

# The Environmental Risk Management Process

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*Presented by*  
Kenneth E. Anderson, *Managing Director*  
*Gallagher Environmental Risk & Insurance*  
ARTHUR J. GALLAGHER & COMPANY

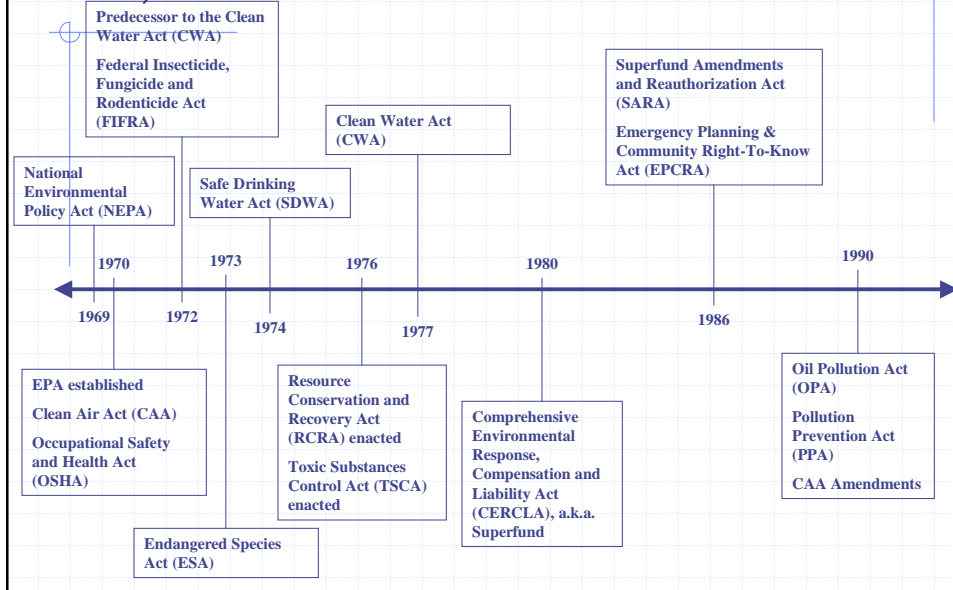
June 26, 2003

## Overview

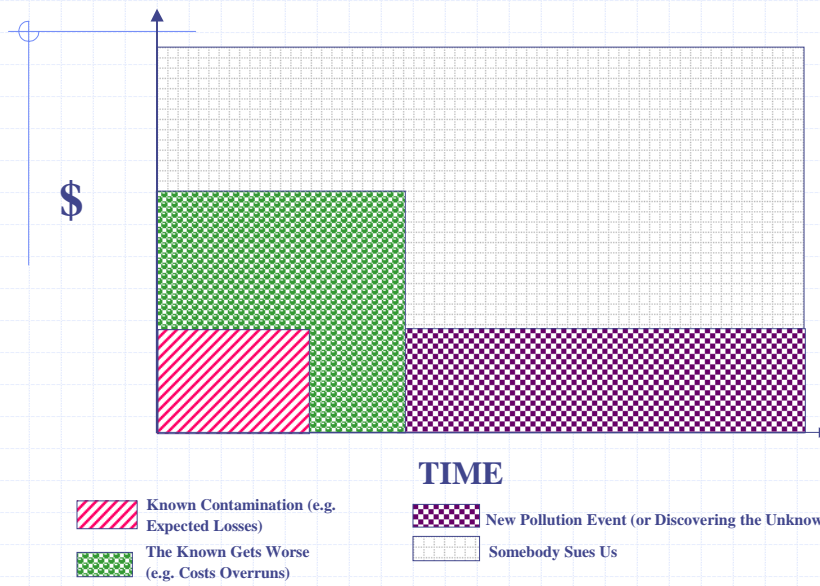
- ◆ What Drives Environmental Risk Management?
- ◆ Environmental Risk Profile
- ◆ Overview of The Environmental Risk Management Process
- ◆ The Risk Manager & Environmental Risk Management
- ◆ Summary

# What Drives Environmental Risk Management?

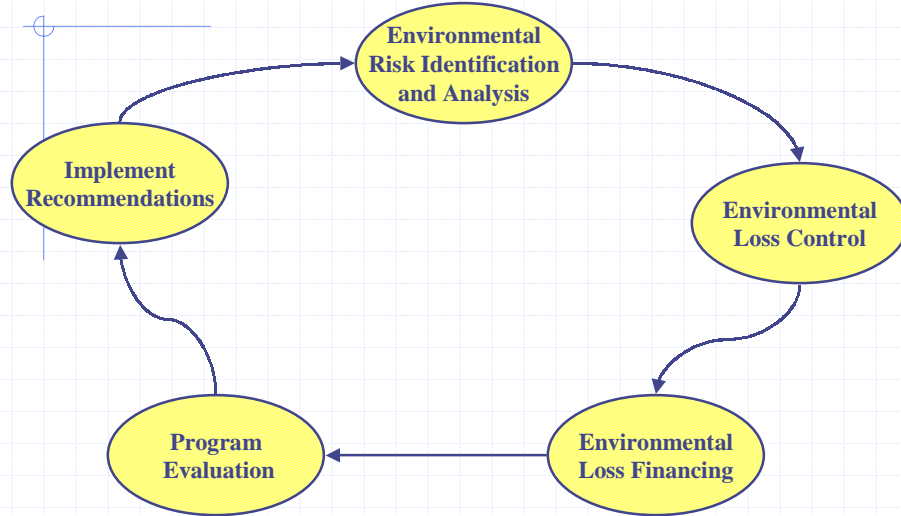
Major Environmental Laws in the U.S. - A Federal Perspective (1969 – 1990)



# Environmental Risk Profile

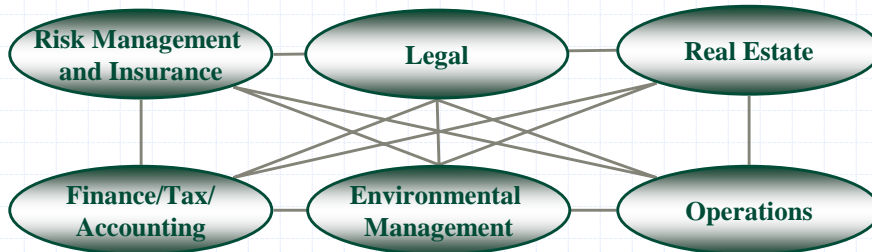


## Environmental Risk Management (ERM) Process (beginning to think like this...)



## ERM - Why Now?

*A Convergence of Specialties*



## Traditional ERM Participants and Responsibilities

Risk Management Step	Past Operations	Present and Future Operations
<b>1. Exposure Identification</b>	Primary - Legal Secondary - Operations	Primary - Operations Secondary - Legal
<b>2. Analysis</b>	Primary - Operations Secondary - Legal	Primary - Operations Secondary - Legal
<b>3. Control</b>	Primary - Legal Secondary - Operations	Primary - Operations Secondary - Legal
<b>4. Finance</b>	Primary - Legal Secondary - Finance, Risk Management	Primary - Finance Secondary - Legal, Risk Management
<b>5. Monitor &amp; Revise</b>	Little or None; Legal, if any	Little or none; Operations, if any

## ERM Techniques

Risk Management Step	Past Operations	Present and Future Operations
<b>1. Environmental Risk Identification</b>	PRP notification letters Area groundwater studies Internal audits Phase I and Phase II audits Title searches Aerial photos Waste disposal manifests Process descriptions UST/AST registrations	Compliance audits Pollution prevention studies Notice of violation Routine environmental meetings with employees Operation records <ul style="list-style-type: none"> <li>• Storage inventories - raw materials, materials in process, finished goods</li> <li>• UST/AST registration</li> <li>• RCRA regulated areas</li> </ul>
<b>2. Analysis</b>	Internal remediation budgets Phase II studies Remedial action plans Settlements and cost recovery agreements	Waste generation rates Reported quantities/incidents Material usage rates Fines and penalties assessed Permit reports Other incident reports

## ERM Techniques (cont.)

Risk Management Step	Past Operations	Present and Future Operations
<b>3. Environmental Loss Control</b>	Contractor management Internal communication Community (stakeholder) relations Interactions with regulators	Pollution prevention initiatives Facility engineering Worker training Worker health and safety practices Active Environmental Management System program Contract management Vendor surveys Vendor certification Internal communication Community (stakeholder) relations Interactions with regulators
<b>4. Environmental Loss Financing</b>	Insurance recoveries (old general liability policies) Environmental liability insurance; wrap-ups, cleanup cost cap, and finite-risk insurance programs Current expensing Accruals, balance sheet funding	Pollution liability or environmental liability insurance Contractual transfer to vendors; hold harmless and indemnity agreements Current expensing

## ERM Techniques (cont.)

Risk Management Step	Past Operations	Present and Future Operations
<b>5. Monitor</b>	Annual reviews; measure cost reduction and loss control progress	Annual reviews; measure cost reduction and loss control progress

## Summary

- ◆ Environmental Risks are Real Costs of Risks Faced by Most Organizations
- ◆ ERM is a Underutilized and Needs to be Strengthened
- ◆ Expertise, Internal and External, Is Needed
- ◆ Real Value is Gained