



# Hazardous Waste History

## Hazardous Waste Management in Washington

Long before wastes generated by Washington's growing population and industries were categorized as solid waste (e.g., garbage) and hazardous waste (e.g., toxic by-products) they were all managed in essentially the same way. And that was to dump them into the nearest hole, marsh, waterway, or onto an undesirable piece of land. Over time it became clear that an out-of-sight out-of-mind strategy for waste management was, in fact, neither. It also became clear that some wastes posed greater hazards than others.

Eventually, there was recognition that some industrial wastes were dangerous and required special handling. In 1974, an industrial waste disposal site was developed at the Pasco Landfill. This landfill was used to dispose of industrial wastes collected by Chempro, an industrial waste management company. This site received wastes until 1975, at which time it was closed because of air-quality concerns raised by local grape growers due to herbicide-manufacturing residues being disposed there. This site subsequently became a federal Superfund site due to groundwater contamination from the landfill.

## Hazardous Waste Management Act

Often, industrial waste was routinely disposed in dumps at the sites where it was produced. The health and environmental hazards associated with this uncontrolled disposal practice were first addressed by the Washington State Legislature in 1976. The legislature had the foresight to deal with the growing threat from the improper management of hazardous waste by passing the Hazardous Waste Management Act, Chapter 70.105 RCW. "Hazardous waste" as defined by this act includes those wastes determined to be either "dangerous" or "extremely hazardous."

"Dangerous wastes" were defined by the act as any discarded, useless, unwanted, or abandoned non-radioactive substances which are disposed in such quantity or concentration as to pose a substantial hazard to human health, wildlife, or the environment. This included wastes with properties that made them toxic, corrosive, explosive, flammable, or generate pressure through decomposition.

"Extremely hazardous wastes" were defined as those dangerous wastes which persist in hazardous form for several years upon disposal and may be concentrated by living organisms through the food chain.

In addition to declaring the dangers of these extraordinary wastes, the Hazardous Waste Management Act also directed Ecology to adopt minimum standards as well as regulations for

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## *Background Paper for Beyond Waste Summary Document*

the disposal of extremely hazardous wastes. Further, the legislature provided funds for Ecology to purchase property on the Hanford Reservation for the construction of a disposal site for extremely hazardous waste. One year later, a section of land on the Hanford Reservation was purchased for that purpose, but it was never developed as a waste disposal site.

To begin the task of regulating the disposal of extremely hazardous wastes, Ecology worked with a diverse group of stakeholders to develop the first Hazardous Waste Regulation in 1977 (Chapter 173-302 WAC). This regulation described requirements for generators, transporters and disposal facility operators of hazardous waste. It also prohibited the disposal of extremely hazardous waste at any location other than the Hanford site which was purchased by the state for the purpose of developing a disposal site.

As the environmental movement of the 70's and 80's grew, the management of dangerous and extremely hazardous wastes improved not only in Washington, but nationally as well. In 1976, federal legislation resulted in the promulgation of the Resource Conservation and Recovery Act (RCRA) which was the beginning of hazardous waste management at the federal level. The Environmental Protection Agency (EPA) adopted final hazardous waste regulations in November 1980. That same year, Chapter 70.105 RCW, the Hazardous Waste Management Act was amended for the first time to give Ecology clear authority to regulate dangerous waste and extremely hazardous waste and to gain federal authorization from EPA for the state's hazardous waste program. Although Washington's system of identifying dangerous wastes results in a larger universe of regulated wastes than the federal approach, the federal regulations were much more comprehensive than those being implemented by Ecology prior to 1980.

In 1982, Ecology adopted a new set of rules that combined the state and federal systems into Chapter 173-303 WAC, *Dangerous Waste Regulations*. These rules continued to be more comprehensive than those used by EPA due to a broader definition of hazardous waste. Major additions to the federal rule occurred in 1984 and 1985 which included the incorporation of land-disposal restrictions, rules governing recycling activities, and requirements for the cleanup of spills, leaks, etc. at treatment, storage and disposal facilities as well as beyond the facility boundaries. The amendments to the federal rule also required that financial assurances be made by these facilities to cover these activities. Over the next several years these federal rule amendments were adopted into the *Dangerous Waste Regulations*.

In 1983, the state legislature established a preferred hierarchy for hazardous-waste management methods and the Hazardous Waste Management Act was amended again to include this hierarchy. In descending order the hierarchy is:

- ✓ waste reduction,
- ✓ waste recycling,
- ✓ physical, chemical, and biological treatment,
- ✓ incineration,
- ✓ solidification, and
- ✓ landfilling.

When this hierarchy was put into law as RCW 70.105.150 it became a driving force for the management of all hazardous wastes in Washington. Twenty years later it is still a key part of the activities conducted by Ecology's Hazardous Waste & Toxics Reduction Program.

Another amendment to the Hazardous Waste Management Act occurred in 1985 and, in part, it required that Ecology develop a State Hazardous Waste Management Plan. The first Washington State Hazardous Waste Management Plan was written in 1992 and was intended to examine the issues related to the management of hazardous waste and guide the decision-making of governments, businesses and citizens alike. The State Hazardous Waste Management Plan was last updated in 1994. Many things in the hazardous waste management area have changed since the last plan update. (See *Accomplishments Since the First Hazardous Waste Management Plan*, on the next page.)

## **Hazardous Waste Reduction Act**

The focus on waste reduction increased over the years and in 1990 the Hazardous Waste Reduction Act (Chapter 70.95C RCW) was passed authorizing Ecology's Pollution Prevention Planning program. This act established state policies and goals that encourage the reduction of hazardous substance use and hazardous waste generation. Under this law:

- ✓ Facilities that generate 2,640 lbs or more of hazardous waste per year or facilities required to report under the federal law called the "Emergency Planning and Community Right-to-Know Act" (EPCRA) must prepare a Pollution Prevention Plan.
- ✓ Pollution Prevention (P2) Plans must include a description of the facility, the processes used and the products or services provided. P2 Plans are five-year plans that must also identify hazardous substances used and hazardous wastes generated.
- ✓ The focus of P2 Plans is the identification and evaluation of all reasonable opportunities for reductions in the use of hazardous substances and the reduction, recycling and treatment of hazardous substances. The plan must also list those opportunities selected for implementation, performance goals for the five-year plan, and an implementation schedule.
- ✓ Annual Progress Reports providing information on the progress made in implementing the plan must be submitted to Ecology and the five-year plan must be updated at the end of the five year cycle.

The purpose of this law was to encourage individual generators to move their waste management practices up the hierarchy, away from landfilling. This was to be accomplished by identifying options and establishing implementation plans for the reduction of hazardous waste generation and the use of hazardous substances.

Ecology's toxics reduction staff and hazardous waste compliance staff were brought together into the Hazardous Waste & Toxics Reduction Program as a result of reorganization in 1993. This reorganization has resulted in much closer coordination and integration of activities between the two groups.

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In 1995, after the Pollution Prevention (P2) Planning program had been operating for about five years, Ecology initiated an evaluation of the program's effectiveness. The department contracted with an independent consultant to survey a representative sample of the approximately 650 facilities required to prepare P2 plans. The purpose of the survey was to assess the value of the program to facilities, and based on those results, to recommend improvements. The study concluded that overall, the planning program had promoted substantially more pollution prevention than if there had not been a planning requirement.

The study also recommended that Ecology offer an alternative to P2 Planning based on the structural requirements of an environmental management system. This alternative was officially available to qualifying facilities beginning in 1998. P2 Planning requirements could be met with an in-place system of routine assessment of environmental impacts and P2 opportunities and a provision for continuous improvement.

### **Accomplishments Since the First State Hazardous Waste Plan**

As mentioned above, the original *Washington State Hazardous Waste Plan* was published in January 1992 (Ecology Publication #92-05). This plan was the culmination of an intensive process to produce a comprehensive document that met a legislative mandate to provide a guide for the management of hazardous waste in Washington State.

The *Washington State Hazardous Waste Plan, 1994 Update* (Update) was published in November 1994 (Ecology Publication No. 94-143). The Update reviewed accomplishments, examined the status of uncompleted recommendations, and set the stage for program changes that occurred after 1994.

When the Update was published, 40 out of 59 recommendations from the 1992 State Plan had been or were in the process of being implemented. Some examples of the major changes implemented in the program are highlighted below:

- ✓ Ecology instituted an annual report to the legislature highlighting waste reduction resulting from P2 Planning and other related activities.
- ✓ Toxics Reduction staff joined Compliance staff as a result of a reorganization in 1993 bringing together complementary skills in the Hazardous Waste & Toxics Reduction Program. This helped to improve the focus on P2 when dealing with hazardous substances and wastes, and it improved data sharing.
- ✓ Regulatory changes were implemented that made it easier to recycle and manage lower risk wastes. Revised Treatment by Generator rules and guidelines allowed generators more flexibility in managing wastes on-site.
- ✓ Ecology gained authorization from EPA to implement corrective-action activities using Washington State's Model Toxics Control Act regulations. Washington was the first state to gain this authorization using state cleanup rules. A variety of efficiencies were gained as a result.

- ✓ Changes in Annual Reporting procedures have resulted in great improvements to data quality and waste management information as well as reduced reporting burdens on businesses as a result of an electronic reporting option.
- ✓ A recommendation suggesting that the amount of time inspectors spend in the field should be increased was implemented as a result of streamlining and standardizing procedures and written reports. A team of compliance staff, using the Total Quality Management process, developed an effective model for increasing inspectors' field time that is still in use today.
- ✓ A recommendation calling for more frequent inspections of hazardous waste treatment, storage and disposal facilities and large generators was implemented as a result of the more efficient inspection procedures described above.
- ✓ The State Plan recommended more flexibility in inspection content. This was implemented through a policy called "Hitting the High Points" that focused on rule violations that posed a real threat and through the more efficient inspection procedure mentioned above.
- ✓ A recommendation to increase Ecology's contact with the regulated community was addressed through several projects. A "New Notifier" program was established for generators just coming into the regulatory system to provide education on proper hazardous waste management. Sectors of the business community with similar activities were targeted for intensive technical visits. The first sector campaign, called "Shop Sweeps," focused on the automobile service industry and was followed by a campaign called "Snap Shots" that focused on printers and photo processors. Hundreds of businesses were visited during these projects. An approach developed in Ecology's Central Regional Office that targets businesses in a geographic area for non-regulatory-compliance technical assistance called "Increased Generator Contact" visits has also proven to be successful and has been adopted in all regions.
- ✓ The State Plan recommended simplifying the regulations and making them easier to understand. This was accomplished through a major regulatory reform project and the development of excellent guidance material for generators on the implementation of the *Dangerous Waste Regulations*.

It was recognized that the significance of these changes made a major update of the State Hazardous Waste Management Plan a high priority. Through this document and the Beyond Waste Project, Ecology's Hazardous Waste & Toxics Reduction Program is completing that major update. The 2004 State Hazardous Waste Plan will provide short- and long-term improvement strategies for the management of both hazardous waste and toxic substances in Washington State.