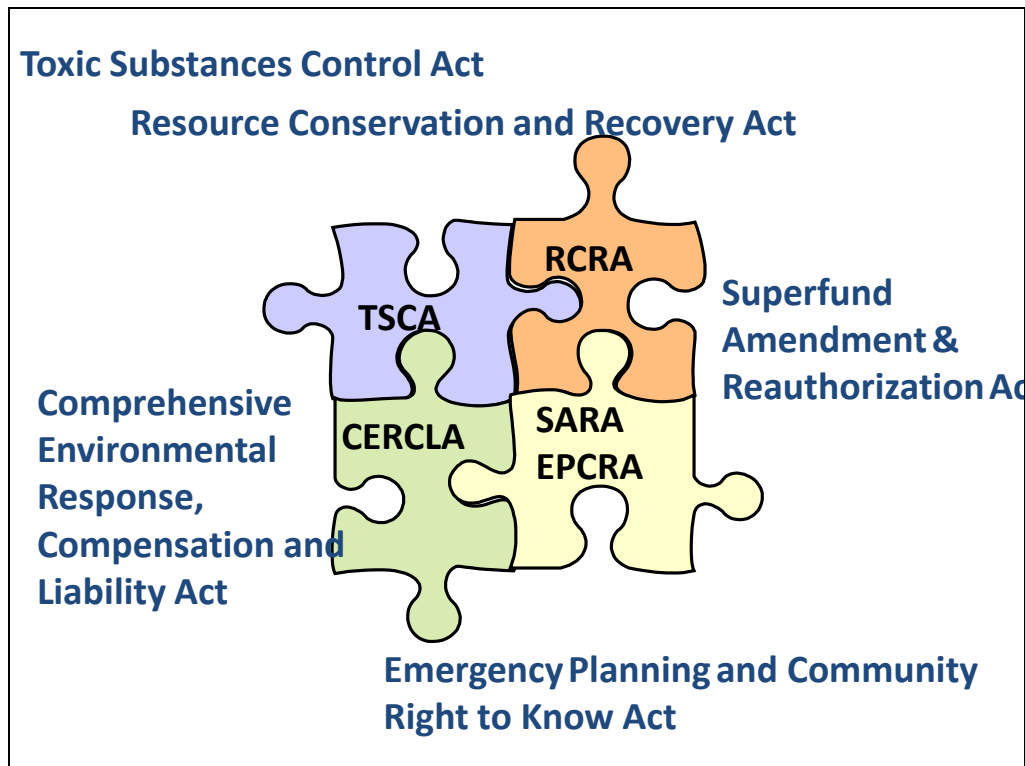
But even in the best of systems things can go wrong. This is what's left of an ink and paint plant in Danvers, Massachusetts. Fortunately, no one was killed in this explosion and fire, but there's not much left of the business – or of several homes in the area. And at the bottom of the picture, you can see the emergency response vehicles of the people who really need to know what's inside a building because their lives depend on it.

Just because we're familiar with something doesn't mean it's safe.



So there's a lot of "need to know" when it comes to dangerous waste.

- You need to know what you have
- You need to know what to do with it
- You need to know where it goes
- You need to know what happens to it later
- And your neighbors need to know what's going on



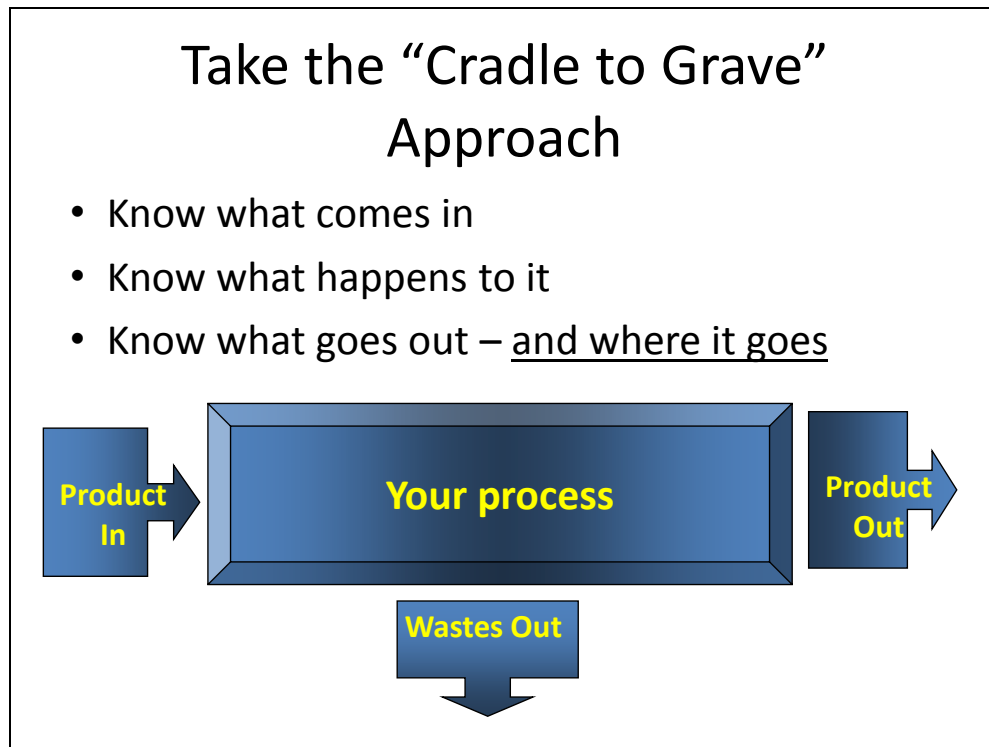
So – here’s how the pieces fit together –

What do you have? – that’s under TSCA

What do you do with it? – that’s under RCRA

Where does it go? – that’s under CERCLA

What happens after that? What do your neighbor’s know? – that’s under SARA and EPCRA



The basic idea behind all this is that we must take the “cradle to grave’ approach.

You are reading this because somewhere in your job you deal with dangerous wastes, either directly or through paperwork. You probably also deal with chemicals – materials, supplies etc. – that aren’t wastes to start with but become waste through your business’ processes.

You are considered the “generator” of these wastes. As such you have ultimate responsibility for that “stuff.” You need to know what comes out of your facility, and in order to know that you need to know what comes in, what happens to it, and what goes out, all the way to the final resting place.

Chemicals coming in

- Product until it is used
- Waste after use
- Know what you have
- Know where it is
- Know how long you've had it
- Let your neighbors know



- Chemicals coming in to your business are normally products. When used they are either contained in your product, or they are a waste.
- Whatever you have, wherever it is – you need to keep track of it.
- And you can't hold on to it forever and leave it for the next buyer to take care of. It is yours.
- You also must let your neighbors know about what you have – both product and waste. Firefighters want to know before they enter a burning building. Hospitals want to know what they sort of injuries they might need to treat. Neighbors want to know whether they should stay inside or evacuate as soon as something happens.
- This knowledge is sort of like insurance – you never need insurance until you need it, and then you really need it.

Chemicals going out

- What is it? (Identification and Designation)
- What harm can it do? (Risk labeling)
 - Tell the next guy in line (Coding)
- Manifests – the paper trail
 - Who did you give it to?
 - What did they do with it?
 - How do you know that?



- So once something has gone through your process and the wastes come out, what then?
 - You can't be safe if you don't know what you have. So you figure out what have – that's identification.
 - You determine whether it is dangerous – that's designation.
 - Then you figure out what type of danger, what risk, it poses – that's risk labeling.
 - And you make sure the next person who does anything with that stuff can tell what it is and how it was created – that's waste coding. The waste codes also determine the land disposal restrictions for the waste.
- You do all this to keep yourself, your coworkers, your neighbors, and everyone down the line as safe as possible.
- And you have to make sure the stuff goes where it is supposed to go, and in a way that keeps everyone safe. That's where manifests, the forms that accompany wastes, come in.
- You are responsible, as the generator, to make sure the correct disposal happens. And you can know that because eventually that form you signed – the manifest – comes back to you showing the final disposal.

Risk-based Regulation

The more waste you have, and the more hazardous it is, the stricter the rules you must follow

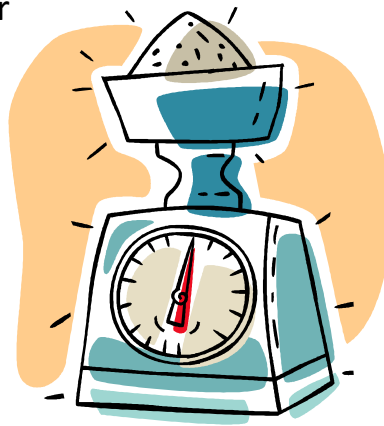
- Small Quantity Generator
- Medium Quantity Generator
- Large Quantity Generator



- In Washington we operate with what are called “risk-based” regulations. The greater the risk your “stuff” poses, the greater the level of rules you have to abide by.
- If you generate small quantities, and your waste isn’t extremely hazardous, the rules are easier.
- If you generate large amounts, or your waste poses special risks, the rules are tougher.
- Waste Management rules:
 - Set Limits on how long you can store waste;
 - What labels you need to use;
 - The training you need to have; and
 - The paperwork you need to file.
- The rules you have to follow depend on your status as a generator.

How much?

- Monthly measurement
 - Largest monthly amount in a year = generator level for that year
- What do you count?
 - All dangerous waste on-site
- What don't you count?
 - “Excluded” wastes



- You know what you have because you did the identification and designation – right?
- You know how much you have because you measure it every month.
- Your generator status – small, medium, or large – is based on monthly measurements. Your status for the year is determined by the largest amount you have on hand in one month. You might have 100 pounds on hand one month and 1,000 pounds the next month. Your status would be set by that 1,000-pound month.
- Some wastes are counted against that total and some wastes are not. The wastes that are not counted are “excluded” for various reasons, usually because they are going to some immediate beneficial use. This is a good topic to explore with your local Ecology staff.

Dangerous Waste Rules

[Ch. 173-303 WAC](#)

- Use them to find out:
 - How to figure your generator status
 - Specifics on accumulation and labeling
 - How to manifest
 - How to designate
 - Definitions
 - Lists of chemicals



The Dangerous Waste Rules provide specifics for each of these topics. The link on this page will take you to the online Table of Contents for Ch. 173-303 WAC (in HTML).