IDEM

Office of Pollution Prevention &
Technical Assistance
100 North Senate Avenue
Indianapolis, IN 46204-2251

2005 Indiana Pollution Prevention Annual Report

Working to eliminate the barriers to change!

March 27, 2006

Dear Hoosiers:

I am pleased to submit IDEM's 2005 Annual Report on Pollution Prevention efforts in Indiana as required by I.C. 13-27-6. This report describes the state's pollution prevention activities to the Indiana General Assembly each year. These activities are vast in scope and powerful in their impact on Indiana's industries, citizens, economy and most of all, our environment.

A draft version of this report was released on February 1, 2006 and made available for public comment for 45 days. This final report incorporates the public comments received during this period. This report describes the initiatives underway in IDEM's Office of Pollution Prevention & Technical Assistance and results of their 2005 efforts.

Though 2005 was a year of change for IDEM, the pollution prevention staff took this opportunity to make the most of new management interests. From increased dialogue with regulatory offices to new pollution prevention programs offering incentives for going above and beyond regulations, you will see pollution prevention efforts have increased and are focused on eliminating barriers to change and improving Indiana's environment through voluntary initiatives.

Each year, we strive to identify measures of success of Indiana's pollution prevention efforts. You will notice more data provided in this year's report. We look forward to developing new initiatives and programs to prevent pollution and mechanisms to provide additional data demonstrating pollution prevention success and improvements to the environment in future years. I hope you are as impressed as I am with the positive impact pollution prevention has on making Indiana a cleaner, healthier place for all Hoosiers.

Sincerely,

Thomas W. Easterly
Commissioner

Table of Contents

Introduction – Working to Eliminate Barriers to Change!

2005 has been a year of change and growth for Indiana's Pollution Prevention Program. With a new administration at IDEM came new leadership for the Office of Pollution Prevention and Technical Assistance, new pollution prevention initiatives, and new pollution prevention staff. 2005 grant money from federal EPA is allowing Indiana's Pollution Prevention Program to expand its regulatory integration efforts, begin new pollution prevention training programs, and plan for new ways to promote our services to prospective customers. Support from the new Assistant Commissioner has led to development of a state environmental performance-based program intended to produce positive results for the environment, IDEM, and Indiana regulated entities. These are just a few of the changes the Pollution Prevention Program has seen in 2005. Details of these changes are highlighted in the next section of this report.

Also in the report, you will find details on our on-going efforts to promote pollution prevention statewide to various sectors. The success of these initiatives has led to reductions in emissions to the air, reductions in waste generated, and reductions in pollutants releases to Indiana's lakes, rivers and streams. Through continued partnerships with the Clean Manufacturing Technology and Safe Materials Institute and the Indiana Partners for Pollution Prevention, 2005 was another successful year for many Indiana businesses looking for opportunities to prevent pollution.

Chapter 1: IDEM's Pollution Prevention Initiatives

2005 Pollution Prevention Highlights

New Assistant Commissioner

In April 2005, a new assistant commissioner was appointed to lead the Indiana Department of Environmental Management's Office of Pollution Prevention and Technical Assistance (OPPTA). Dan Murray started his position as a familiar face to OPPTA. He has shared a passion for pollution prevention by serving three years as the Director of the Partner's for Pollution Prevention Executive Steering Committee, working regularly with OPPTA to develop outreach initiatives through the Partners to encourage more Indiana businesses to be environmentally conscious.

Previous to joining IDEM, Mr. Murray worked for six years as a Corporate Director of Environment, Health and Safety at an Indiana manufacturing facility and nine years as an environmental, health, and safety management consultant to a wide array of industries in the Midwest. He served for five years on the Indiana Governor's Clean Manufacturing Technology Board and was the Vice Chair of that board prior to joining IDEM.

Under his leadership, OPPTA continues its successful efforts to promote pollution prevention, provide confidential compliance assistance, educate Hoosier citizens about environmental health, and offer grants and loans to promote recycling programs. During 2005, new initiatives have taken place in each of these areas, and OPPTA continues to strive to provide the resources Indiana needs to be a safe and healthy place to live and a good place to do business.

New Pollution Prevention Staff

During 2005, the hiring freeze was finally lifted, allowing the Pollution Prevention Program to hire back positions that had been empty for a year or more. A much needed environmental engineer was hired to provide technical expertise through review of project proposals, on-site pollution prevention opportunity

assessments and recommendations, and rule review for pollution prevention opportunities. As a result, OPPTA is now involved in the review of supplemental environmental projects (SEPs) through the Office of Compliance and Enforcement, in a new initiative to encourage the implementation of more SEPs, in particular, pollution prevention SEPs. In addition, this engineer has received training from various state pollution prevention programs so that IDEM can provide quality on-site assistance to Indiana businesses wishing to identify areas at their plants where they may benefit from implementing a pollution prevention project. Finally, each month the engineer has been reviewing the state's proposed environmental regulations for opportunities to include pollution prevention as a regulatory option and has been directly involved in working with various offices to consider these suggestions.

The Pollution Prevention Program also hired a senior environmental manager to lead the development of a new environmental performance-based program . Similar to U.S. EPA's National Environmental Performance Track Program, the new environmental manager has jump started the development of this program by conducting several internal meetings to solicit comments and suggestions regarding the framework of the program. As a result of these continued efforts, IDEM has identified tangible regulatory incentives to facilities participating in this program. In addition, several public meetings have been held with external stakeholders to get feedback as to how the program should be established, what membership requirements should apply and the type of incentives necessary for participation and ultimately, success!

Through the addition of these staff, the Pollution Prevention Program continues to offer a high level of service to our customers, and now is able to provide more types of services that have never been provided before! A complete listing of the Pollution Prevention Program Staff and Services is available at www.in.gov/idem/oppta/p2/p2staff.html.

New Federal Funding

In February 2005, the Pollution Prevention Program received $125,000 from U.S. EPA to implement the CLEAN Community Challenge. For details about how this program has progressed, please refer to the section on the CLEAN Community Challenge.

The Pollution Prevention Program applied for federal funding through a U.S. EPA pollution prevention grant in April 2005. In July, EPA granted $84,000 to IDEM to increase its pollution prevention regulatory integration efforts at the agency and to promote its pollution prevention services more actively to Indiana businesses.

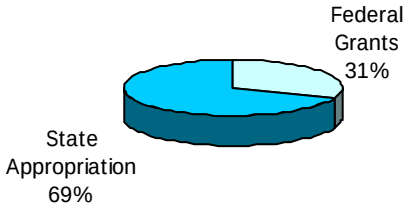
Since July, the Pollution Prevention Program has met with senior staff at IDEM to gain their support of additional pollution prevention training for IDEM staff. With their support, the Pollution Prevention Program is developing a "P2 Basics" mandatory training program that IDEM staff will attend. The P2 Basics training will include instruction on the definition of pollution prevention, examples of what it is and what it isn't, and where it falls in the hierarchy of how IDEM wishes to protect the environment. Discussions are currently underway with agency Branch Chiefs to develop the framework for this initiative. This will be followed by meetings with many of IDEM's 72 sections. These meetings will discuss where opportunities may exist for IDEM program areas to promote pollution prevention and what tools are needed to successfully accomplish this. The Pollution Prevention Program will use the grant funds to develop many of the tools identified during these meetings.

IDEM's Pollution Prevention Program received $260,500 in federal grant dollars in 2005. Currently the P2 Program has four federal grants totaling $341,645. In addition, the P2 Program continues to manage a pollution prevention memorandum of agreement between IDEM's Office of Air Quality and the Clean Manufacturing Technology Institute in the amount of $317,088 to perform pollution prevention opportunity assessments.

Approximately 1/3 of the Pollution Prevention Program is funded through federal grant dollars.

**The state appropriation is provided for the entire *Office of Pollution Prevention & Technical Assistance, which includes compliance assistance and recycling activities. For that reason, approximately 1/3 of the OPPTA state appropriation is represented as being utilized for pollution prevention purposes in this graph.*

Approximate 2005 Pollution Prevention Program Budget*



The grant will also fund outreach to external customers through increased participation in local conferences, development of industry specific pollution prevention checklists, assessments, and fact sheets, and increased staff time spent on developing partnerships with various organizations and trade associations to encourage pollution prevention.

New Mercury Outreach Materials for POTWs

During 2005, with funding from the U.S. EPA, the Indiana Pollution Prevention Program developed a series of informational materials to be distributed by local publicly owned treatment works to assist them in meeting the requirements of a mercury variance. For several years, Indiana's POTWs have been concerned about new testing methods to identify mercury levels in wastewater. Many POTWs are unable to meet IDEM's mercury limits due to the effectiveness of these new testing methods. In an attempt to allow mercury removal technologies to catch up with testing methodologies, IDEM and U.S. EPA have agreed to provide variances to the mercury limits when a POTW implements a proactive pollution prevention outreach program to industry sectors in their community. The outreach involves educating industry on the impacts mercury has on the POTW and the environment and encourages each facility to prevent mercury pollution at the source.

The Pollution Prevention Program worked closely with IDEM's Office of Water Quality, the U.S. EPA, and representatives from POTWs and various industry sectors to create the outreach materials. The materials include sector factsheets, citizen brochures, magnets, posters, CD ROMS, websites and more. *Mercury in Wastewater* workshops have been held at five locations throughout the state to promote the mercury awareness materials and explain the newly adopted Streamlined Mercury Variance rule. Over 90 environmental professionals have attended the workshops. Workshop surveys have indicated the materials and presentations were well-received and would be used.

> *- Excellent information and very well organized! – I enjoyed this well-rounded training. - I thought I knew a lot about mercury before, but I learned so much! – Could you come present to our group? – survey responses from various workshop attendees*

Of the 45 pretreatment POTWs in Indiana, 30 attended the workshops and received the outreach materials. 70% indicated they will be using these materials to conduct outreach to educate their local business and

community about the effects of mercury on the environment. 87% of attendees plan to use the materials for employee training on mercury issues. The outreach materials can be found on the IDEM Web site at www.in.gov/idem/mercury/potw/

Supplemental Environmental Project Assistance

When a facility ends up in enforcement for violations related to noncompliance with IDEM regulations, an opportunity exists in many instances to work closely with the entity to implement supplemental environmental projects (SEPs). Not only do these projects benefit the environment, but they can also benefit the company, resulting in a lower fine and a project that can prove profitable for the company in the long run.

The Pollution Prevention Program has teamed up with the Office of Enforcement to encourage the consideration of SEPs in more enforcement cases. We now help to evaluate SEP proposals, help facilities develop project proposals, and evaluate projects for pollution prevention qualification. Those proposals that meet the qualifications for pollution prevention are also eligible for a larger penalty offset than other SEPs.

- Although no P2 SEPs were reviewed in 2004, since efforts began in July 2005, seven SEPs have been reviewed for pollution prevention opportunities -

The Pollution Prevention Program also developed a list of pre-approved SEP projects that will lead to faster approval and implementation of projects with anticipation of additional projects being proposed as a result. For more information on pollution prevention SEPs, refer to the IDEM Web site at www.in.gov/idem/oppta/p2/sep.html.

Performance Based Program Development

In the September Indiana Register, IDEM initiated three parallel rulemakings (Offices of Air Quality, Land Quality, and Water Quality) to begin looking at how an environmental performance based program would benefit Indiana. Performance based programs seek to encourage and reward environmental improvement efforts beyond those required by law. Performance based programs across the country (including the National Environmental Performance Track) are yielding significant reductions in waste generation, material usage, energy consumption and emission levels by participating members.

Public meetings were held in September and November to accept input from interested parties. Fifty one interested parties, representing: non-profit environmental organizations, law firms, consultants, industry, and state and local regulators, attended the initial public meeting held on September 27, 2005. Internal meetings are held on a regular basis to work towards development of the program. In addition, an internal training session for IDEM staff covering environmental management systems was held in October. A facility maintaining an effective Environmental Management System (EMS) is the foundation of the program.

The environmental performance based program is expected to be implemented sometime in 2006. This program will aim to encourage organizations in Indiana to implement Environmental Management Systems, pursue pollution prevention opportunities and maintain a pattern of compliance.

TRI CDX Pilot State

IDEM completed a pilot project in conjunction with three other states (Michigan, South Carolina, and Virginia) and the U.S. EPA that enabled IDEM to collect annual Toxic Release Inventory data via the internet through the Central Data Exchange (CDX) system. Through CDX, the state can focus resources on data analysis rather than data collection and quality assurance. In fact, during 2005, more than 30% of TRI reporters used the CDX system and provided favorable comments on the burden reduction it provides to Indiana facilities. Indiana was honored to be one of only four states to be included in the pilot and able to provide this burden reduction ahead of other states.

Additionally, the standardization that CDX brings will also encourage more complete and accurate reporting of pollution prevention efforts within the state. The quality assurance of TRI data in Indiana will continue to supply valuable insight into the methods employed by facilities to reduce their TRI emissions and the synergy between production levels and the state economy and its effects on facility emission levels. IDEM continues to work with this team to bring more states into the project and expand its scope.

Using the quality assurance data, we plan to strategically plan assistance to specific industrial sectors which could benefit from pollution prevention studies and guidance showing proven emission reduction strategies already taken within their industry. As more facilities employ these efforts, TRI material usage and releases should decrease, excluding some facilities from TRI applicability as a result of pollution prevention activities.

On-Going Initiatives

Auto Salvage

Three state agencies have teamed up to help auto salvage facility owners deal with the somewhat confusing state laws and rules that govern their operations related to the environment and worker health and safety. IDEM, the Indiana State Department of Health and the Indiana Department of Labor/INsafe continue to assist this sector with applicable regulations.

These facilities routinely deal with many potentially harmful fluids, materials and substances which**,** if not removed, stored and disposed of properly, can pollute Indiana's air, land and water, and impact worker health and safety. Workshops were conducted around the state covering the myriad of applicable regulations and reviewing the Compliance Manual for Auto Salvage Facilities. The IDEM inspector's multi-media inspection checklist was also distributed during these workshops in an effort to communicate agency compliance expectations.

More than 50 Indiana auto salvage facilities received a multi-media inspection since 2004. A multi-media inspection checklist was developed and used during these inspections. IDEM's goal is to increase the auto salvage facility sector's compliance with the environmental laws and regulations, thereby reducing the potential for pollution. A new set of regulatory requirements has this sector involved in Storm Water Pollution Prevention under 327 IAC rule 15-6-1 and applicable reporting requirements.

Our Salvage Yard manual can be found on IDEM's Web site at www.IN.gov/idem/autosalvage/.

Child Care

The 5-Star Environmental Recognition Program for Child Care Facilities recognizes facilities that go above and beyond the requirements of environmental, health and safety regulations. Facilities can earn one, three or five stars based on how they address lead, radon, asbestos, pesticides, mercury, indoor air quality, fire safety, recycling, energy efficiency, and environmental education.

Currently 48 Hoosier child care facilities are participating in the program, protecting an estimated 3,250 children from environmental threats.

A number of environmental health resources are provided for participating child care facilities. The child care manual, "Protecting Children from Environmental Health Threats: Guidance for Indiana's Child Care Facilities," can be downloaded from IDEM's Web site at www.IN.gov/idem/kids/5star.

CLEAN Community Challenge

The CLEAN Community Challenge is a free technical assistance and recognition program specific to local governments. CLEAN provides Hoosier cities, towns, and counties public recognition and financial incentives

in exchange for implementing environmentally beneficial actions and improving the quality of life for local residents. The CLEAN program encourages local governments to create a "Quality of Life Plan," the municipal equivalent to an environmental management system and to implement pollution prevention activities that correspond with individual community goals.

During 2005, the Pollution Prevention Program worked closely with the three CLEAN pilot communities of Lawrence, Muncie and Ogden Dunes and six additional communities working toward CLEAN status. A Memorandum of Agreement was created between IDEM and each pilot community outlining specific roles and responsibilities of each party. Timelines were developed to coordinate activities and promote continual progress. Six meetings were held at each pilot in 2005 for stakeholders to discuss their Quality of Life Plan progress and five site visits were conducted to identify government activities having potential to negatively impact the environment.

Members of the Ogden Dunes CLEAN Community Stakeholders Group meet with IDEM and Region 5 U.S. EPA officials.

IDEM and its contractor also provided six workshops and 11 presentations to different groups in various locations throughout Indiana to educate community leaders about environmental management systems (EMS) and the CLEAN Community Challenge. With a focus on how to implement an EMS, 34 local leaders attended the workshops and learned how their community can use CLEAN to begin development of a local EMS.

- Participating in the Indiana CLEAN Community Challenge is a great way to walk the talk and lead by example to encourage neighboring industries and citizens to be more aware of their impact on the environment and surrounding communities. - Susan MiHalo, Ogden Dunes Environmental Advisory Board

- Participating as a pilot in the Indiana CLEAN Community Challenge provides a unique opportunity to address other environmental areas with the commitment and dedication that has brought national and international recognition to Muncie for our water quality efforts in the West Fork White River. Implementing CLEAN will mean an improved quality of life for our citizens and the student population at Ball State University. - Richard Huyck, Director of Muncie's Bureau of Water Quality

- The Indiana CLEAN Community Challenge is a great way to receive recognition from the State for achieving goals best suited for our community. - Vicki Perry, CLEAN stakeholder leader at Lawrence

To ensure the on-going commitment by various state agencies to provide financial incentives to CLEAN communities, an MOU was developed and signed. An electronic listserv maintained by IDEM provides information concerning funding opportunities and pollution prevention techniques, and the Indiana CLEAN Community Challenge website contains supplementary resources for local governments including a recently added sample quality of life plan. In addition, a contractor has been hired to research and develop a web-based database that will guide communities through identifying common aspects and best management practices at a municipality. When completed in 2006, it will be the first tool of its kind designed for municipalities.

For additional program information, contact IDEM's Office of Pollution Prevention and Technical Assistance toll free at (800) 988-7901 or visit the Indiana CLEAN Community Challenge Web site at www.cleancommunities.IN.gov.

Clean Sweeps

With funding from EPA, IDEM assisted schools with the removal of unwanted, unstable, and unused chemicals from their science laboratories. Hundreds of bottles of various chemicals were removed from their respective schools as a result of the Clean Sweeps Program. In 2002 and 2003, a total of 21 schools received the free inventory services and had earmarked chemicals packed, transported, and recycled, or disposed of, free of charge.

In 2005, IDEM assisted 20 schools in cleaning out labs and properly disposing of unused chemicals.

Contractors collecting and tracking lab chemicals for proper disposal.

IDEM started round 3 of the Clean Sweep program in August 2005. To date, we have cleaned out the labs of 20 schools, with 12 additional schools scheduled for cleanup in 2006. IDEM is currently exploring funding options to assist these schools. Chemicals not targeted for removal are reorganized to help the teacher establish a more efficient storage system. Teachers are also left with information on how to do some common experiments with less hazardous materials and smaller quantities, while achieving the same desired results.

Participating schools are also given other logistical and maintenance-oriented suggestions to improve the operational efficiency of their labs. Suggestions include: purchasing a new flammable cabinet built of proper materials such as steel; installing smoke detectors and fire extinguishers; consolidating chemicals; having Material Safety Data Sheets and chemical inventories readily available; installing lips on shelves or obtaining doors with locking mechanisms; and ensuring the chemical storage room has its own ventilation system.

For a list of schools who have participated in this program, please see www.in.gov/idem/schoolnews/cleansweep.html.

Collision Repair/Automotive Refinishing

IDEM continues to assist collision repair and automotive refinishing businesses with environmental topics ranging from proper disposal of hazardous waste to when to apply for an air permit. The "Collision Repair/Automotive Refinishing Compliance Manual" is available to assist businesses in this industry to achieve environmental compliance with all regulations that apply to their business activities.

The manual and other information about this sector can be found on IDEM's Web site at www.IN.gov/idem/ctap/collision.

Diesel Idling

The Southwest Regional Office Staff and Southern Indiana Air Quality Workgroup have taken EPA's School Bus No Idling Program to the next level. The group assisted IDEM in the development of standardized signage to be posted at locations where idling may commonly occur. During the next year, the group will be holding public information sessions for school systems, diesel fleet owners, day care providers, industrial/commercial warehouse operations, as well as transportation business and industrial partners. These sessions are designed to educate mobile fleet owners (gas/diesel) of the adverse environmental, economic and financial impact of excessive idling.

Styline Transportation, Inc. fleet out of Huntingburg, Indiana. Styline was the original Indiana member of EPA's SmartWay Transport Partnership.

Drycleaners

Thirteen drycleaners earned recognition in 2005 in IDEM's 5-Star Environmental Recognition Program for Drycleaners, OPPTA's longest running environmental recognition program. This 5-Star Program recognizes environmental excellence in the drycleaning industry including requirements for high solvent mileage to reduce the usage of the toxic chemical perchloroethylene (perc). Since its inception ten years ago, participating Indiana drycleaners have been tracking the amount of clothes they wash per gallon of perc. The goal is to reduce the amount of perc used by washing at least 600 pounds of clothing with one gallon of perc. The average solvent mileage of those drycleaners in the 5-Star program is actually much higher, closer to 900. In fact, six of the 13 drycleaners recognized in 2005 eliminated the use of perc altogether, switching to less toxic alternatives.

Drycleaners are recognized at the three, four, and five star levels for having achieved certain solvent mileage levels. There are currently 14 cleaning plants and 41 additional drop-off stores that participate in the program. OPPTA continues to work with IDLA to evaluate education and recognition needs and goals.

During 2005, six Indiana drycleaners were recognized for eliminating the use of the toxic chemical, perchloroethylene and switching to a less toxic alternative.

OPPTA provides individualized assistance to drycleaners by phone or site visits to provide compliance assistance and promote pollution prevention. Information, including the *Compliance Manual for Indiana's Perchloroethylene Drycleaners,* is available on IDEM's Web site at www.IN.gov/idem/ctap/cleaners/.

Enviroschools

IDEM was awarded a grant to develop and implement Enviroschools, an Environmental Management System (EMS) approach to facility management for schools. Typically, an EMS program is used by industry to provide a structured approach for managing environmental and regulatory responsibilities to improve overall environmental performance. Enviroschools has been designed to provide a resource that schools can use to identify and address environmental and health and safety issues at their schools.

IDEM has developed the framework for the web-site which includes a survey tool for schools to audit and evaluate the environmental condition of their buildings and classrooms and helps to identify potential areas of concern, measures to mitigate environmental issues, and additional projects which can be undertaken to become an environmentally green school. Several school districts are currently reviewing the information provided on the site and evaluating the ease and user-friendliness of the survey tool. IDEM intends to make revisions to the site based on their feedback and make the entire site available for pilot testing by Spring 2006.

Governor's Awards for Environmental Excellence Program

The Indiana Governor's Awards for Environmental Excellence have given manufacturers, businesses, organizations, vendors, educators, and dedicated individuals recognition for their outstanding environmental initiatives. The awards also provide an opportunity to demonstrate these initiatives to others. Award categories include Pollution Prevention and Source Reduction, Recycling and Reuse, Greening the Government, Education and Outreach, Land Use, and Energy and Renewable Resources. The pollution prevention related awards were presented on September 22, 2005 at the Eighth Annual Indiana Pollution Prevention (P2) Conference and Trade Show. Descriptions of Pollution Prevention award winners are below. Additional information on other award categories is available on IDEM's Web site at www.IN.gov/idem/oppta/govawards/.

2005 P2 and Continuous Improvement winners of the Governor's Award for Environmental Excellence shown here with IDEM Commissioner Thomas W. Easterly

2005 Pollution Prevention/Source Reduction Award Winners

Don's DCI Drycleaning – Evansville

Don's DCI Drycleaning has converted its drycleaning operations from a hazardous dry cleaning solvent, called perchloroethylene, to a non-hazardous, environmentally friendly-solvent, by the name of Pure Dry®. Pure Dry® is a special formulation of petroleum products that contains no benzene or other human carcinogens. In addition to being safer than other petroleum-based solvents, Pure Dry® is gentler on garments. In order to use Pure Dry®'s technology, Don's DCI Drycleaning had to invest $225,000 in new equipment. Pure Dry® also costs the company and extra $9.00 per gallon. The company has absorbed this cost without raising prices, with the expectation that customers will appreciate the product's benefits and do more business as a result.

Precoat Metals Division Sequa Coatings Corporation - Portage

Precoat Metals has updated its chemical coating process by replacing a traditional aqueous treatment system with a gas-fired, infrared oven. The process begins when a chemical coater roll applies a chromic acid solution to metal strips (the solution provides corrosion resistance and improves paint adhesion.) The strips are then dried in the gas-fired, infrared oven. Prior to converting to the gas-fired, infrared oven system, Precoat Metals used an aqueous system, which resulted in the generation of approximately 376,000 gallons of chrome-containing wastewater per year. The new system allows the water, used to clean-up the chemical coater, to be returned to the raw material drum and used again.

National Starch and Chemical Company – Indianapolis

National Starch and Chemical (NSC) processes more than 3,920,000 pounds of corn per day. The corn is first soaked (steeped) in an acidic solution of sulfurous acid, which releases the corn starch from the other components (germ, fiber and gluten). The sulfurous acid solution is traditionally made by dissolving liquid sulfur dioxide (SO_2) into water. In 2002, NSC used over a million pounds of liquid SO_2. Liquid SO_2 is an extremely volatile and highly toxic chemical that poses a significant risk to NSC employees, the company, and the local community. During 2003 and 2004, NSC began to replace liquid SO_2 with sodium bisulfite (SBS), a safe, non- toxic chemical that NSC demonstrated to be a viable alternative to the corn wet-milling process. NSC has reduced its risk of a hazardous chemical transportation accident and improved worker safety.

In 2004, Reilly Industries, Inc. implemented a project that decreased the amount of benzene used by 80 percent, reduced emissions by 25 percent and improved the energy efficiency in the production process by 200,000 (MMBTU) per year. These energy savings were accomplished by replacing older equipment with newer, more efficient equipment, and by redesigning the manufacturing process to a more continuous operation.

2005 Five-Years' Continuous Improvement Award Winners

Toyota Motor Manufacturing, Indiana, Inc.- Princeton

Toyota Motor Manufacturing, Indiana, Inc. (TMMI) has been certified to the ISO 14001 standard by Det Norske Veritas since November 1999. TMMI has utilized the ISO 14001 Environmental Management System (EMS) to minimize the environmental effects of its production processes. Results accomplished through TMMI's EMS include: a 64 percent reduction in VOC emission; 33 percent reduction in hazardous waste generation; 30 percent reduction in energy consumption; and 33 percent reduction in water usage.

Madison Chemical Co., Inc. - Madison

In March of 2000, Madison Chemical formally adopted the ISO 14001 standard for EMS. Madison Chemical knows that pollution prevention can pay rich dividends, as they continuously strive to replace regulated materials with non-regulated materials in their formulas. In the past five years, Madison Chemical has: reduced their usage of SARA 313 reportable materials by 42 percent, replaced an average of 50,000 pounds per year of glycol ethers with an advanced surfactant technology; reduced their solid waste generation by 25 percent per pound produced, reduced their electric consumption by 7 percent; switched from being classified as a small quantity generator of hazardous waste to a conditionally exempt small quantity generator, and improved their Material Safety Data Sheet to provide more information about products to both their customers and emergency responders.

Styline Industries, Inc./OFS – Huntingburg

Styline's Environmental Management System (EMS) is entrenched into every aspect of its daily operations, with an emphasis both on the facility's performance as well as community leadership. Vendors and staff alike are expected to observe the company's reduced idling policy, which aims to reduce harmful tailpipe emissions. The company is a local leader in anti-idling at schools, and is working with officials, parents and media to raise awareness about reducing harmful tailpipe emissions. Staff at the highest levels of management, employees on the production lines, and the maintenance department are provided with information, tools and resources for superior environmental stewardship through reduced air emissions.

2005 Energy/ Renewable Resources Award Winners

Alcoa, Inc. (Lafayette Operations) – Ingot Department

Alcoa Inc., Lafayette Operations manages and operates six melting furnaces fueled by natural gas. Each furnace is designed to transfer melted metal through a filter-system, where argon and chlorine are added for fluxing, then poured into a casting pit. Until 2004, the Alcoa Lafayette Operations used a standard unsealed-filter-box, an energy-intensive unit and significant source of air emissions. Alcoa evaluated the potential for using sealed, in-line filter box, constructed such that virtually no ambient air would enter the headspace above the metal. After three years of research, development and design evaluations, Alcoa Lafayette secured funding and implemented its first inert filter box in 2004. The results have been very positive in regards to energy efficiency, product quality and environmental quality improvements. The team approach has also advanced Alcoa Lafayette's overall EHS system and philosophy at the facility. Benefits of the project have been: improved aluminum quality; reduction of particulate matter; reduction of aluminum dross generation and disposal; improved energy efficiency; and enhanced safety of metal degassing.

Ryobi Die Casting (USA), Inc. – Shelbyville

Ryobi Die Casting Inc., makes transmission casings for several major automobile manufacturers through an aluminum casting process. Energy intensive reverberatory furnaces melt aluminum in preparation for the die casting process. Since 2000, Ryobi has carried out a series of voluntary furnace upgrades and modifications to reduce energy use and aluminum waste (dross) production. This energy and raw material efficiency project reduces Roybi's natural gas usage by 34,440 million BTU per year

(27 percent reduction) and reduced the production of aluminum dross by 759,600 pounds annually. Annual energy and material cost savings of this project amount to nearly $900,000. Ryobi received an Industrial Energy Efficiency Fund loan from the Lieutenant Governor's Energy Group in 2000 to begin this project. Environmental benefits resulting from the project include reductions in: air emissions; solid waste; energy use; and, consumption of mined natural resources.

Utilimaster Corporation – Wakarusa

Utilimaster Corporation, manufactures custom walk-in vans and truck bodies for the likes of Federal Express, UPS, Frito-Lay and the U.S. Postal Service. An innovative and energy efficient, microturbine-based, combined heat and power (CHP) system was installed at their truck washing and painting facility. A natural gas-fired microturbine is used to produce electricity. The "waste" heat is utilized in several ways: to regenerate a desiccant drying system for the washed trucks; provide heat for drying washed parts; curing paint in the small parts line; and also providing additional plant space heating. The system generates 70 kW of electricity and provides 473,000 Btu/hr with an input of 9 therms/hr of natural gas. It was placed in service June of 2004 and has shown improvements in product quality, decreased emissions and reduced energy costs. Previous CHP projects have either incorporated a fluid loop or used direct exhaust to deliver process heat. This system uses heat captured in a fluid loop and redirects the remaining heat from the post-turbine heat exchanger exhaust to a second process, all operator controlled by an integrated control system. This system is Indiana's first CHP application utilizing an Ingersoll-Rand Powerworks microturbine to regenerate a desiccant drying system and was designed with the assistance of NiSource Energy Technologies (NET).

Stripco, Inc. – Mishawaka

An innovative and energy efficient, microturbine-based, combined heat and power system was installed at the Stripco steel processing plant in Osceola, Indiana with the assistance of NiSource Energy Technologies (NET). Natural gas is used to produce electricity and the "waste" heat is utilized; to heat rolling oil for cold rolled steel processing; supply space heating for the building; and, provide domestic hot water for maintenance cleaning. The system can generate 60kW of electricity and provide 375,000 Btu/hr with an input of 8 therms/hr of natural gas. The system has proven itself to be an environmentally sound combined heat and power project, offering benefits in product quality, waste reduction and health and safety. It has been in service since December of 2002, and since then has generated 837,000 kWh of electricity, delivered 57,000 therms of heat and helped avoid the production of 4.5 tons of NOx that would have been produced by traditional electric generation.

Indiana Materials Xchange

The Indiana Materials Xchange exists to disseminate information on surplus and waste materials either available from or wanted by industrial and commercial entities. IMX was created under the authority of Indiana Code 13-14-1-1, and provides an outlet for companies to prevent pollution by making available usable material that may have otherwise ended up being disposed. It is the industry version of saying, "One person's trash is another person's treasure."

Listings are submitted and accessed through the IMX Web site at www.IN.gov/idem/imx and are updated monthly. Companies wishing to exchange materials contact each other directly and are asked to report successful exchanges to OPPTA. This paperless system reduces costs and pollution associated with distributing printed materials and provides easy access to IMX listings. Since it became web-based, an average of seven new entries is posted each month. Web hits to the IMX site have increased more than 100 percent.

Hospitals

OPPTA continues to work with Indiana's hospitals through U.S. EPA's Hospitals for a Healthy Environment (H2E). As a Champion for Change, OPPTA works with hospitals to reduce or eliminate mercury at their facilities. In 2005, one additional Indiana hospital joined H2E, for a total of twelve hospitals participating as

Partners for Change, five of which have earned H2E's highest level of achievement, the Making Medicine Mercury Free Award.

OPPTA and Indiana's H2E Partners are working towards the goals set forth in a Memorandum of Understanding between the U.S. Environmental Protection Agency and the American Hospital Association. The goals include virtual elimination of mercury wastes, overall waste reduction, and pollution prevention through the reduction of hazardous materials in health care facilities. OPPTA is encouraging all Indiana health care facilities to become H2E Partners for Change. These Indiana health care facilities are currently H2E Partners for Change:

Indiana's 2005 Hospitals for a Healthy Environment Partners

- Dupont Hospital, Fort Wayne
- Greater Lafayette Health Services Inc., Lafayette
- LaPorte Hospital & Health Services, LaPorte
- Lutheran Hospital of Indiana, Fort Wayne
- Morgan County Memorial Hospital, Martinsville
- Purdue University, West Lafayette
- Rehabilitation Hospital of Fort Wayne, Fort Wayne
- Reid Hospital and Health Care Services, Richmond
- St. Joseph Hospital, Fort Wayne
- Terre Haute Regional Hospital, Terre Haute
- VA Northern Indiana Health Care System, Fort Wayne

OPPTA's Hospital Advisory Group meets periodically to discuss waste management and other environmental issues. Mercury continues to be a major concern in health care facilities. As mercury spills receive increasing publicity, facilities are becoming more aware of the associated health, environmental and economic impacts of mercury. For more information about OPPTA's hospital initiatives, visit IDEM's Web site at www.IN.gov/idem/ctap/hospitals/.

Metal Finishers

For the past three years, the 5-Star Environmental Recognition Program for Metal Finishers continues to recognize metal finishers that demonstrate exceptional environmental stewardship. Currently, 11 metal finishers are members of this program. Participants in the 5-Star Environmental Recognition Program for Metal Finishers realize financial savings as well as environmental benefits. Participants may petition the agency for reduced monitoring schedules. A bimonthly newsletter is also available for participants. This program is closely linked to Indiana's Strategic Goals Program (SGP), a national recognition program. The national SGP bronze level is the equivalent to earning two stars; the silver level is equivalent to earning four stars; and the gold level is equivalent to earning five stars. Facilities that earn all five stars are eligible to apply to the National Environmental Performance Track Program. Additional information on both the 5-Star program and SGP are available on IDEM's Web site at www.IN.gov/idem/ctap/platers/5star.

Pollution Prevention Educational Outreach

In 2005, OPPTA staff promoted pollution prevention at various opportunities and venues throughout the state via workshops, meetings and conferences. OPPTA was asked to speak specifically on pollution prevention at the 2005 Elkhart Environmental and Safety Conference and during an EPA Waste Minimization Workshop. In addition, OPPTA provided booths offering a variety of pollution prevention materials at several conferences throughout the year.

One attendee commented, after reviewing the materials provided at the OPPTA booth, that IDEM was supplying very helpful information and they were happy we had attended and were offering the hands-on materials.

Pollution Prevention Opportunity Assessments

2005 marks the end of a Memorandum of Agreement between IDEM and the Indiana Clean Manufacturing Technology and Safe Materials Institute (CMTI) to develop pollution prevention outreach materials for use during on-site pollution prevention opportunity assessments. Through this two year MOA, CMTI provided clean manufacturing and pollution prevention technical assistance to small businesses. The primary focus was on providing pollution prevention opportunity assessments to small sources and accessing actual results through surveys of those facilities receiving the assessments. The outreach focused on reducing air releases from small businesses in five main sectors:

- Structural Wood Products Manufacturing
- Miscellaneous Chemical Manufacturing
- Plastic and Rubber Product Manufacturing
- Metal Product Manufacturing
- Transportation and Miscellaneous Product Manufacturing

CMTI developed a Pollution Prevention Opportunity Self-Assessment which is available on IDEM's Web site at www.IN.gov/idem/oppta/p2/assessments. Technology transfer sector guides for each of the sectors listed above are also available on this page. In addition, a spreadsheet is available for assessing pollution prevention costs and savings.

During the life of the MOA, CMTI performed 95 free, confidential, on-site pollution prevention opportunity assessments to Indiana small manufacturers in the sectors mentioned above which resulted in over 100 tons of emission reductions.

Indiana companies implemented projects that resulted in an annual reduction of more than 100 tons of air emissions.

During the fall of 2005, CMTI conducted seven workshops as part of the MOA. The workshops covered the forthcoming NESHAP air regulations for the production of reinforced plastic composites and the surface coating of misc. metal parts/products, plastic parts/products and metal furniture. Although the workshops educated facilities on the requirements of these regulations, they also stressed the important role pollution prevention can play in reducing emissions to levels where the regulations no longer apply to the company. The workshops were held in Jasper, Indianapolis, Columbus, Evansville, Fort Wayne, Elkhart and West Lafayette and trained more than 180 attendees.

In addition to the pollution prevention opportunity assessments offered through the MOA, OPPTA hired an environmental engineer in 2005 to provide assessments confidentially. The new engineer has assisted on several of the pollution prevention opportunity assessments and is expanding IDEM's pollution prevention knowledge base by visiting various types of manufacturing facilities and conducting industry specific research. In his brief tenure in 2005, the IDEM engineer completed nine pollution prevention opportunity assessments

and will undoubtedly see this number increase in the years ahead. For additional information, visit IDEM's Web site at www.IN.gov/idem/oppta/p2/assessments.

Pollution Prevention Training

IDEM staff received additional training in pollution prevention topics on several occasions in 2005. In cooperation with the Clean Manufacturing and Safe Materials Institute, IDEM provided training on Environmental Management Systems. This training was offered to IDEM staff in anticipation of an upcoming recognition program requiring an EMS.

In addition, OPPTA offered two Information Sessions to IDEM staff, one on the Toxic Release Inventory and the other on the Mercury Reduction Initiative for POTWs. Approximately 40 IDEM staff took advantage of these opportunities.

IDEM Office of Land Quality engineer Alan Schmidt, enjoying the keynote speaker at the 2005 Partners for Pollution Prevention Conference & Trade Show.

In addition to these trainings, approximately 20 IDEM staff attended the 2005 Annual Pollution Prevention Conference and Trade Show where they learned about various pollution prevention technologies and topics ranging from lean manufacturing to pollution prevention opportunities at wastewater treatment plants.

IDEM celebrated National Pollution Prevention Week by holding an open house. Typically a restricted area, OPPTA opened its doors to IDEM employees for an opportunity to tour the office, meet OPPTA employees, and learn more about the services OPPTA provides to Indiana entities. Approximately 100 IDEM employees attended. Comments from attendees indicated that they had limited knowledge of OPPTA and the variety of services OPPTA provides and were happy for the opportunity to learn more. In addition, Commissioner Easterly focused his regular email communication to IDEM staff on the important role we all play in pollution prevention. Governor Daniels offered a proclamation for pollution prevention week in Indiana encouraging and supporting pollution prevention initiatives in Indiana and announcing the pollution prevention conference.

Vehicle Maintenance

IDEM's 5-Star Environmental Recognition Program for Vehicle Maintenance Shops continues to recognize those shops going above and beyond compliance by implementing pollution prevention and recycling activities such as recycling antifreeze, metal parts, and batteries; and offering environmentally-friendly batteries to consumers. Initiated in 2001, this 5-Star program has nine participants throughout Indiana. IDEM offers the "Vehicle Maintenance Compliance Manual" to assist vehicle maintenance shops with all applicable regulations that pertain to their business activities. In 2005, IDEM delivered outreach to more than 1700 shops about these services.

In 2005, more than 1,700 vehicle maintenance shops became aware of the pollution prevention activities and recognition programs available to them.

A new mercury switch removal awareness program has been added to this sector. It will involve the removal and disposal of mercury switches. A swatchbook, "Make the Switch", has been prepared and distributed to this sector, as part of an awareness program on the release of mercury into the atmosphere and workplace exposure to mercury.

The manual and other information about vehicle maintenance outreach can be found on IDEM's Web site at www.IN.gov/idem/ctap/vehicle/.

Pollution Prevention Partnerships

Indiana Partners for Pollution Prevention

IDEM formed the Indiana Partners for Pollution Prevention in 1996 to assist industry in sharing pollution prevention successes and to advise the agency on pollution prevention policy and programs. During 2005, membership consisted of approximately 35 businesses, organizations and individuals. The Partners met quarterly to network, exchange pollution prevention ideas, and help each other achieve the state's pollution prevention goals.

Dean McDevit of Nisource, a member of the Partners for Pollution Prevention, talks shop with IDEM Commissioner Easterly at the 2005 Pollution Prevention Conference & Trade Show.

In addition to quarterly meetings, the Partners, in cooperation with IDEM, held the 8th Annual Pollution Prevention Conference and Trade Show September 22, 2005 in Carmel, Indiana. Over 200 people attended. The theme for the 2005 conference was "Pollution Prevention: Planting the Seeds of Change." Highlights included a presentation from Commissioner Thomas Easterly called "Why Pollution Prevention Makes Good Economic Sense for Indiana." Among the pollution prevention related presentations, a ceremony honoring the Governor's Awards for Environmental Excellence recipients was held. Presentations from many of the conference sessions can be downloaded from IDEM's Web site at www.IN.gov/idem/oppta/p2/partners/conference/.

In 2005, the Indiana Partners for Pollution Prevention worked in conjunction with IDEM to reformat the quarterly meetings. The Partners quarterly meetings have been expanded to include a training session along with a business lunch. The new format has allowed greater networking opportunities for participants and provides continuing education units for certain certifications. All Indiana industry is challenged to join the Indiana Partners for Pollution Prevention and to document their successes. For more information, visit IDEM's Web site at www.IN.gov/idem/oppta/p2/partners/.

A 2005 survey completed by the Partners for P2 found that its members had succeeded in making significant reductions in air emissions, solid and hazardous waste generation, and energy use in 2004. Members reported reductions in 2003 of approximately 362,000 tons of toxic/hazardous releases. The members agreed to collect this data annually and report it to IDEM.

2005 Indiana Partners for Pollution Prevention

- Altec Engineering, Inc.
- Arrowhead Plastic Engineering, Inc.
- Best Access Systems
- BP Products North America Inc.
- Cinergy Corporation
- City of Elkhart Public Works and Utilities
- Crane Naval Surface Warfare Center
- Criterion Catalysts & Technologies L.P.
- CTS Corporation Resistor/Electrocomponents
- Delphi Electronics & Safety
- Eli Lilly and Company
- Environmental Management Institute, Inc.
- Environmental Remediation Services, Inc.
- Fujitsu Ten Corp. of America
- GE Plastics Mt. Vernon, Inc.
- General Seating of America
- GM Powertrain – Bedford
- I/N Tek and I/N Kote
- Indiana Clean Manufacturing Technology and Safe Materials Institute
- Indiana Department of Environmental Management
- Ispat Inland Inc.
- Lilly Tippecanoe Laboratories
- Madison Chemical Co., Inc.
- Nachi Technology, Inc.
- NC-M Chassis Systems, L.L.C.
- NiSource
- OFS/Styline Industries, Inc.
- Reilly Industries, Inc.
- Richmond Power & Light
- Rolls-Royce Corporation
- Uniseal Inc.
- United Technologies Carrier
- Utilimaster Corporation
- Visteon Corporation

Clean Manufacturing Technology Board and Institute

The Pollution Prevention Board was created by statute in 1990 and re-established in 1997 as the Clean Manufacturing Technology Board (CMTB). The Board is legislatively directed to support and maintain Indiana's Clean Manufacturing Technology Program and provide policy direction for future endeavors. Its primary function is to oversee the operation of the Indiana Clean Manufacturing Technology and Safe Materials Institute. The CMTB meets quarterly and is dependent upon IDEM staff for implementation of its mission.

Board Chairperson Iris Keisling meets with IDEM Commissioner Easterly and OPPTA Assistant Commissioner Dan Murray.

CMTI provides technical assistance and education services to a variety of Indiana's industry. Formerly the Pollution Prevention and Safe Materials Institute, CMTI began operations on January 1, 1994. OPPTA and CMTI often share resources to provide dual leadership to technical compliance assistance initiatives for manufacturing concerns and to enhance pollution prevention training and outreach to Indiana industry. CMTI is involved in various pollution prevention programs at IDEM, including the Governor's Awards for Environmental Excellence, the Indiana Partners for Pollution Prevention, the CLEAN Community Challenge, and the U.S. Department of Defense/Pollution Prevention Partnership. For additional information, visit CMTI's Web site at www.ecn.purdue.edu/CMTI/.

U.S. Department of Defense Pollution Prevention Partnership

Formed in 2000 to discuss pollution prevention opportunities, the voluntary partnership between the U.S. Department of Defense, U.S. Environmental Protection Agency Region 5 and IDEM has seen a slow change in 2005. With deployments and cutbacks, 2005 was a less active year for this partnership. IDEM and DOD worked together to determine the future of the group and have seen a heavy focus on merging the partnership with the Partners for Pollution Prevention. Separate meetings will still be held to specifically discuss DOD issues and the focus will continue to be on pollution prevention exchanges and training programs to increase environmental awareness of military employees and personnel. To read about the successes the group has had and to learn more about this partnership, visit IDEM's Web site at www.IN.gov/idem/oppta/p2/dod/.

Great Lakes Regional Pollution Prevention Roundtable

IDEM continues to participate as an active member in the Great Lakes Regional Pollution Prevention Roundtable (GLRPPR) through monthly conference calls, conference planning, submission of articles to the newsletter and attendance at GLRPPR annual conferences. The GLRPPR mission ensures information sharing, issue discussion and program development among member organizations to be primary goals. OPPTA partnered with GLRPPR and Michigan to help develop a regional web-based tool to track the results of pollution prevention assistance efforts by Great Lakes states. Once final, the tool will be utilized by Region 5 states and others to enter data that will be tracked at the national level to report the results of pollution prevention efforts to congress.

Wastewise

WasteWise is a free, voluntary, U.S. Environmental Protection Agency waste reduction program that helps organizations save money by reducing purchasing and waste disposal costs. WasteWise provides free technical assistance to organizations by helping develop, implement and measure waste reduction activities. U.S. EPA has also developed the WasteWise Endorser Program. Endorsers are state and local government agencies, trade organizations and businesses that encourage their members and constituents to realize that reducing solid waste makes good business sense. Indiana is home to 45 WasteWise partners and endorsers, including large corporations, small and medium sized businesses, schools, colleges, universities, hospitals, state and local governments, and other institutions. OPPTA continues to participate as a WasteWise Endorser.

Indiana has 45 partners and endorsers of the National Wastewise program. Each is taking steps to reduce waste and measure reduction activities.

For additional information on the WasteWise Program, a list of Indiana's partners and endorsers, and how to become a partner, visit IDEM's Web site at www.IN.gov/idem/ctap/wastewise.

2005 Indiana WasteWise Partners and Endorsers

Aisin Brake and Chassis Inc.	Inland Steel Company	Ryobi Die Casting (USA), Inc.
Allstate Environmental	Kings Daughters Hospital	Subaru of Indiana, Inc.
Carter Logistics, L.L.C.	Koetter and Smith, Inc.	The Pillsbury Company - New Albany
Cinergy Corp.	Lake County Public Works Department	The Recycling Group, Inc.
City of East Chicago	Madison Precision Products	The Virtual Scavengers Project, Inc.
Eli Lilly & Company	Manchester College	Thomson Consumer Electronics
Emmis Communications	Marshall County SWMD	U.S. Air Force-Grissom Air Reserve Base
General Services Administration - Indiana	Mead Johnson & Company	U.S. Postal Service-Greater Indiana District
Grote Industries, Inc.	MTM Machining Inc.	U.S. Steel Gary Works
Guardian Automotive Products, Inc.	NiSource	United Technologies Carrier
Guardian Automotive - Ligonier Plant	Paper Trail Recycling, Inc.	United Way of LaPorte County, Inc.
Guardian Industries - Evansville	Physicians Health Plan	University of Notre Dame
Hillenbrand Industries, Inc.	Pollution Control Industries	Whitewater Environmental Corporation
HPC & Promotion Management	Porter Engineered Systems	
IDEM- OPPTA	Repairpc.com	
Indiana Institute on Recycling	Robert Bosch Corp.	

Chapter 2: Quantitative Assessment of Statewide Progress

During 2005, measurement of statewide progress related to pollution prevention efforts has become an increasingly national effort to promote results and members' achievements and secure future funds. OPPTA began working closely the Great Lakes Regional Pollution Prevention Roundtable to develop a tool to track the results of pollution prevention assistance provided by state programs. Once finalized, this tool will agglomerate? data from this region and be used to help develop a national pollution prevention results report that will be provided to congress.

Voluntary Pollution Prevention Reporting

Until this tool is available, OPPTA continues to rely on other sources of information to track pollution prevention results. In 2005, OPPTA worked with the Partners for Pollution Prevention to revise their annual report to include specific pollution prevention results. In 2005, the Indiana Partners for Pollution Prevention reported the following reductions as a result of voluntary pollution prevention and recycling programs:

Reductions made by the Partners for Pollution Prevention in 2004

- 360,002 Tons Air Emissions
- 4,006,860 Pounds Solid Waste
- 520 MMBtu/hour Energy Savings
- 289,270 kW hours
- 341,001,147 Gallons Wastewater
- 14,000 Pounds Hazardous Waste

Indiana's large quantity generators of hazardous waste are required to report their waste data to IDEM biannually. 2003 data is the most recent. Through these reports, generators can indicate activities implemented to reduce the waste streams generated at their facilities.

In 2003 biannual reports, 44 facilities indicated to IDEM that efforts were underway to minimize waste through pollution prevention activities. Only nine of the facilities provided data on reductions. Those nine facilities alone accounted for approximately 230,000 pounds of hazardous waste reduced due to these primarily voluntary efforts. Likely, these proactive facilities will also reap benefits that include reduced hazardous waste disposal costs, improved work environment and worker safety records, and reduced risk and liability from improper disposal of waste.

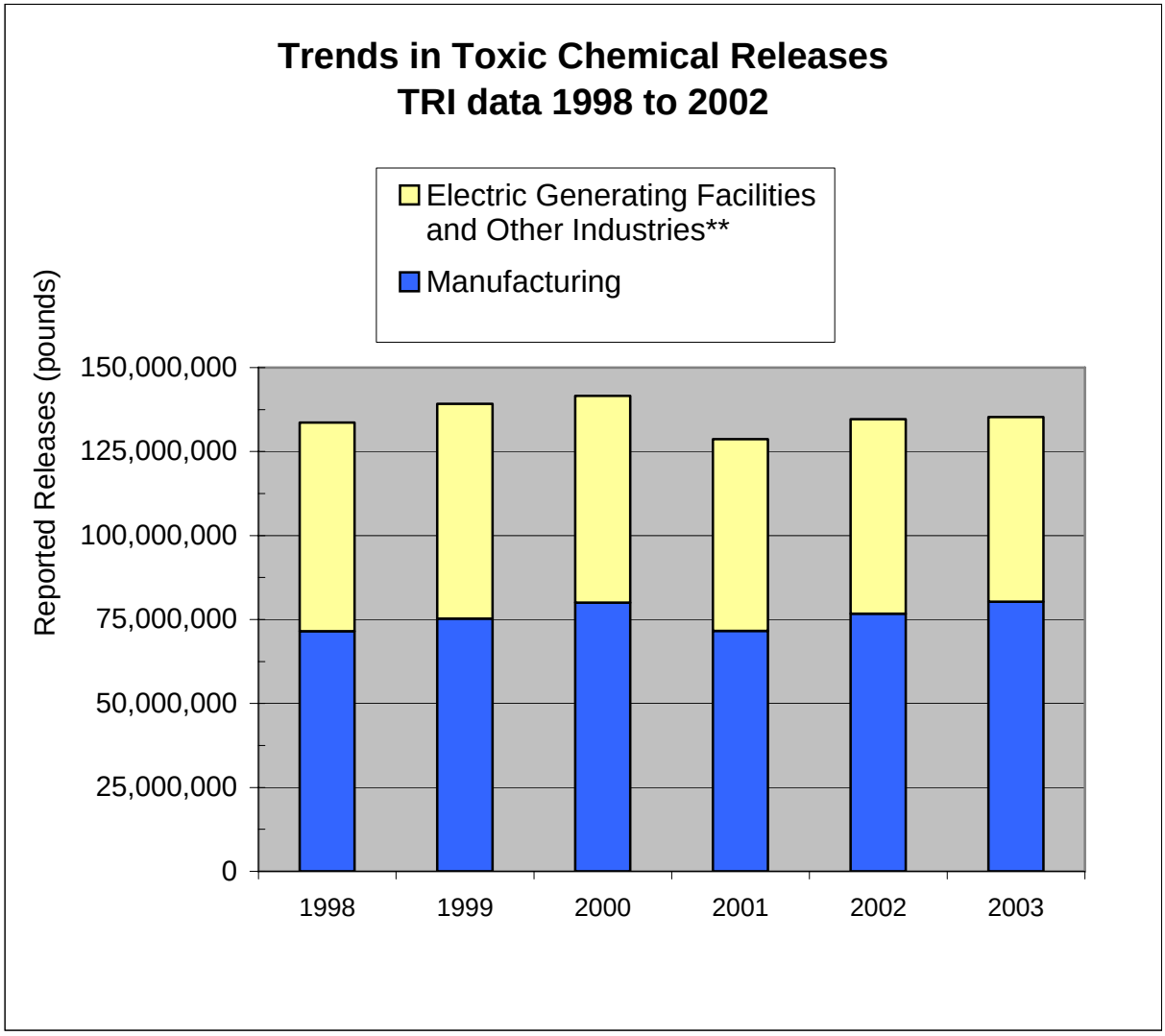
Toxic Release Inventory Results

Indiana's Pollution Prevention Program continues to utilize the Toxic Release Inventory to measure the statewide toxic chemical release reduction progress among various industries.

IDEM works with the U.S. Environmental Protection Agency to collect and report toxic releases to air, land and water and to issue yearly report cards to the public through the authority of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) and expanded by the Pollution Prevention Act of 1990.

Each year, more than 1,000 Indiana facilities submit toxic release data to OPPTA's Pollution Prevention Branch under the requirement of the Toxic Release Inventory. The Pollution Prevention Branch maintains continual quality assurance of the data and each year provides an update on the state's toxic chemical release trends. A Web-based TRI database is also available at www.IN.gov/idem/oppta/tri/search.html for the

public to access toxic release data from facilities throughout the state. The most current data available is for 2003, due to the reporting schedule for the TRI program.



***Other Industries include: Bulk Terminal, Solvent Recovery Facilities and RCRA Treatment Storage and Disposal Facilities. Together, these other sources comprise about 1% of Indiana's total releases.*

Overview and Trends in Toxic Chemical Releases

Reporting year 2003 data is the most recent data available. 1,026 individual facilities reported 189 different chemicals to Indiana's TRI for 2003. A total of 136.3 million pounds of toxic chemicals were reported released. This is up 1.6 million pounds from 2002, about a 1.2 percent increase.

"While the data show a slight overall increase for Indiana, this year's report includes a significant amount of releases from a large scale remediation project," IDEM Commissioner Easterly said. "Tons of releases reported by a Northwest Indiana steel manufacturer reflect contaminated sediment that the company is removing from a polluted river in a region where environmental restoration has been a longtime focus."

The remediation project, being completed by the U.S. Steel Gary Works facility, involves dredging the Grand Calumet River and treating the sediment on site through a corrective action management unit. As a result, the facility's toxic releases increased by more than 7 million pounds in 2003. These releases are expected to decrease in future reports. In the 2002 TRI, Gary Works had the greatest reduction of toxic releases in the state.

Of the 189 chemicals reported to the TRI in 2003, hydrochloric acid topped the list with 27.5 million pounds released. The most commonly reported chemicals are Lead (213 reports) and Lead Compounds (192 reports).

Half of the chemicals reported in Indiana showed a decrease in releases from 2002 to 2003 including many in the top ten list (nitrate compounds, sulfuric acid, manganese compounds, toluene, and hydrogen fluoride).

The largest increases were seen in zinc compounds, hydrochloric acid, naphthalene, lead compounds, xylene, and phenanthrene.

Indiana Toxic Releases to the Air and Water decreased in 2003

TRI lists toxic chemicals being released to three main media: air, water, and land. In Indiana during 2003, 55% of the releases were to air, 17% to water, and 28% to land. In 2003, releases to the air and water decreased 4.6 million pounds. Land releases increased 8.5 million pounds, approximately seven million of which are due to the remediation occurring in Lake County.

Indiana saw a decrease in releases of several of Indiana's top ten toxic chemicals as a result of pollution prevention measures at Indiana facilities during 2003, such as switches to less toxic materials in certain processes. Rotary Lift in Madison and Vibracoustic North America in Ligonier both took measures that reduced or eliminated toluene, xylene and other toxic chemicals from their processes. Data show an approximate statewide reduction of more than 300,000 pounds for both toluene and xylene, which rank eighth and ninth, respectively, in Indiana.

Rotary Lift (Madison, IN) and Vibracoustic North America (Ligonier, IN) made strides to reduce and eliminate toxic chemicals such as toluene and xylene from processes. Statewide, Indiana facilities reduced releases of toluene and xylene by 300,000 pounds in 2003.

Whirlpool Corp. (Evansville, IN) eliminated 500,000 pounds of a Class 2 ozone-depleting chemical, winning a Governor's Award for Environmental Excellence for their efforts.

The TRI also shows results from an innovative pollution prevention project at a large Vanderburgh County facility. Whirlpool Corporation in Evansville eliminated the use of HCFC-141b (1,1-dichloro-1-fluoroethane), a Class 2 ozone-depleting chemical, resulting in a 96 percent reduction of toxic chemicals released from the facility and the elimination of more than a half million pounds of toxic chemical releases reported statewide. For these efforts, Whirlpool Corporation was awarded the Governor's Award for Environmental Excellence in 2003.

Known and Potential Carcinogens

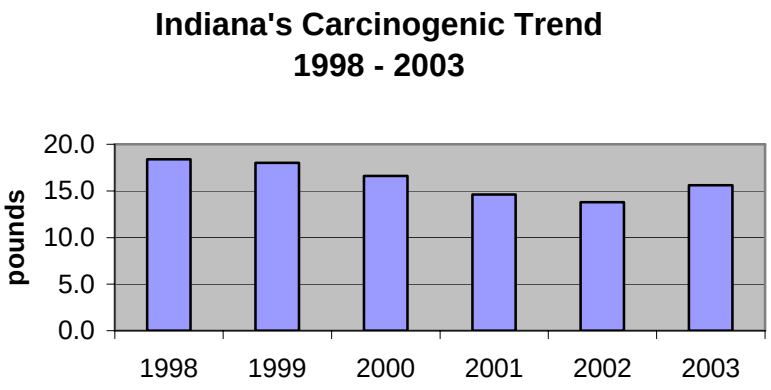
Known and potential carcinogenic releases for RY 2003 were 15.6 million pounds. This is an increase in carcinogens for the first time in five years; up by 12% (1.7 million pounds) from 2002. Approximately 80% (1.4 million pounds) of this increase is due to a remediation project during 2003 at U.S.S. Gary Works in Lake County.

Lead compounds increased by the largest amount, 0.9 million pounds, an 80% increase. This is due mainly to a 0.7 million pound increase from U.S.S. Gary Works in Lake County. Styrene releases also increased by 4%

or 0.2 million pounds. Polycyclic aromatic compounds increased 0.4 million pounds due to the remediation occurring at U.S.S. Gary Works. Chromium compounds increased 0.3 million pounds.

Approximately half of the carcinogens reported in 2003 decreased in releases. Carcinogens that decreased include dichloromethane by 0.2 million pounds, a 25% decrease from 2002 and an overall decrease of 94% since 1992 and trichloroethylene with a 14% decrease since 2002.

The TRI relies on the Occupational Safety and Health Administration's (OSHA) definition of carcinogen to identify chemicals which warrant added attention due to their potential to cause cancer in humans. The OSHA definition includes chemicals determined to be known, probable, or possible carcinogens.



To access Indiana's searchable database, visit IDEM's Web site at www.IN.gov/idem/oppta/tri/search.html

Chapter 3: Assessment of Pollution Prevention Program Impact and Barriers Encountered

Impact of Pollution Prevention

The monetary and environmental impact pollution prevention plays on Indiana's environment, work place safety, and economy is difficult to determine. IDEM is working hard to develop metrics for measuring the success of this program. We have developed an annual reporting measure in cooperation with the Partners for Pollution Prevention to ensure members report actual reductions of pollution as a result of projects implemented each year. New outreach programs, such as the CLEAN Community Challenge, have a strong focus on reporting results annually to IDEM. Contracts and MOAs, such as the MOA with CMTI to provide pollution prevention opportunity assessments, require surveys to collect data on whether facilities implemented suggested projects and what the results were.

Because of these efforts, OPPTA can happily report on more than just the number of site visits or the number of members in a program. Indications of this are seen throughout this report. Data from Hazardous Waste Biannual Reports, the Toxic Release Inventory, followup surveys, annual Partners surveys and more are being used to gauge actual reductions resulting from implementation of pollution prevention projects. Soon IDEM hopes to compile these successes into a national pollution prevention database being developed by the National Pollution Prevention Roundtable. This database will allow states to report to Congress and to state legislators on the impact pollution prevention has so that these voluntary pollution prevention partnerships, programs, and initiatives will continue to be supported.

Barriers to Pollution Prevention

Lack of an effective measurement system to assess the impact of pollution prevention activities has become a national concern over the past year. Challenges to developing such a system include:

- Inadequate resources for programs to gather data and measure the results of their activities
- Inherent difficulty measuring the prevention of an adverse event, outcome, or environmental impact
- Reliance on voluntary reporting by entities that lack the capacity and resources to track results
- Lack of baseline compliance rate data
- Lack of a consistent national approach to measurement

Another barrier to pollution prevention is the difficulty in identifying safer substitutes for raw materials used by manufacturers due to the complexity of variables associated with chemical use. Additional training, hands-on experience, and research is needed in this area.

Simple cost effectiveness of higher level pollution prevention opportunities is often a barrier to those entities that have already implemented pollution prevention to address the "low hanging fruit". Best management practices and simple changes are often monetarily beneficial to companies. However, making process changes to reduce waste and switching to new, less toxic materials often has a long term payback that cannot be justified by management.

Finally, budgetary constraints due to pollution prevention programs being funded from general tax revenue creates a barrier to the programs the state can provide. The current budget situation has limited IDEM's

ability to implement additional pollution prevention initiatives and staff training, and has eliminated the pollution prevention grant program.

IDEM has worked to overcome each of these barriers. When free training is identified through the U.S. Environmental Protection Agency, IDEM staff attends; when federal grant funds are advertised, the pollution prevention program applies; and when opportunities exist to partner and share resources, the pollution prevention program becomes involved.

These barriers are difficult to overcome. As demonstrated in the various initiatives detailed in this report, IDEM continues to develop friendly, productive and ongoing relationships with industry and others who can be convinced of the benefits of pollution prevention.

Chapter 4: Recommendations

IDEM continues to make progress implementing the Indiana Industrial Pollution Prevention and Safe Materials Act. As indicated in the previous section, several barriers exist, yet the program continues to make progress and produce results. At this time, IDEM sees no need for additional legislation in this area.

Additional funding would provide the necessary resources to increase pollution prevention efforts statewide. Pollution prevention measurement, on-going pollution prevention training, pollution prevention grants to proactive businesses, and industry-specific outreach and on-site technical assistance are just a few examples of programs that could be expanded if given the resources to do so. These efforts, should funding become available, will benefit businesses, government, students and citizens. Those businesses embracing a pollution prevention or "clean manufacturing" philosophy have proven to be efficient, profitable businesses, successfully weathering recent economic downturns. An increase in the number of such businesses would assist Indiana in achieving employment and productivity goals.

In addition, continued research is needed nationally to develop consistent, effective quantitative measurement systems of pollution prevention programs. IDEM currently uses surveys and the Toxic Release Inventory to measure pollution prevention progress and results. These are not ideal for measurement, but have been determined to be the best available tools for IDEM.

APPENDIX: IDEM's Pollution Prevention Resources

Annual Reports

IDEM's Pollution Prevention Annual Reports (1999 – 2005 on web)
www.in.gov/idem/oppta/p2/reports/

P2 Guides, Brochures, and Educational Materials

Clean Manufacturing & Pollution Prevention Opportunity Self Assessment (2004)
www.in.gov/idem/oppta/p2/assessments/self.pdf

Pollution Prevention Guides for (2004):

Structural Wood Products Mfg. www.in.gov/idem/oppta/p2/assessments/wood.pdf

Miscellaneous Chemical Mfg. www.in.gov/idem/oppta/p2/assessments/chemical.pdf

Plastic and Rubber Product Mfg. www.in.gov/idem/oppta/p2/assessments/plastics.pdf

Metal Product Mfg. www.in.gov/idem/oppta/p2/assessments/metal.pdf

Transportation and Misc. Product Mfg. www.in.gov/idem/oppta/p2/assessments/transportation.pdf

Economic and Environmental Pollution Prevention Analysis Spreadsheet (2004)
www.ecn.purdue.edu/CMTI/EconAnalysis/spreadsheet.xls

Pollution Prevention: Indiana's Preferred Alternative for Environmental Protection and Economic Success (2001) www.in.gov/idem/oppta/p2/p2brochure.pdf

Planning for Profits: A Guide to Pollution Prevention for Indiana Businesses (2001)
www.in.gov/idem/oppta/p2/p2guide.pdf

Pollution Prevention Resources for Reducing Mercury Pollution

POTW Mercury Fact Sheet
www.in.gov/idem/mercury/potw/potw.html

Mercury Checklist for Sewage Treatment Plants: What Items Contain Mercury at Your Facility?
www.in.gov/idem/mercury/potw/Checklist_POTW.DOC

Dental Office Mercury Fact Sheet
www.in.gov/idem/mercury/potw/dental.html

Auto Salvage Mercury Switch Poster call OPPTA at 317/233-8154

Stop: Use Your Brain Before Pouring Anything Down the Drain Poster call OPPTA at 317/233-8154

Use Your Brain Lab Chemical Poster call OPPTA at 317/233-8154

Health Care Facilities Mercury Fact Sheet
www.in.gov/idem/mercury/potw/health.html

College and University Mercury Fact Sheet
www.in.gov/idem/mercury/potw/college_univer.html

General Industry Mercury Fact Sheet
www.in.gov/idem/mercury/potw/industry.html

Mercury Checklist: What Items Contain Mercury at Your Facility?
www.in.gov/idem/mercury/potw/Checklist_general.DOC

Pollution Prevention Recognition Programs

CLEAN Community Challenge (2004) www.in.gov/idem/oppta/clean/

Governor's Awards for Environmental Excellence www.in.gov/idem/oppta/govawards/

Governor's Toxic Reduction Challenge Final Report (2004)
www.in.gov/idem/oppta/p2/toxicchallenge/

Partners for Pollution Prevention www.in.gov/idem/oppta/p2/partners/ Brochure call OPPTA at 317/233-8154

Materials Exchange

Indiana Materials Exchange www.in.gov/idem/imx/

Reports and Programs

Pollution Prevention Regulatory Integration www.in.gov/idem/oppta/p2/integration/

Greening the Government www.in.gov/idoa/greening/

Toxic Release Inventory www.in.gov/idem/oppta/tri/

Indiana Pollution Prevention Challenge Grants www.in.gov/idem/oppta/p2/grants.pdf

Pollution Prevention Success Stories www.in.gov/idem/oppta/p2/stories.html