

A risk profile is a structured management tool for identifying the various exposures associated with an operation. Typically, a risk profile will encompass a review of an organization's operations with a focus on administrative strategies / protocol for reducing or managing particular risks. Environmental risk should not be exempt from this process. In fact, many organizations create stand-alone Environmental Risk Profiles (ERPs) to specifically address the area of environmental liability. This process adds to an organization's ability to systematically identify environmental risk and effectively manage it. Below is an excerpt from an ERP for Concrete / Civil Construction Firms, which identifies some major exposures. A completed ERP can show the impact such exposures can have on the organization, as well as the risk management strategies available.

Concrete / Civil Construction Firms confront environmental liability every day. Specifically, they face environmental exposures in four major areas: operations, owned premises, transportation, and disposal liabilities. Each area must be explored to identify risks that may expose the organization to environmental liability. This hypothetical ERP identifies some of the major exposures and associated claims.

## EXPOSURES

### OPERATIONAL EXPOSURES

- Fumes, emissions and spills from chemicals (volatile organic compounds) applied during construction (finishers, sealants, curing compounds, floor coatings, adhesives, etc.), causing respiratory hazards.
- Accepting supposedly "clean" fill from unknown origins, finding later that it was contaminated with petroleum or other hazardous substances – thereby exacerbating the extent of contamination.
- "Toxic" mold exposure, caused by water entering a building's basement or substructure due to improper grading or excavation during site preparation.
- Bridge demolition and construction activities, causing release of lead-contaminated steel, concrete and / or asphalt into waterways – subsequently being identified as a contributor to historical contamination.
- Generation of dust containing multiple hazards (e.g., asbestos, polychlorinated biphenyls (PCBs), silica), during demolition activities.
- Welding operations creating fumes that could have adverse health effects. This is often a third-party over action exposure. However, it is a potential environmental liability as well.
- Residual contamination from improper control of oil and lubricants used for the concrete forms.
- Inadvertent disturbance of pre-existing contamination / product:
- Asbestos-containing materials. subsurface soils / geology
- Lead paint

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## EXPOSURES (CONT'D)

- Contaminated soils, surface or groundwater.
- Release of equipment lubricant oils and other fluids due to improper or inadequate storage.
- Release from improper or inadequate storage of on site fuel tanks.
- Release of oils / fuels from tanks / drums as a result of vandalism.
- Site preparation / excavation exacerbating pre-existing contaminated soil (e.g., unknown residual contamination such as petroleum contamination from leaking underground tanks).
- Impacting underground utility lines and other underground structures.
- Vicarious exposure from subcontractors on-site performing both environmental and non-environmental work.
- Silica dust from concrete-cutting, causing an airborne hazard.

### OWNED PREMISES EXPOSURES

(maintenance garages, fabrication shops, offices, etc.)

- Leaking underground / aboveground storage tanks.
- Residual contamination from minor spills of oils, fuel, lubricants, etc., and poor housekeeping during maintenance operations.
- Leaks from vehicles and / or equipment stored on premises.
- Surface contamination from fuels and lubricants stored improperly (without secondary containment).
- Improper disposal of waste materials.
- Unidentified, pre-existing contamination from past owners of the premises.

- If the firm owns commercial structures or habitational structures, there is a major exposure from mold growth. Mold could result from construction defect, inadequate maintenance from both property manager and / or occupant, poor heating, ventilation and air conditioning (HVAC) systems etc.

### TRANSPORTATION EXPOSURES

- Inadvertent transport and subsequent disposal of unknown contaminated soil.
- Spills of contents (e.g., fuel, asphaltic cement, etc.) during transport.
- Resulting pollution from collisions with various structures (e.g., pole mounted transformers, aboveground tanks, etc.).
- Fuel / oil spills / leaks from vandalism.

### DISPOSAL EXPOSURES

- Superfund liability for the inadvertent disposal of waste materials or unknown contaminated soil.
- Improper disposal of waste of contaminated soil on the project site or at unregulated facilities.
- Vicarious liability from subcontractors that transport and dispose of waste materials.

# CONCRETE / CIVIL CONSTRUCTION FIRMS

Name of Organization: \_\_\_\_\_

Lasts Updated: \_\_\_\_\_

## SAMPLE ENVIRONMENTAL RISK PROFILE

Below is the start of a sample ERP for Concrete / Civil Construction Firms. A complete ERP can be added to provide a detailed profile: reference documents, website links, details on prior claims / incidents and the organization's response.

A complete ERP can be used to help risk and insurance managers better identify, manage, reduce and even eliminate the organization's exposures to environmental liability and the related costs.

EXPOSURE	IMPACT ON ORGANIZATION	RESPONSIBILITY	RISK MANAGEMENT TECHNIQUE	PRIOR INCIDENTS
<b>OPERATIONAL EXPOSURES:</b> <b>1. Use of curing compounds containing hazardous substances</b>	<ul style="list-style-type: none"> <li>Financial impact to remediate resulting pollution conditions and associated liability.</li> <li>Depending on the extent of incident, it may cause delays in construction activity.</li> <li>Liability associated with causing third-party bodily injury (other contractors on-site) or property damage.</li> </ul>	<ul style="list-style-type: none"> <li>Project manager, corporate safety officer, on-site personnel or environmental manager/ personnel or Risk Manager.</li> </ul>	<ul style="list-style-type: none"> <li>Employee education on safety, proper cautions in use of hazardous substances.</li> <li>Material Safety Data Sheets (MSDS) to identify hazardous substances</li> <li>Use of non-hazardous alternative products.</li> <li>Environmental insurance for both subcontractors and the firm for resulting liability and clean up costs.</li> </ul>	<p>The firm was sued as a result of the emissions during application of a curing compound containing Xylene. The fumes went into the air intake system of an adjacent building. Occupants were overcome by the fumes and became ill. Resulting lawsuits alleging bodily injury ranged from \$500,000 to \$1,000,000</p>
<b>OWNED PREMISES EXPOSURES:</b> <b>1. Batch plants</b>				
<b>TRANSPORTATION EXPOSURES:</b> <b>1. Re-fueling vehicles</b>				
<b>DISPOSAL EXPOSURES:</b> <b>1. Non-owned disposal sites</b>				