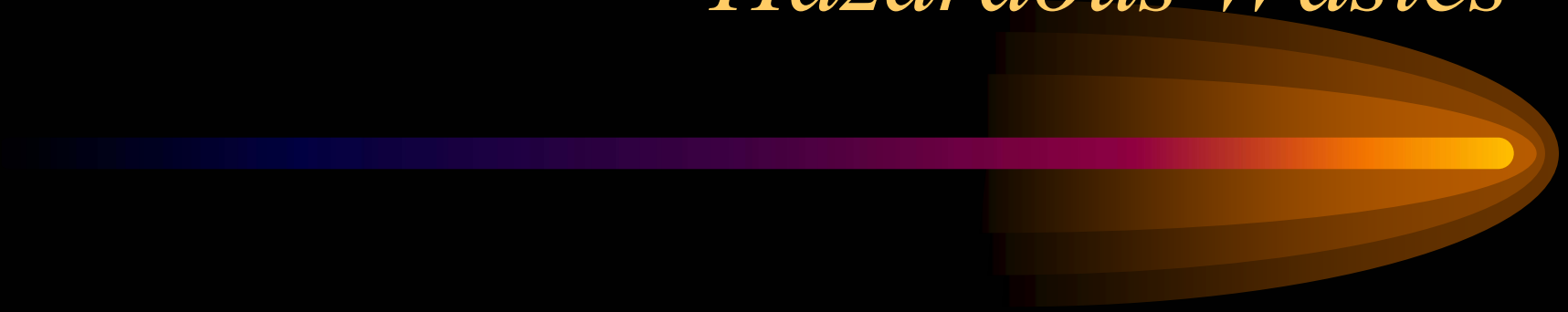
Hazardous Wastes



The Problem

- "The solid waste problem, including toxic or hazardous waste, is not just the problem of the chemical industry. It is a result of society's advanced technology and pursuit of an increasingly complex lifestyle…Everyone should realize that the blame does not belong to a single company or a single industry but to all of us as individuals and as an advanced society. Rather than looking for scapegoats, we should recognize the dilemma and consider new ways to encourage the disclosure of dumpsite information and ways to limit the crushing liabilities that could result."

Chemical Manufacturers Association

Issues to Consider:

- When and how did "hazardous wastes" get on the government agenda and how was this "problem" ultimately framed?
- How did the TSCA, RCRA, & CERCLA try to accomplish government environmental policy goals?
- Have these laws reduced the problem?

The Problem – Land Disposal

- Since 1945 U.S. manufacturers created, used, and disposed of billions of tons of hazardous and toxic substances on land
- Decades of "best practice" hazardous and toxic waste disposal on land based on lack of knowledge, convenience, and expedience
- Tens of thousands of abandoned waste sites

The Problem – Land Disposal

- 70,000 chemicals in common use today
  - 500-1000 new compounds created annually
  - Small % tested
- 50,000 registered pesticides
  - 600 active ingredients
  - >1 billion pounds produced per year
  - >3 billion pounds used per year

Issues

- Hazardous Waste Disposal Policy is driven by grass-roots politics
  - A “place” issue
    - Different from air & water pollution
  - Double-Edged Problem
    - Contamination is Local
    - NIMBY-fears have blocked viable disposal options
- Consumer disposal vs. commercial disposal
  - E.g., engine oil
  - Paint thinner
  - Household pesticides

Policy History

- Resource Recovery Act of 1970
  - EPA to study problem of hazardous wastes
    - Radioactive wastes
    - Toxic chemical & biological wastes
    - Threaten public health
  - Submit a report to Congress by 1973 for creation of national storage & disposal sites
  - “insider” agenda issue

Toxic Substances Control Act – 1976

- Goal: to regulate the creation, manufacture, and distribution of toxic substances
  - To prevent dispersion into the environment of substances that threaten human health
  - Early identification and control of hazardous substances

TSCA – Provisions

- EPA Cataloguing of Existing Substances
  - Chemical producers must provide EPA with name, formula, uses, production levels, byproducts, health risks, and worker exposure to all hazardous chemicals
  - EPA to publish list
  - EPA to require strict record keeping by chemical producers

TSCA – Provisions

- EPA Screening New Chemicals
  - Chemical Producers to Inform EPA of any New Chemicals
  - 90 days prior to commercial production
  - EPA may order production suspension temporarily or permanently based on risk

TSCA – Provisions

- EPA Can Require Toxicity Testing
  - Up to 50 chemicals per year
  - Inter-Agency Testing Committee
    - Representatives of 8 federal agencies
- EPA To Take Action Against Producers of Especially Hazardous Chemicals
  - Presenting unreasonable risk to health
  - Elimination of PCBs ordered

Resource Conservation & Recovery Act – 1976

- Goal: to regulate solid waste management practices nation-wide
  - To control disposal of solid wastes that could endanger public health
    - Solid Waste: waste solids, sludge, liquids, contained gases
    - Hazardous: ignitability, reactivity, corrosivity, or toxicity
  - To promote resource recovery and conservation

RCRA – Provisions

- EPA to Define "Safe" Disposal Site Criteria
  - Set minimal standards
  - Publish nation-wide list of facilities *failing* to meet these standards
- EPA to Define and Establish System to Track Hazardous Wastes
  - Devise criteria to define "hazardous" waste
  - "cradle to grave" tracking system
  - EPA permit required to move/dispose of waste
- Interim Regulations by 1978

RCRA – Provisions

- Commerce Dept. to Promote Waste Recovery
  - Encourage waste use “markets”
  - Research into waste recovery technology & waste conservation
- States to devise solid waste management plans
  - No more open dumps
  - Sanitary land fills only
  - Federal preemption if needed

What is the Case of Love Canal About?

- Political mobilization of individuals/the public to political action
- Government paralysis in the face of scientific uncertainty and significant financial liability
- Inter-government policy relations
- Local government captured by economic development syndrome

What Explains Government Initial Inaction in Love Canal?

- Incompetence?
- Lack of Applicable Science?
- Political Pressure to do nothing?
  - Fear of Loss of Major Business
- Certain $$$$ Cost of Action vs. Uncertain Risks
- Distributed Responsibility
  - many government levels & agencies

Why did the Government Finally Act at Love Canal?

- Public Outcry & outrage
- Gubernatorial election/Presidential election
- Press Coverage

Policy Response to Love Canal

- CERCLA – 1980
- RCRA Amendments (1980, 1984)
- TSCA Amendments (1986)
- SARA (1986)

Comprehensive Environmental Response, Cleanup, and Liability Act – 1980

- Goal: to clean up abandoned hazardous waste dumps nation-wide
  - Identify sites
  - Establish liability
  - Clean Up
- Effective emergency response to imminent public health threats

CERCLA Provisions

- EPA to Create National Priority List of Sites Requiring Cleanup
  - Site owners to notify EPA by June 1981 of site waste composition
  - NPL
- EPA Authorized to Clean Up emergency sites when owners cannot be located or fail to act responsibly
  - Clean up first, recover costs later

CERCLA Provisions

- $1.6 Billion trust fund created to finance cleanup and remediation
  - 86% from tax on petrochemical feedstock & organic chemical producers, and crude oil importers
  - 14% from general tax revenues

CERCLA Provisions

- Liability – Joint & Several
  - All parties who disposed of hazardous material on the site are proportionately liable, even if past practices were legal
  - Anyone connected with the site, now or in the past, regardless of awareness or involvement is liable for clean up costs

CERCLA Liability Example

- Landfill in Mantua NJ placed on NPL – 1984
  - EPA awards $56 million for contract to clean up
  - EPA sues 25 private firms for cost recovery; NJ sues another 25
  - Some of 50 defendants sue 239 firms and other entities, including the city of Philadelphia
  - They all sued their insurance companies
  - Still in litigation

Where Are We Today?

- 17,000+ Chemicals to test
  - <100 year tested
- 70,000 potential NPL sites
- Slow progress on hazardous waste disposal sites
  - NIMBY

TRI Trends 1988-1999

NPL Sites 1998