

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 Circuit Board Manufacturing, 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.

Circuit Board Manufacturers confront environmental liability every day. Specifically, they face environmental exposures in three major areas: operational, 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

- Liability arising both on- and off-site from historical use, such as improper disposal, underground tanks, residual contamination from small leaks or spills, etc.
- Liability associated with local or regional soil / groundwater contamination, regardless of the source of contamination.
- Environmental liability assumed in acquisition and divestiture of property.
- Large parcels of undeveloped property tend to have fewer environmental issues. As a result, many times, there are poor or inadequate records of activity on those lands. Phase I environmental assessments are cursory reviews of the site with a "walk-through" of the property to physically identify issues. Environmental reports might not identify illegal or "midnight" dumping of waste or materials on these lands. The contamination may only be revealed during development.
- Errors and omissions in environmental site assessments, especially Phase Is due to their limited scope of work, can lead to unidentified underground structures or contamination.
- Residual contamination of soil / groundwater from the use of hazardous and non-hazardous materials. Simple, non-reportable spills that go unaddressed can lead to greater first- and third-party environmental claims.
- Air emissions with heavy metals and organic crystals released in the manufacturing process.

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EXPOSURES (CONT'D)

- Improperly maintained polychlorinated biphenyls (PCB) containing equipment and transformers. PCBs tend to be fairly immobile in soil; this may lead to surface contamination at and beyond property boundaries.
- Improper housekeeping and preventive maintenance resulting in residual contamination.
- Malfunctioning pollution control equipment, leading to untreated discharge of air emissions or wastewater.
- Inadequate underground and aboveground tank inventory and / or management programs can lead to groundwater contamination.
- Inadequate or improper waste / raw materials storage / handling practices.
- Improper storage of incompatible materials may lead to on-site releases and / or potential explosion.
- Improper treatment or disposal of sludge from wastewater and water treatment operations.
- Improper release of non-contact cooling waters, which may result in discharge permit violations. As with any permit exceedance violations, there is potential for a substantial regulatory fine.
- Improper treatment of fluids in plating baths releasing various metals: nickel, chromium, gold, etc., into creeks or waste streams.
- Improper use of organic chemical solutions - Volatile Organic Compounds (VOC) during product and equipment washing, leading to soil and groundwater contamination.
- Malfunction of oil / water separators releasing petroleum contaminated water into bodies of water or waste streams.
- Natural Resource Damages resulting in substantial costs for state and federal-mandated cleanup requirements and potential fines.
- Release of product from pipelines, resulting in soil and groundwater contamination.
- Asbestos containing materials or lead-based paint in structures on site.
- Improper secondary containment, resulting in release of:
 - Acids / alkalines
 - Compressed gases, including cyanide and hydrogen chloride
 - Diesel fuel and lubricant oils, flammable paints and solvents
 - Organic chemical solutions.
- Lack of written protocol that could redeem the impact of an environmental emergency:
- Storm water runoff programs
- Spill prevention / countermeasure programs
- Hazardous waste auditing programs
- Environmental hazards training program

TRANSPORTATION EXPOSURES

- Inadvertent transport and subsequent disposal of unknown contaminated soil from on-site activities.
- Loading and unloading of product from rail cars, trucks, etc.
- Spills of contents (e.g., fuel, product, equipment maintenance fluids, process materials, etc.) during transport.
- Resulting pollution from collisions with various structures (e.g., pole mounted transformers, aboveground tanks, etc.)
- Fuel / oil spills / leaks from vandalism during transport.

DISPOSAL EXPOSURES

- Inadequate disposal of sludge and other waste from wastewater treatment operations.
- Clean up and liability associated with the disposal of waste / materials at disposal facilities or recyclers. This may expose the organization to Superfund liability.
- Improper “disposal” or sale of production byproducts.

CIRCUIT BOARD MANUFACTURING

Name of Organization: _____

Lasts Updated: _____

SAMPLE ENVIRONMENTAL RISK PROFILE

Below is the start of a sample ERP for Circuit Board Manufacturing. 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
OPERATIONAL EXPOSURES: 1. Inadequate water discharge treatment	Liability associated with contamination as the current owner of property. Possible Superfund liability. Third-party property damage or bodily injury. Cost to remediate the condition. Impact to the reputation of the company for not properly addressing environmental issues. Permit violation that leads to regulatory fines.	Site manager, legal counsel, environmental manager or risk manager.	<ul style="list-style-type: none"> Conduct an environmental assessment of the discharge operation. Environmental insurance to protect from liability associated with on- and off-site contamination. Install/maintain discharge monitoring system. 	The company was fined, sued by third parties, and forced to clean up extensive contamination associated with discharge of untreated water. The company discharged plating water containing organic chemicals on the property. The property was located near a freshwater stream used for fishing and swimming. The fluorescent green liquid later washed into the stream. Although it was diluted, it still caused enough contamination to destroy aquatic life, and had adverse health effects (at the time of the incident they were primarily skin rashes) in children who swam in the stream.
OWNED PREMISES EXPOSURES:				
TRANSPORTATION EXPOSURES:				