

Health and Safety Regulations

- Legislation (federal, state, local)
- Regulations (federal, state, local)
- Court decisions (interpreting statutes and regulations)
- Common law
- Constitutions (United States, state)
- International treaties
- Foreign regulations

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The Importance of State Laws



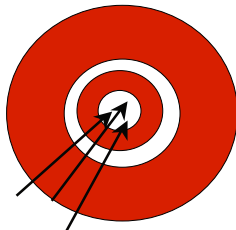
- Some state laws implement federal programs
 - Clean Water Act programs
 - Clean Air Act programs
- Some state laws are independent from federal programs
 - Massachusetts: Toxic Waste Minimization Law
 - California: Proposition 65
 - New Jersey: Property Transfer Environmental Law

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Targets for Environmental Regulations

Who or what gets regulated?

- Products
- Pollutants
- Industrial Facilities
- Government Agencies
- Individuals
- Land uses



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Regulatory Objectives:

What is the desirable level of protection?

- Health or Environmental Based Standards
 - E.g., under the Clean Air Act, ambient air quality standards must protect human health
- Technology or Feasibility Based Standards
 - E.g., under the Clean Air Act, emission limits for new sources is determined by the limits achievable using the best control technology demonstrated by that industry
- Balancing Standards
 - E.g., the Toxic Substances Control Act requires the EPA to balance the environmental and health effects of chemicals with the economic consequences of regulation

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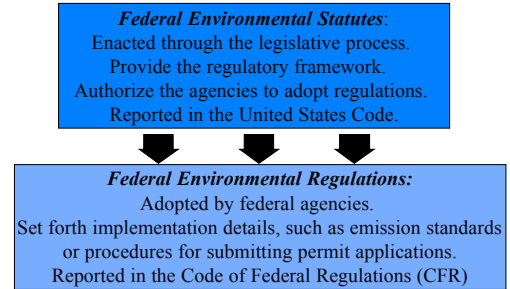
Regulatory Obligations

How will regulations achieve their objectives?

- Design Standards
- Performance Standards
- Ambient or Harm Based Standards
- Product Bans or Use Limitations
- Planning or Analysis Requirements
- Information Disclosure Requirements

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Translating Statutes into Regulations



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Sources of information to help identify regulatory obligations

- *Federal or State Agencies*
 - e.g., USEPA or Michigan Department of Quality
- *Internal Corporate Resources*
 - e.g., environmental health and safety department or "in-house" legal counsel
- *Federal Register*
 - contains proposed and adopted regulations, available at <http://www.nara.gov/fedreg>
- *Washington Administrative Code*
 - (WAC's): All administrative procedures and standards for L&I (DOSH), Ecology and Dept. of Health

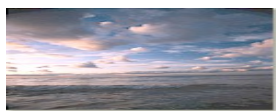
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Federal Environmental Statutes

Clean Air Act
Clean Water Act
Pollution Prevention Act
Toxic Substances Control Act
National Environmental Policy Act
Occupational Safety and Health Act
Resource Conservation and Recovery Act
Federal Insecticide, Fungicide, and Rodenticide Act
Emergency Planning and Community-Right-to-Know Act
Comprehensive Environmental Response, Compensation, and Liability Act



Clean Air Act



- What is the purpose?
 - To control air pollution by instituting point source controls and establishing maximum pollutant levels for the ambient air.
- What is the scope?
 - The main focus is stationary sources of air pollution but the Act also provides some regulation for mobile sources.
- Who implements the program?
 - The EPA must establish national ambient air quality standards (NAAQS) for criteria pollutants: total suspended particulates, sulfur dioxide, nitrogen oxides, carbon monoxide, ozone, and lead.
 - Each state is required to determine how to attain and maintain NAAQS by developing a State Implementation Plan (SIP).
 - For state areas that exceed the NAAQS, the states must implement a program to prevent the significant deterioration of air quality in those areas that exceed the NAAQS.

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CAA. . .

- What are the major provisions?
 - Stationary source permits (Title V): Different standards are imposed on existing versus new or modified facilities. New or modified sources are subject to new source performance standards (NSPSs) and must obtain preconstruction permits. If the new or modified source is located in a nonattainment area, the source must obtain a non-attainment area permit and offset emissions so that the nonattainment can further its progress toward becoming an attainment area.
 - Hazardous air pollutants: The 1990 amendments list 189 hazardous air pollutants for which the EPA requires the installation of technology that will result in the maximum achievable reductions.
 - Title VI Phase-outs: With the enactment of the 1990 Amendments, Title VI implements the *Montreal Protocol* by phasing out substances like CFCs, halons, carbon tetrachloride, methyl chloroform.

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Clean Water Act



- What is the purpose?
 - The stated objective of the Clean Water Act is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters.
- What is the scope?
 - All point sources that discharge any pollutants into the waters of the United States must first obtain a permit under the Act.
- Who implements the program?
 - the EPA
 - With EPA approval, states can issue NPDES permits within the state. The EPA can revoke a state's permitting authority if the program is not as stringent as the federal program.

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CWA



- What are the major provisions?
 - National Pollution Discharge Elimination System Permit: End-of-pipe pollution from point source dischargers is controlled through permits that specify effluent limitations for each discharger.
 - Water Quality Standards: Each water body of every state must meet certain ambient water quality standards consisting of numerical and narrative criteria. Water quality standards vary depending on the state's designated use of the water body.
 - TMDLs: When point source effluent limitations are not stringent enough to meet water quality standards, states must develop total maximum daily load (TMDL) calculations for that water body to help identify and reduce pollution inputs from both point and nonpoint sources.

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Resource Conservation and Recovery Act



- What is the purpose?
 - to provide a “cradle to grave” framework for managing solid and hazardous waste from generation to final disposal
- Who must comply?
 - Any party that generates, transports, stores or disposes of solid and hazardous waste.
- Who implements the program?
 - the EPA
 - States: with EPA approval, some states implement and manage solid and hazardous waste management programs in lieu of the federal RCRA program

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RCRA

- What are the Major Provisions?
 - Permits (Subtitle C): Requires generators, transporters, and treatment/storage/disposal facilities to obtain permits before handling solid or hazardous waste.
 - Uniform Hazardous Waste Manifest (Subtitle C): Requires preparation and maintenance of Waste Manifest to track origin of waste, who is transporting the waste, and destination of waste.
 - Sanitary Landfills (Subtitle D): Addresses the management of nonhazardous waste and exempt hazardous solid waste. This title mainly pertains to the design and monitoring of wastes that are disposed of in sanitary landfills.
 - Leaking Underground Storage Tanks (Subtitle I): Addresses problems associated with regulated substances entering the soil and groundwater due to leaking underground storage tanks.

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Comprehensive Environmental Response, Compensation, and Liability Act (aka ‘Superfund’)

- What is the purpose?
 - To provide a mechanism to clean up contaminated sites and hold potentially responsible parties accountable for clean up costs.
- What is the scope?
 - Parties may be liable for cleanup costs if they contributed any amount of hazardous substance to a contaminated site, e.g. anyone who disposed of hazardous substances found at the site.
- How is the Act enforced?
 - The EPA can conduct a short-term removal action at any site requiring emergency action or conduct a long-term remedial action at any site on the National Priorities List.
 - The EPA can compel private parties to cleanup a site when release or threatened release of hazardous substances present an imminent endangerment to the public health or welfare of the environment.

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CERCLA. . .



- What are the major provisions?
 - Contaminated Site Cleanup: CERCLA authorizes the EPA to force parties that were responsible for the release of hazardous substances to finance cleanups on the contaminated site.
 - Superfund: Where the responsible party cannot be identified or has gone bankrupt, CERCLA established a \$1.6 billion Trust Fund, known as Superfund. The Superfund Amendments and Reauthorization Act of 1986 (SARA) appropriated another \$8.5 billion.
 - National Priorities List: The EPA can only conduct long term remediation actions at sites that are on the National Priorities List, which ranks the sites eligible for Superfund clean up.

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Toxic Substances Control Act

- What is the purpose?
 - To regulate toxic chemicals and mixtures that present an “unreasonable risk of injury to health or the environment”
- What is the scope?
 - TSCA places the burden on manufacturers to supply the EPA with information on environmental and health effects of chemical substances and mixtures. The EPA then has broad power to regulate the manufacture, use, distribution, and disposal of chemical substances and mixtures. However, the EPA must balance the economic and social benefits of a chemical against the risks when setting forth regulations.
- Who implements the program?
 - the EPA
 - Unlike other programs, states do not implement TSCA

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TSCA . . .



- What are the major provisions?
 - Premarketing Notice (Section 5): Any person who manufactures or processes new chemicals for commercial purposes must submit a premanufacture notice (PMN) to the EPA at least 90 days before they begin manufacturing or processing. The PMN lists the intended uses of the substance, the information required to develop test data, and the nature of the test data that was developed.
 - Existing Chemicals (Section 4): TSCA requires manufacturers, importers, and processors of TSCA-related chemical substances to submit data to the EPA on existing chemicals when they may present an unreasonable risk to health and environment or when they are produced in such quantities that there is a potential for a substantial release into the environment or human exposure.

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Federal Insecticide, Fungicide, and Rodenticide Act



- What is the purpose?
 - To protect the public health and environment against the misuse of pesticides.
- What is the scope?
 - All pesticide manufacturers must submit data regarding the safety and efficacy of their pesticides.
- Who implements the program?
 - The EPA
 - Where a state has a federally approved pesticide program, the state is the primary enforcement authority.

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FIFRA . . .

- What are the major provisions?
 - Registration requirements (Section 3): Based on the data submitted by the manufacturer on its registration application, the EPA decides whether the pesticide poses unreasonable adverse effects to the environment. The EPA takes into account the economic, social, and environmental costs and benefits of the pesticide's use.
 - Suspension or cancellation of pesticides (Section 6): The EPA may suspend, cancel, or restrict the use of a pesticide that poses unreasonable adverse effects or imminent hazards to the environment.
 - Labeling requirements: All registered pesticides must be properly labeled for lawful sale. The label must specify the pesticide's active ingredients, how to use the pesticide on particular crops, and limitations on how or when it may be used.

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National Environmental Policy Act



- What is the purpose?
 - Section 2 of NEPA declares that the purpose of the Act is to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; and to enrich the understanding of the ecological systems and natural resources important to the Nation.
- What is the scope?
 - NEPA applies to all major federal actions -- therefore it affects all federal agencies.
- Who implements the Act?
 - The Council on Environmental Quality, established under Title II, as an Executive Office of the President to implement NEPA
 - States do not implement NEPA

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NEPA. . .

- Substantive NEPA (Section 101): Sets national environmental policy goals.
- Procedural NEPA (Section 102):
 - Purpose to guarantee that no federal agency will undertake projects without first considering the adverse environmental consequences of its action
 - Requires an environmental impact statement (EIS) to be prepared for all major Federal actions that significantly impact the environment.
 - Agency prepares environmental assessment (EA) to determine whether a full-blown EIS is necessary (whether the project will significantly affect the environment), posted on the Federal Register
 - If no EIS is necessary, the agency issues a finding of no significant impact statement (FONSI), posted on the Federal Register
 - If EIS is necessary, the agency issues a notice of intent, posted on the Federal Register
 - Once the first version of the EIS (the Draft EIS) is available on the Federal Register, there is a public comment period; the agency will respond to the public comments in the Final EIS.

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Emergency Planning and Community Right-to-Know Act

- What is the purpose?
 - To create emergency response plans to prepare for accidental chemical releases.
 - To create an information database so that the public can know what types of chemical are being released by manufacturing facilities in their communities.
- What is the scope?
 - Any facility that produces, uses, or stores any of the substances listed on the EPA's List of Extremely Hazardous Substances.
- Who implements the Act?
 - The State Emergency Response Commission, which are created in each state under the Act, implement the emergency planning requirements.
 - The EPA receives submissions of the Toxic Release Inventory (TRI) reports with the authority to inspect and verify the reports.

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EPCRA



- What are the major provisions?
 - Planning Provisions (Section 301, 302, 303):
 - Require states to create local emergency units that must establish plans for responding to chemical release emergencies
 - Requires facilities to report any release of a chemical substance that exceeds the reportable quantity established for that substance to the state and local emergency planning commissions
 - Community Right to Know Provisions (Sections 311, 312, 313):
 - Toxic Release Inventory – requires the facilities producing more than a threshold amount of listed chemicals to report the maximum amount of the chemicals at the facility and released from the facility to the EPA
 - Toxic Release Inventory – data submitted to the EPA is compiled in a computerized database that is available to the people to view chemical releases from facilities in their communities

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Occupational Safety and Health Act

- What is the purpose?
 - To ensure that “no employee will suffer material impairment of health or functional capacity” from a lifetime of occupational exposure.
- What is the scope of the Act?
 - The Act extends to all employers and their employees in all fifty states, except workplaces with fewer than ten workers and federal or state employees.
- Who implements the Act?
 - The Occupational Safety and Health Administration (OSHA)

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OSHA



- What are the major provisions?
 - General Duty Clause
 - Imposes a generic duty on employers to keep their workplaces safe. Even where specific standards do exist, the general duty clause is triggered if those standards are outdated or otherwise not sufficient to ensure worker safety.
 - Refusal to Work/ Whistle blowing Provisions
 - If a worker refuses to work because of unsafe working conditions, the OSHA regulations protect workers from discrimination
 - If a worker reports an OSHA violation, the Act also protects the employee from being fired because of the whistle blowing
 - Hazard Communication Regulations (29 CFR 1910.1200)
 - Requires employers to provide employees with information concerning hazardous chemicals through labels, material safety data sheets, training and education, and lists of hazardous chemicals in each work area.

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OSHA

Hazardous Waste Operations and Emergency Response (HAZWOPER) (29 CFR 1910.120)

- **Required by both EPA and OSHA to develop identical health and safety regulations for emergency response**
- **Regulations cover all employees engaged in hazardous waste operations and in emergency response**
- **Regulations effective March 6, 1990**
- **5 training levels**

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Pollution Prevention Act

- What is the purpose?
 - Establishes Pollution Prevention as the nation’s preferred pollution control strategy, as opposed to end of pipe pollution control.
 - Pollution Prevention is the attempt to reduce the amount of generated waste through more efficient use of resources at the input and production levels.
- What is the scope of the Act?
 - Moves facilities beyond compliance on a voluntary basis
- Who implements the Act?
 - The EPA

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Pollution Prevention Act

- What are the major provisions?
 - Amendment to the TRI reporting requirement under EPCRA:
 - Facilities subject to EPCRA's reporting requirements must also report information on the pollution prevention and recycling activities at the facility for each chemical
 - Voluntary Programs to Implement Pollution Prevention Strategies:
 - **Environmental Leadership Program:** Participating companies develop and implement pollution prevention management practices and set environmental goals beyond regulatory compliance.
 - **Common Sense Initiative:** The EPA takes an industry-by-industry approach to environmental protection by giving facilities more opportunity to reduce waste streams generally instead of targeting particular pollutants
 - **Excellence in Leadership (XL) Program:** Participating companies have the flexibility to meet regulatory requirements in exchange for an enforceable commitment to moving beyond compliance.

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Liability issues

- Liability can arise from a statutory violation
 - Statutory penalties related to specific laws or administrative regulations
- Liability can arise from 'common law' violation
 - Generally result in civil actions for damages related to negligence

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Common Law Liabilities: Common Law v. Statutory Law

Common Law

- Rules are created by judges through court decisions.
- Because common law is continuously shaped by court decisions, common law can vary between different jurisdictions.
- Liabilities stem from personal injuries or property damage caused by environmental conditions.

Statutory Law

- Rules are created through legislative procedures.
- Statutes provide uniform, national frameworks for pollution control, e.g. Clean Water Act.
- Liabilities stem from national pollution control policies.

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Common Law: Strict Liability for Ultra Hazardous Activities

- **Definition of Strict Liability:** the defendant can be liable if he was engaged in the activity that caused injury, without proof that defendant actually did anything wrong.
- **Application in environmental law:** the owners of a toxic waste dump were held strictly liable for harm caused to others even though the situation looked like a CERCLA issue.



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Common Law: Nuisance

- *Definition:* An action brought against somebody for interfering with one's use and enjoyment of property
- *Application in environmental law:* In Florida, a court ruled that an oil company unreasonably interfered with the ability of neighboring land owners to peacefully occupy their land because of noise, vibrations, and emissions from the plant.



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Common Law: Toxic Torts



- *Definition:* A claim for damages arising from exposure to a harmful chemical or substance.
- *Application in environmental law:* Environmental torts are increasingly related to injuries caused by exposure to pesticides, PCBs, benzene, heavy metals, and other contaminants.

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Voluntary compliance / controls

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International Treaties: International Organization for Standards

- International Organization for Standards (ISO) is a private sector non-governmental organization founded in Switzerland in 1947.
- Promotes international harmonization and development of manufacturing, product, and communications standards.
- ISO 14000 series – environmental management standards:
 - Voluntary
 - Standards and guidance documents on environmental management, eco-labeling, auditing, life-cycle assessment, and environmental performance evaluation.
 - Calls for environmental policies that represent a commitment to environmental compliance and pollution prevention

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Proactive control strategies

- When regulations become more stringent, companies must react to the new requirements in a relatively short time frame.
- Retrofits to reduce emissions or comply with new design criteria are costly.
- If companies voluntarily design beyond compliance are not forced to accommodate costly retrofits in their budgets on short notice.
- Save money in materials and in end-of-pipe remediation
- Increase consumer appeal and open up new business opportunities with “green” design
- Improve recruitment, employee morale, investor support, host community acceptance, and management’s self-respect by earning a reputation for being environmentally progressive

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Dow – NRDC Pollution Prevention Case

- *The people:*
 - The Natural Resources Defense Council, Dow Chemical, and five community activists initiated the Michigan Source Reduction Initiative (MSRI)
- *The goal:*
 - To reduce the waste and emissions of 26 priority chemicals at Dow’s Midland Site in Michigan by 35% by April 30, 1999 using only pollution prevention techniques
- *The results:*
 - 7 million pounds of pollution eliminated
 - Emissions from 1 million to 593,000 pounds
 - Wastes from 17.5 million to 11 million pounds
 - 2/3 of the waste reduction were chlorinated → significant reduction given the ability of chlorinated substances to produce carcinogens such as dioxins when they are incinerated
 - 5 million dollars saved annually
 - In just 2 years!

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