Fundamentals of Wisconsin’s Contamination Cleanup Law

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Presentation Overview

• State and Federal Authority
• Statutes and Codes
• Responsible Parties
• Site Investigation Process
• Remediation and Redevelopment
Federal and State Authority

- One Clean Up Memorandum
- Joint authority - TSCA – PCBs
- Single Agency Lead – RCRA & Superfund
Wisconsin statutes and administrative code govern the investigation and cleanup actions that are required after a discharge of a hazardous substance occurs or is discovered.
Stat 292.11 - Spills Law

• 292.11, Wis. Stats., is known as the Spills Law
• This law provides broad authority to require hazardous substance discharges are addressed to protect human health, safety and the environment.
What is a Hazardous Substance?

- A. Gasoline?
- B. Powdered Milk?
- C. Jet fuel?
- D. Pickle Juice?
- E. Manure?
- F. All of the above
What is a Hazardous Substance?

Anything that can cause harm to human health, safety or welfare because of

• – where it’s spilled
• – the amount spilled
• – its toxicity
• – its concentration
In general, a person responsible for a discharge is required to report, investigate and clean up the contamination.

The person responsible is defined by law as one who "causes," "possesses" or "controls" the contamination.
Wisconsin Administrative Code

- NR 140 - Groundwater
- NR 500 – Solid Waste
- NR 600 – Hazardous Waste
- NR 700 – Contaminant Remediation
NR140 WI Admin Code

Groundwater Quality
- Public Health
- Public Welfare

Groundwater Standards
- Preventive Action Limits (PALs)
- Enforcement Standards (ESs)
### Table 1
Public Health Groundwater Quality Standards

<table>
<thead>
<tr>
<th>Substance</th>
<th>Enforcement Standard (micrograms per liter – except as noted)</th>
<th>Preventive Action Limit (micrograms per liter – except as noted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetochlor</td>
<td>7</td>
<td>0.7</td>
</tr>
<tr>
<td>Acetochlor ethane sulfonic acid + oxanilic acid (Acetochlor – ESA + OXA)</td>
<td>230</td>
<td>46</td>
</tr>
<tr>
<td>Acetone</td>
<td>9 mg/l</td>
<td>1.8 mg/l</td>
</tr>
<tr>
<td>Alachlor</td>
<td>2</td>
<td>0.2</td>
</tr>
<tr>
<td>Alachlor ethane sulfonic acid</td>
<td>20</td>
<td>4</td>
</tr>
<tr>
<td>Aldicarb</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Aluminum</td>
<td>200</td>
<td>40</td>
</tr>
<tr>
<td>Ammonia (as N)</td>
<td>9.7 mg/l</td>
<td>0.97 mg/l</td>
</tr>
<tr>
<td>Antimony</td>
<td>6</td>
<td>1.2</td>
</tr>
<tr>
<td>Anthracene</td>
<td>3000</td>
<td>600</td>
</tr>
<tr>
<td>Arsenic</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>Asbestos</td>
<td>7 million fibers per liter (MFL)</td>
<td>0.7 MFL</td>
</tr>
<tr>
<td>Atrazine, total chlorinated residues</td>
<td>3²</td>
<td>0.3²</td>
</tr>
<tr>
<td>Bacteria, Total Coliform</td>
<td>0³</td>
<td>0³</td>
</tr>
<tr>
<td>Barium</td>
<td>2 milligrams/liter (mg/l)</td>
<td>0.4 mg/l</td>
</tr>
<tr>
<td>Bentazon</td>
<td>300</td>
<td>60</td>
</tr>
<tr>
<td>Benzene</td>
<td>5</td>
<td>0.5</td>
</tr>
<tr>
<td>Benzo(b)fluoranthene</td>
<td>0.2</td>
<td>0.02</td>
</tr>
<tr>
<td>Benzo(a)pyrene</td>
<td>0.2</td>
<td>0.02</td>
</tr>
<tr>
<td>Beryllium</td>
<td>4</td>
<td>0.4</td>
</tr>
</tbody>
</table>
## Public Welfare Standards

**Table 2**

Public Welfare Groundwater Quality Standards

<table>
<thead>
<tr>
<th>Substance</th>
<th>Enforcement Standard (milligrams per liter – except as noted)</th>
<th>Preventive Action Limit (milligrams per liter – except as noted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloride</td>
<td>250</td>
<td>125</td>
</tr>
<tr>
<td>Color</td>
<td>15 color units</td>
<td>7.5 color units</td>
</tr>
<tr>
<td>Foaming agents MBAS (Methylene–Blue Active Substances)</td>
<td>0.5</td>
<td>0.25</td>
</tr>
<tr>
<td>Iron</td>
<td>0.3</td>
<td>0.15</td>
</tr>
<tr>
<td>Manganese</td>
<td>0.05</td>
<td>0.025</td>
</tr>
<tr>
<td>Odor (Threshold Odor No.)</td>
<td>3</td>
<td>1.5</td>
</tr>
<tr>
<td>Sulfate</td>
<td>250</td>
<td>125</td>
</tr>
<tr>
<td>Zinc</td>
<td>5</td>
<td>2.5</td>
</tr>
</tbody>
</table>
Wisconsin Administrative Code

- NR 500 – Solid Waste
- NR 600 – Hazardous Waste
Wisconsin Administrative Code

- NR 700 – Contaminant Remediation
NR 700 Rule Series, WI Adm. Code

• NR 700 – General Requirements
• NR 706 – Hazardous Substance Discharge Notification Requirements
• NR 708 – Immediate & Interim Actions
• NR 716 – Site Investigations
NR 700 Rule Series, WI Adm. Code

- NR 720 - Soil Cleanup Standards
- NR 722 – Selecting Remedial Actions
- NR 724 – Remedial Action Design, O&M
- NR 726 – Site Closure
- NR 728 – Enforcement
NR 720 Soil Standards

- Residual Contaminant Levels (RCLs)
  - Direct Contact Non Industrial
  - Direct Contact Industrial
  - Groundwater Pathway
  - Background Threshold Values
Site Investigation Process

- Phase I
- Phase II
- Site Investigation
- Remediation
- Site Closure
Phase I Investigation

- Primarily a paper study
- Reviews available information about potential sources of contamination that may affect the site
- Includes a site walk but no sampling
- Includes interviews
- ASTM E1527
Phase II Investigation

• Includes sample collection of probable contaminated material
• Confirms contamination is/is not present
• Does not determine full nature and extent of contamination
• Contaminant release notification is required if contamination is confirmed
Site Investigation

• Determine nature & extent of contamination
• Assess all potentially affected media - soil, groundwater, surface water, sediment & vapors
• Develop a Conceptual Site Model
Site Investigation

To show Nature and Extent Defined

• Isoconcentration Maps
• Cross Sections
Site Remediation

• Remedial Actions
• Soil – excavation, insitu treatment, SVE, injection, capping
• Groundwater - Pump and treat, injection of reactant, reactive barrier
• Vapor – Vapor Mitigation System
Site Closure

• Closure granted when all exposure pathways have been addressed
• Human health safety welfare and the environment must be protected
• Some contaminants may remain in place
Continuing Obligations

- Land Use Controls/Zoning
- Engineered Barriers
- Vapor Mitigation
- Maintenance Inspections
- Notification to DNR if Conditions Change
Redevelopment and Remediation

• Engineered Barriers, landscape features and other remediation requirements can be incorporated into redevelopment
Questions?

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