

Industrial Pollution
Prevention
Project

Industrial Pollution Prevention Project (IP³)

Overview

In 1991, EPA initiated the Industrial Pollution Prevention Project (IP³). The IP³ is an Agency-wide project to see:

- how pollution prevention can be incorporated into EPA's determination of the best available treatment technologies for particular industries; and
- how the pollution prevention ethic can be embraced by industry, the public, and all levels of government.

Pollution prevention is an approach for protecting the environment that recognizes that the best way to clean up the environment is to prevent pollution in the first place.

Background

For the most part, pollution control in the United States has been carried out by governments setting limits on discharges, based on the best available treatment technology for a given discharger.

The effectiveness of treatment technologies in controlling the discharge of pollution has improved over the years. However, the 1991 Toxics Release Inventory (TRI) showed that there is not a downward trend in the waste generated prior to treatment, control, or disposal. Also, industry's TRI projections for 1992 and 1993 showed waste generation to be flat or even increase slightly.

According to the Science Advisory Board, EPA should emphasize pollution prevention as the preferred option for reducing risk. Pollution prevention reduces the transfers of pollution among air, land, and water. It also reduces residual risks because the pollution is not generated in the first place.

Pollution prevention benefits industries and municipalities as well as the environment. Pollution prevention requires manufacturers to analyze each step in their production processes and make changes in the process or materials that they use. This usually results in increased efficiency in the production process and reductions in the amount of energy, water, raw materials, or other resources. It also results in reduced pollution control costs. Most importantly, the environment benefits as a result of reduced discharges of pollutants into surface water, ground water, and air.

Key Elements

The IP³ consists of seven distinct studies, four demonstration projects, and two outreach activities.

Studies

■ **Barriers and incentives**

This study examines the most promising incentives to overcome existing barriers to industrial pollution prevention.

■ **Technology innovation waivers**

This study examines the innovative technology waiver provisions (301(k)) of the Clean Water Act (CWA). This section of the Act provided an opportunity for permittees to request that compliance be extended for up to two years if they use innovative technology to meet or exceed permit limits. The study explains why the program did not work. It presents a legislative and regulatory history of the program, including a comparison to the variance program under the Clean Air Act. Further, the study highlights several successful programs at the national and state levels that have promoted technology innovations. It also discusses the potential role of a revised and redesigned program to promote technology within the CWA.

■ **Statute analysis**

This analysis identifies and examines the industrial pollution prevention opportunities in two major environmental statutes: the Clean Water Act (CWA) and the Resource Conservation and Recovery Act (RCRA).

■ **International case studies**

This is a series of "success stories" describing how industries throughout the world including Canada, China, France, Germany, the Netherlands, the former Soviet Union, the United Kingdom, Sweden, Denmark, Finland, Spain, Greece, Italy, Belgium, India, and South Africa, successfully used pollution prevention innovations. The objective of compiling these case studies is to help EPA and U.S. industries learn from what is taking place in other countries.

■ **Analysis of the effluent guidelines process**

This is an analysis of the process by which EPA determines effluent limits for specific industries. The analysis shows where in the process pollution prevention considerations can be incorporated.

■ **Technologies in selected industries**

This is a series of technical studies examining specific pollution prevention technologies for the pulp and paper, pharmaceuticals, metals manufacturing, and pesticides industries.

■ **A retrospective on the leather tanning industry**

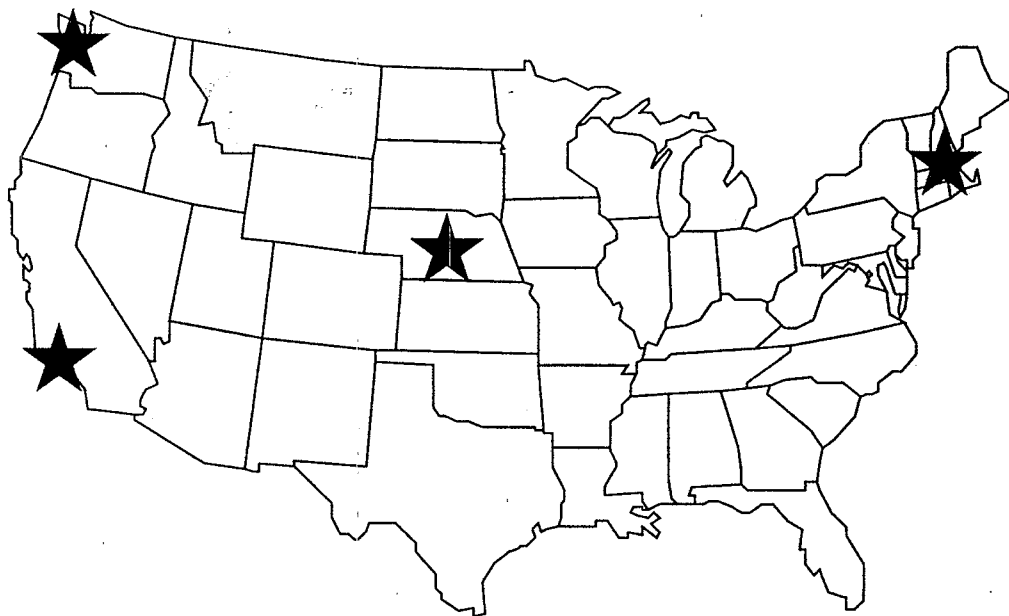
This examines how four leather tanneries have used pollution prevention as well as control technologies to comply with the promulgated effluent guideline for leather tanneries. It also provides information on how facilities make decisions when complying with the effluent requirements.

IP³ Demonstration Projects

The IP³ includes Demonstration Projects in four different geographical regions across the nation. ►

The purpose of these regional pilot projects is to:

- (a) demonstrate different specific aspects of the pollution prevention approach;
- (b) actually prevent pollution at real locations; and
- (c) gain new insights from the demonstrations that will be useful to both industry and EPA in furthering pollution prevention.



★ **New England**

A demonstration of how two states (MA and NH) were able to cooperate to build source reduction into pretreatment and industrial programs to prevent discharge of toxics into the Merrimack River. The project also demonstrates methods and incentives for preventing pollution through process change and product alternatives in the cases of both direct dischargers and indirect dischargers.

★ **Nebraska**

A demonstration of the implementation of pollution prevention at a machinery manufacturing company in Columbus, Nebraska. This project focuses on three aspects of the facility's manufacturing operations: electroplating, hot dip galvanizing, and painting.

★ **Southern California**

A demonstration of enhanced communication and coordination between federal, state, and local regulatory agencies (including POTWs) to promote industrial pollution prevention. This project will also result in a model multi-media pollution prevention program for the industrial laundry sector, which looks at industrial solid waste, wastewater, and air emissions.

★ **Pacific Northwest**

A demonstration of pollution prevention at a pulp and paper mill in Tacoma, Washington that developed an implementation plan for the mill as well as a model plan and a bibliography for use by similar mills. This project will also demonstrate how pollution prevention can be incorporated in the enforcement settlement process.

Outreach Activities

■ **The IP³ Focus Group**

This 23-member Group was comprised of representatives from industry, labor, environmental groups, academia, and all levels of government. This Group, for 18 months, provided a forum for constructive dialogue among all the groups affected by adoption of industrial pollution prevention measures. It also provided continuous review of and input to the project to ensure useful results and products, and recommended ways to improve pollution prevention technology transfer and information sharing. The Group also developed specific recommendations to EPA on "How Best to Promote Industrial Pollution Prevention Through the Effluent Guidelines Process."

■ **Consumer Education**

This outreach effort seeks to produce a prudent and effective strategy to communicate with consumers—to change consumer demand away from products that are a significant cause of pollution either when they are being manufactured or when they are disposed. This effort is based on careful research on when and how to communicate with the public on environmental issues.

A Look Ahead

Pollution prevention allows the regulated community and regulators to take a broader, more integrated look at the requirements of environmental regulations and the tools available for reducing industrial discharges. It further allows them more flexibility toward finding the most efficient and effective ways to reduce risk and protect the environment.

The results from the IP³ studies and demonstration projects, when completed, will provide innovative ideas and approaches for states, local government, and industry on how to incorporate pollution prevention in pollution control programs for industrial sources.

These documents are in various stages of completion. The drafts where available may be obtained from:

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