WASHINGTON STATE DEPARTMENT OF ECOLOGY

INSURANCE AND POLLUTION PREVENTION

CASE STUDIES

Case studies demonstrate the potential benefits of environmental insurance. Alternatively, the show the potential consequences of not having it. They demonstrate:

- ✔ the value to insurers of pollution prevention as a means to reduce risk
- ✔ the technical resources insurers can provide to assist in pollution prevention
- ✔ the financial incentives for pollution prevention provided by insurance.

Case studies are useful in documenting:

- ✔ the range of damages and liabilities related to use of hazardous materials.
- ✔ the limits of conventional insurance coverage.
- ✔ the benefits of environmental insurance.
- ✔ reduced costs of conventional property, health, and worker compensation costs as a result of pollution prevention.
- ✔ reduced costs of environmental insurance as a result of pollution prevention.

The first four cases are similar in that the reductions in insurance costs resulted exclusively from conventional insurance coverage and did not include reductions in the cost of environmental insurance.

Case Studies: Individual Firms Secure Conventional Insurance Benefits

New England Woodcraft, Inc

New England Woodcraft, Inc. manufactures household and institutional furniture at its factory in Forestdale, Vermont. The plant determined that it was emitting volatile organic compounds (VOCs) on the order of 6 to 7 pounds per gallon of finish. VOCs constitute a major source of air pollution. The nitrocellulose coatings being used contained potentially hazardous ingredients such as formaldehyde.

Significant amounts of solid and hazardous waste were generated at the plant as well. New England Woodcraft sought to reduce worker exposure to toxics and reduce the emissions and hazardous waste generated from the use of nitrocellulose coatings.

In 1988, this company began testing water-based coatings as a replacement for the traditional nitrocellulose coatings. In 1990, New England Woodcraft, in a joint effort with C.E. Bradley Laboratories, formulated a successful water-based coating and the necessary application equipment to replace the old nitrocellulose coatings.

The pre-mixed water-based emulsion finishes now used at New England Woodcraft contain only 1.67 pounds of VOCs per gallon of finish, a 75 percent reduction. The new formulation does not contain formaldehyde. The water-based finish covers more area with less material. These factors have combined to reduce annual VOC emissions at the facility from 90 tons to 9 tons - a 90% reduction. Hazardous waste generation was also reduced by over 90% - from more than 2,200 pounds per month to less than 220 pounds per month.

The facility received a 25 percent decrease in insurance rates due to decreased fire hazards. The insurer told the owner that the reduction was due solely to reduced fire risk. However, the owner emphasized that the impetus was not fire risk but health risk to employees of the previous coatings. The owner was not aware of any reduction in health insurance or in workers' compensation insurance as a result of the reduced health risk.

Since New England Woodcraft was not buying environmental coverage prior to switching to the less hazardous finish, it did not see a reduction in insurance costs in this area. The switch did reduce potential environmental liabilities of the company.

Tiz's Door Sales

Tiz's Door Sales in Everett, Washington manufactures finished wood products for remodeling and new home construction. The owner was concerned for worker safety and for fire and explosion resulting from paint and solvent fumes. He decided to reduce the air emissions from painting and coating operations.

These investments generated major savings in both material use and disposal costs. **As a result of aggressive action by the owner, annual insurance costs were reduced by over $34,000 per year**. Reductions were obtained in the cost of workers' compensation, health insurance, and conventional property insurance.

The frequency and duration of worker sick leave and medical claims declined after implementation of the pollution prevention measures. The health insurer granted a reduction in premiums. The company also secured a reduction in annual rates for workers' compensation through a retrospective rating program at the Department of Labor and Industries. Claims from Tiz's Door Sales were significantly below the average for the industrial category on which the firm's rates were based. L&I granted a further reduction - beyond the retrospective rating reduction - because their data indicates that less sickness on the job means workers have a lower risk of injury.

When the firm's claims manager discussed rates with the property insurer, he was unable to secure a reduction in rates to reflect the reduced risk of fire and explosion. He then put property coverage out to bid and secured a change in the firm's risk rating for its building. Based on this reduced risk rating and on competition among potential insurers, the original insurer granted a major reduction in the annual property insurance premium.

Tiz's Door Sales has reduced its potential environmental liability to the point that environmental insurance is not needed.

This case study emphasizes several points which apply to all firms which use or generate hazardous materials:

- Pollution prevention can eliminate the need for environmental insurance.
- Major savings can be achieved in conventional insurance coverage for
  - ✔ workers' compensation,
  - ✔ health insurance, and
  - ✔ property insurance.
- Reductions in insurance costs can be significant.
- ***Reductions are not granted on a routine basis by insurers. Insureds must be willing to provide documentation of reductions in risk and to negotiate aggressively with carriers to obtain reductions in insurance costs.***

Hampden Papers

Hampden Papers Inc. of Holyoke, Massachusetts reduced emissions of volatile organic compounds (VOC) by switching to aqueous-based acrylics and other coating systems. Annual VOC emissions dropped 97% - from 420 tons to 10 tons. VOC emitted per unit of product dropped from 8.15 pounds to 0.15 pounds.

As a result of these reductions, fire insurance costs were reduced by more than 50%. However, the firm was not able to secure any reduction in its health or its workers' compensation costs.

Rudd Company, Inc.

The Rudd Company in Seattle manufactures and distributes paints and coatings for industrial distribution. The company has implemented an aggressive P2 program and has recently incorporated its P2 effort within a more comprehensive environmental management system (EMS). When the firm put its insurance coverage out to bid after adopting the EMS, **it realized a 31% drop in both its combined property and comprehensive liability insurance costs.** (Its comprehensive liability coverage did include environmental liability.) The company attributes these insurance savings, to three factors:

- ✔ adoption of P2 measures and the EMS;
- ✔ a new, environmentally engineered facility; and
- ✔ a very competitive insurance market.

Shortly after moving into the new facility, the company experienced a major fire. As a result, its insurer dropped its property coverage and Rudd was required to purchase a new property policy. The previous carrier did, however, maintain the environmental coverage.

Case Study: Group Coverage for Environmental Damage and Liability

Northern California Association of Metal Finishers

The following case study differs from the four previous case studies in two ways. First, it does focus on coverage for environmental damage and environmental liabilities, not on coverage for property damage. Second, it concerns provisions of such coverage for a group or association, not for an individual business.

Metal finishing includes a range of activities: electroplating, plating, anodizing, polishing, painting, and coating. This sector is composed of "captive" shops - shops within larger manufacturing firms, and "job shops" - independent shops which contract with manufacturing firms. A significant portion of "job shops" have fewer than 10 employees and very few have more than 50.

Metal finishing creates insurance exposures not covered by such standard insurance coverages as commercial liability, property, and workers' compensation. Primary among such exposures is the potential for on-site pollution cleanup and off-site pollution liability.

In 1988, the Northern California Association of Metal Finishers (NCAMF) assembled a task force to both expand insurance coverage and reduce insurance costs for members. A broker and a major provider participated, attracted by the Association's ability to provide an assured volume of coverage. The initial insurance package for members of the Association provided both conventional insurance coverage and limited on-site cleanup coverage. As a result of three major fires in the first two years, the initial insurer withdrew. The broker then circulated a proposal for coverage for metal finishers to about 20 potential insurers. The proposal expanded the previous coverage to include both on-site pollution cleanup and off-site pollution liability. Because of the requirement for such off-site liability, only one firm responded to the proposal: CNA.

To obtain the environmental coverage, a metal finisher must purchase all of its insurance coverage from CNA. More importantly, it must demonstrate good "loss control". In addition to full compliance with all regulations governing use of hazardous materials, CNA underwriters require evidence of implementation of standard P2 measures.

It has been difficult to determine the effect of P2 implementation on the cost of the coverage provided by CNA to metal finishers. The price for any single metal finisher reflects the overall risk of all potential damages and liabilities, not just environmental liabilities. In addition, the effect of competition within the insurance sector likely outweighs the effect of P2 on rates.

The assured volume of sales through the NCAMF was a critical factor in making environmental coverage available for metal finishers. This coverage is now sold to individual metal finishers throughout the nation.

Additional Case Studies

Case studies regarding environmental insurance are difficult to develop for several reasons:

- insurers may not want to reveal the precise basis for pricing a specific coverage.
- insured firms may not wish to reveal whether they are insured for specific risks.
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- insurers do not reveal information on specific clients.
- the State Insurance Commissioner does not record information on claims filed under environmental insurance.

However, hundreds of elements of case studies are provided by the environmental insurers identified on the Annotated List of Environmental Insurance Internet Sites at **http://www.access.aig.com**. These elements of case studies are proprietary. Placement of links to them on the Internet eliminates concerns regarding copyright.

If you have questions or comments on this or other insurance fact sheets, please contact:

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