



NORTH CAROLINA DIVISION OF
POLLUTION PREVENTION AND
ENVIRONMENTAL ASSISTANCE



FOCUS

Providing pollution prevention assistance to North Carolina industries since 1984

DENR Launches Initiative to Promote Superior Environmental Performance

The N.C. Department of Environment and Natural Resources (DENR) is looking for environmental partners to put into practice innovative approaches that meet or exceed regulatory requirements. On Earth Day, Secretary Bill Ross introduced DENR's new Environmental Stewardship Initiative (ESI) to "encourage North Carolina organizations to move beyond compliance and toward environmental sustainability by using a systematic approach to environmental performance." This voluntary program offers incentives to develop and implement programs that use pollution prevention and other resourceful methods to produce a better environment, conserve natural resources, and integrate environmental concerns into business decisions. Two levels of participation exist in this program.

The first level, Environmental Partner, is designed for a broad range of organizations that are interested in beginning the process to develop a systematic approach to improve environmental performance. A DENR Environmental Partner must:

- Not be under any environmental criminal indictment. DENR retains the right to reject an applicant following a compliance review;
- Document commitment to compliance;
- Set environmental performance goals that include pollution prevention;
- Commit to developing, implementing and maintaining an environmental management system (EMS) based on ISO 14001 or a functionally equivalent model; and
- Report annually on progress towards environmental performance goals, including net reductions in emissions and any reportable non-compliance events.

Environmental Partners will be eligible for:

- Technical assistance on developing an EMS, pollution prevention approaches, environmental management and treatment technologies, and achieving and maintaining compliance with local, state and federal regulations;
- Specialized training and networking opportunities;
- Access to Environmental Steward mentors;
- Recognition of program participation;
- Coverage by U.S. EPA and DENR self-reporting policies;
- Single point of contact within DENR; and

"Stewardship of our state's natural resources is more critical than ever. This partnering program is an important step in improving the quality of North Carolina's environment and our overall quality of life." —Gov. Mike Easley

- Other benefits as deemed appropriate by the DENR secretary based on recommendations from the Advisory Workgroup.

The second level, Environmental Steward, is for organizations that have shown a commitment to exemplary environmental performance beyond what is required by law. To become a DENR Environmental Steward, the applicant must for each site:

- Set aggressive environmental performance goals;
- Have a functional EMS based on ISO 14001 or a functionally equivalent model;
- Not have had any significant violations in the preceding two years. DENR retains the right to reject an applicant following a compliance review;
- Report annually on progress towards environmental performance goals including net reductions in emissions and any reportable non-compliance events;
- Agree to be a mentor to Environmental Partner participants;
- Have a process for communicating with the local community on program activities and progress towards performance goals; and

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POLLUTION PREVENTION HIGHLIGHT



Acid Bath Enhancement Extends Plater's Bottom Line

A payback period for investing in new equipment, materials or technologies is usually viewed in terms of years and not weeks. However, according to David French, president of Amplate Inc., a payback period of just two weeks was realized after introducing a new acid bath extender into the facility's acid pickling tanks. Amplate, located in Charlotte, performs nickel, zinc and decorative chrome electroplating.

"We saved a ton of money and significantly reduced sludge shipped to the landfill," said French. This new system has saved Amplate over \$25,000 annually. Seven plating lines are using pickling acids that range in age from 12 to 24 months old that are performing like new. Amplate's reductions in waste generation and water conservation were achieved despite a fourfold increase in production.

Previously, a coagulant was used periodically in the acid pickle tanks to remove metal contaminants; however, organics would accumulate and eventually the acid baths would require disposal. To extend the length of its acid baths, Amplate tested PRO-pHx, an acid bath extender and decarboxylating agent, on its spent muriatic acid tank. With the new bath additive, the muriatic acid was restored to almost like-new condition. PRO-pHx is now used in the acid pickling and activating baths for plating of zinc, electrolytic nickels, electroless nickel, black oxide, decorative chrome and for passivation of stainless steel. In 1991, Amplate disposed

of 11,000 pounds of acid bath waste. Due to the new acid discharge and replacement system, acid waste disposal was zero in 2001!

Today, acid addition is necessary only to make-up for drag-out, evaporation and neutralization. Amplate reports that PRO-pHx:

- Extends acid life indefinitely;
- Eliminates new make-up costs;
- Significantly reduces disposal costs & regulatory burdens;
- Requires no down-time for acid disposal/replacement; and
- Eliminates organic build-up.

PRO-pHx appears to be a win-win product by extending acid bath life, minimizing the frequency of acid replacement, and decreasing the expense of hazardous waste handling and disposal.

Amplate has long been a leader in the plating industry and is known for its significant efforts to eliminate environmental impacts from facility operations, go beyond minimum environmental compliance regulations, and provide high quality plating services. In 1994, the company was recognized for Outstanding Achievement for Small Business in the Governor's Awards for Excellence in Waste Reduction. For more information contact David French at davidfrench@amplate.com or Ray Guerrein with Waste Reduction Partners at r.guerrein@worldnet.att.net.

ENVIRONMENTAL INITIATIVE, from page 1

- Demonstrate how the EMS is integrated into its core business functions.

DENR Environmental Stewards will be eligible for all benefits available to Environmental Partners in addition to:

- Formal public recognition from the governor and the secretary of DENR that may include use of a program logo, an award ceremony, public announcements and press releases;
- Participation in the Environmental Stewardship Forum chaired by the secretary and key department policy makers. The forum will meet at least semiannually;
- Priority membership on the advisory workgroup;
- Established time frames for permit decisions. This does not change existing public comment opportunities;
- Consideration for regulatory innovations.

Participant Eligibility: Any site-specific regulated organization or entity whose activities impact the environment is eligible to participate. This includes but is not limited to manufacturers, businesses, agribusiness, service providers, government agencies, schools and nonprofits.

Participant Selection: An advisory workgroup appointed by the secretary will recommend acceptance into the program and review

the program annually. Workgroup membership consists of manufacturers, industry trade groups, small businesses and environmental and citizen nongovernmental organizations. This group will review applications and make a recommendation to the Secretary regarding program participants.

Program Participation: To remain in the program, Environmental Partners or Stewards must be committed to meeting environmental performance goals, strive for continual improvement, and demonstrate management commitment to meet (Partner) or exceed (Steward) compliance. At the end of three years in the program, DENR will conduct a review of each member to assess their progress toward meeting organization and overall program goals.

Organizations are accepted as Environmental Partners and Environmental Stewards for a period of five years after which they may apply for renewal. Based on reports from participants, a program summary will be prepared and presented to the governor on an annual basis.

To apply or for more detailed information, visit the ESI Web site at <http://www.p2pays.org/esi> or contact Beth Graves, ESI coordinator, at (919) 715-6506 or beth.graves@ncmail.net.

Media News Update

F R E Q U E N T L Y A S K E D Q U E S T I O N S

Air Quality



How does Air Quality regulate asphalt plants?

All asphalt plants must obtain an air permit from the Division of Air Quality (DAQ). The DAQ reviews all air permit applications for compliance with state and federal air quality regulations. All asphalt plants must meet air quality limits for particulates, which include dust and soot. In addition, all new, modified or relocated asphalt plants must comply with the state air toxics rules, including emissions from stacks and fugitive sources. To meet air quality limits, all asphalt plants have emissions control equipment such as bagfilters or scrubbers. Other options for curbing their emissions include:

- Limiting production rates or hours of operation.
- Constructing taller emissions stacks.
- Increasing the distance between facilities and property lines.
- Using higher grades of fuel for asphalt heaters.



Why are there so many asphalt plants in North Carolina?

North Carolina has 150 asphalt plants and typically five new facilities are permitted each year. North Carolina has the second-largest state-maintained highway system in the nation with approximately 78,000 miles of roads and more under construction every year. Roads generally need resurfacing every 12 to 15 years, so about 4,400 miles of roads are repaved each year. Another factor contributing to the number of asphalt plants is the material's nature. Paving is difficult at lower temperatures, and highway contractors must reject asphalt that is not hot enough (at least 250°F). That means asphalt plants must be located fairly close to road construction sites.

For further information on asphalt and related air issues, view the brochure at <http://daq.state.nc.us/news/brochures/asphalt.pdf>.

Water Quality



Can my effluent samples be contaminated during the process of sample collection and/or testing, resulting in non-compliance?

Yes, especially for ultra-low level trace metal analysis including arsenic and mercury. During sample collection, contamination can result from various sources including dust, smoke, make-up and associated equipment as well as test chemicals and other samples found in the laboratory.

Clean sampling techniques need to be employed to ensure that compliance is based on actual levels of pollutants in the effluent. EPA has produced several documents outlining clean sampling: Method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels and Method 1631 (<http://www.epa.gov/waterscience/methods/1631guid.pdf>). EPA also has a clean analysis document, Guidance on Establishing Trace Metal Clean Rooms in Existing Facilities. To obtain these documents go to <http://www.epa.gov/waterscience/pc/orderpubs.html>.

Waste Management



How do I report illegal dumping?

If you SEE illegal dumping in action:

Contact your local solid waste office, environmental enforcement office, or code enforcement office (listing can be found online at <http://wastenot.enr.state.nc.us/swhome/swtble.htm>). If none of these officials exist or are not responsible for illegal dumping complaints, please contact a local law enforcement agency. They will be able to respond to your call. In order for the local law enforcement to investigate the complaint fully, try to write down as much of the following information as possible:

- Specific location of incident;
- Time of day of the incident;
- License plate number (if applicable) of perpetrator;
- Color, make, model, name of business on vehicle.

If you KNOW of an illegal dumpsite:

Contact your local solid waste office, environmental enforcement office, or code enforcement office (listing can be found online at <http://wastenot.enr.state.nc.us/swhome/swtble.htm>). If none of these officials exist or are not responsible for illegal dumping complaints, please contact a local law enforcement agency. They will be able to respond to your call. In order for the local law enforcement to investigate the complaint fully, try to write down as much of the following information as possible:

- Specific location of dumpsite;
- Directions to dumpsite;
- Approximate size of dumpsite;
- Type of material(s) in dumpsite;
- Name and phone number of property owner (if known).

For further information, the Division of Waste Management can be reached in Raleigh at (919) 733-4996.

PLEASE NOTE: Do NOT endanger your safety by approaching the violator yourself. Contact the appropriate office instead.

ISO 14001 SHOWCASE:

Eaton's EMS Nets Major Returns

Eaton Corporation, located in Roxboro, has more than 500 employees. This facility is comprised of two business units that manufacture automotive valves and engine valve adjusters. Due to the nature of these operations, the environmental management program faces many challenges as well as opportunities.

Eaton Roxboro has always been committed to protecting the environment. When it became ISO 14001 registered in 2000, Eaton discovered how effective its program really was. In formalizing targets and objectives, routinely reporting progress to plant management, and conducting all other ISO 14001-required elements, Eaton found its EMS was paying a substantial dividend.

In 2000, the Environmental Steering Committee, with members from environmental management, engineering and manufacturing, underwent an aspect/impact assessment. Of the approximately 100 environmentally-related areas and considerations examined, five significant aspects were identified. Six environmental management projects (EMPs) were then developed to achieve objectives and targets within the significant impact areas.

A team was established to complete these projects. When annual review of these projects was presented to management, the results were rather impressive. In all six of the EMPs, substantial improvements were observed. But this did not come without hard work, good planning and common sense. As Plant Engineer Kay Stecher stated, "when addressing environmental issues, never fail to consider obvious cost effective solutions. We get into the thought habit that high costs are always associated with environmental problems

and as a result spend excessive amounts of money – many times for a solution that is marginally effective."

Thanks to its EMS, Eaton Roxboro reduced the hazardous waste generated by the facility in 2001 by 60 percent, the amount of lead in its wastewater discharged to the POTW decreased to less than 10 percent of the regulatory limit, and the amount of oil mist in a key machining manufacturing area was cut to just above detectable levels. However, these improvements did not come without effort. According to Environmental Engineer Brian Phillips, "the key for success was in getting buy-in from all the employees. People really want to protect the environment. By providing the proper awareness training for all the employees at the Roxboro facility we were able to achieve this."

“It is rare when you see a program like the ISO 14001 initiative make the impact we have seen at our facility.”

— Bobby Dover, quality manager
Eaton Roxboro

One of the largest benefits realized from obtaining ISO registration came somewhat unexpectedly – substantial cost savings. In 2001, by reviewing, tracking and accounting for environmental processes, Eaton Roxboro was able to realize cost savings of more than \$380,000. This benefit is best captured by Quality Manager Bobby Dover: "It is rare when you see a program like the ISO 14001 initiative make the impact we have seen at our facility. I have seen many programs come and go, but this one gave us immediate benefits to the plant and more importantly, the environment. It has not

only reduced waste and provided cost reductions, but it has improved our commitment to the community and more importantly, 'mother earth'."

For more information on Eaton's EMS and its benefits, contact Brian Phillips at (336) 503-5638 or BrianJPhillips@Eaton.com.

FOCUS: Waste Minimization is published by the divisions of Pollution Prevention and Environmental Assistance, Waste Management, Air Quality and Water Quality of the N.C. Department of Environment and Natural Resources (DENR). It is intended to provide North Carolina industries and other interested parties with current information concerning proper waste management and waste reduction. The information contained in this publication is believed to be accurate and reliable. However, the application of this information is at the reader's own risk. Mention of products and services in the publication does not constitute an endorsement by the state of North Carolina. The information contained in this publication may be cited freely.

If you have comments, waste minimization case summaries, resource information or questions for the next issue of the *FOCUS* newsletter, call Norma Murphy at (919) 715-6513, fax (919) 715-6794, e-mail Norma.Murphy@ncmail.net, or write the N.C. Division of Pollution Prevention and Environmental Assistance (DPPEA), 1639 MAIL SERVICE CENTER, RALEIGH NC 27699-1639.

State of North Carolina: Michael F. Easley, Governor; William G. Ross Jr., DENR Secretary; Gary Hunt, DPPEA Director.



Visit
DPPEA
online:

www.p2pays.org

Air Quality News

North Carolina Ozone Forecasts Renew

As the ozone season gets underway, environmental agencies will renew their daily air quality forecasts in major metropolitan areas across North Carolina. State and local air quality programs provide the ozone forecasts from April 30 through September 30 in major metro areas: Charlotte, the Triad, the Triangle, Fayetteville and Hickory. High ozone levels generally occur on hot sunny days with little wind, when pollutants such as nitrogen oxides and hydrocarbons react in the lower atmosphere. Meteorologists issue the following day's forecasts at 3 p.m. daily.

The color-coded forecasts tell people whether levels of ozone – the primary pollutant in smog – are likely to be good (green), moderate (yellow), unhealthy for sensitive groups (orange), unhealthy (red), or very unhealthy (purple). On high ozone days, the forecasts also suggest things people can do, such as limiting outdoor activities, avoiding strenuous exercise and driving less.

Ozone, a highly reactive form of oxygen, can be unhealthy to breathe – particularly for children, people with asthma and other respiratory problems, and adults who work or exercise outdoors. Ozone also can damage trees and reduce crop yields. The Division of Air Quality (DAQ) estimates that more than half of the state's residents live in counties where ozone levels top the standard.

The DAQ developed its ozone forecasting system to help comply with the ozone standard while protecting public health and the environment. The ozone forecasts are part of the division's Air Awareness Program, which tries to increase public awareness about air pollution, its causes and ways to prevent it. The Air Awareness Program helps to curb smog levels through pollution forecasts, media alerts and notifications to business coalition members in the forecast areas. Coalition members voluntarily agree to help reduce emissions of smog-forming pollutants on high ozone days. For instance, participants encourage or offer incentives to their employees to carpool, ride buses to work, eat lunch at their offices, or take other actions that reduce driving.

North Carolina has taken other steps to reduce ozone levels. In 1999, the General Assembly passed legislation aimed at reducing ozone-forming emissions from cars and trucks. This legislation will require cleaner gasoline and expand the auto emissions-testing program from nine to 48 counties. In 2001, the Environmental Management Commission adopted rules that will require power plants and other industries to reduce their ozone-forming emissions by two-thirds by 2006. And in April, Gov. Mike Easley announced an agreement on legislation for clean smokestacks (outlined in following story).

Citizens can obtain ozone information and forecasts by visiting the DAQ's Web site at <http://daq.state.nc.us>. The division also has a toll-free hotline (1-888-RU4NCAIR) where people can call to get the forecasts or find out how to join the air quality coalitions



in the forecast regions. Information on current ozone levels can be obtained by calling the toll-free Air Quality Index at (888) AIRWISE.

Easley Announces Clean Smokestacks Agreement

On April 25, 2001, Gov. Mike Easley announced agreement on a framework for clean smokestacks legislation that will dramatically reduce emissions without raising increasing electricity rates for consumers. "This new clean air agreement is the result of months of hard work," said Easley. "I made it clear to the parties that we must clean up pollution, but that we also must protect consumers. This agreement accomplishes our goal. With creative and innovative thinking, we developed a plan that will clean our air without emptying our pockets."

The agreement will:

- Lower sulfur dioxide emissions to 250,000 tons by Jan. 1, 2009 and to 130,000 tons by Jan. 1, 2013;
- Lower nitrogen oxide emissions to 60,000 tons by Jan. 1, 2007 and 56,000 tons by Jan. 1, 2009.



"This new clean air plan will benefit the health of our people by reducing lung disease and asthma; benefit our environment by reducing smog and acid rain and benefit our economy by preserving our investments in tourism," said Easley. "It will serve as a model to other states across the country."

Governor Hosts Clean Air Summit

The 4th annual Governors' Summit on Air Quality took place on May 10 in Charlotte. The summit focused on state and regional initiatives to improve air quality in the Southeast. A report on the Southern Air Principles was presented to the governors, along with results and recommendations from the Southern Appalachian Mountains Initiative (SAMI). SAMI is a multi-state effort charged with studying and recommending solutions to the region's key air quality concerns - ozone, haze and acid deposition.

For more information, visit www.daq.state.nc.us/quick/summit.

N O R T H C A R O L I N A WasteTradeR

An online marketplace for recyclable commodities and other waste materials now exists in North Carolina, thanks to a grant from the North Carolina State Energy Office. The N.C. Division of Pollution Prevention and Environmental Assistance (DPPEA) created NC WasteTrader, an electronic waste exchange service, for use at no cost to North Carolina organizations.

Businesses and industries have waste and byproducts that are often sent to landfills. Listing those materials with NC WasteTrader is one way in which companies can divert their waste to be reused by others rather than to be disposed. The result could be significant cost savings.

NC WasteTrader provides listings of waste materials and byproducts that are available, as well as materials that are being sought by companies. Commodities such as post-industrial plastic, wood, metal, chemicals, rubber, electronics scrap and more, will be up for trade in the online NC WasteTrader.

Log on to <http://www.ncwastetrader.org> to either access or list available and wanted commodities. For further information about NC WasteTrader, call Tom Rhodes, DPPEA waste management analyst, at (919) 715-6516.

2002 CALENDAR OF EVENTS

EVENT	DATE	LOCATION	CONTACT
Basic Hazardous Waste Compliance Training for Generators	May 29	Hickory	MCIC, www.mcinnc.org (919) 834-9459
Eastern North Carolina Recycling Summit	July 11	Greenville	Doug Bonds (800) 758-4188
Environmental Stewardship Initiative Applications Due	July 31	http://www.p2pays.org/esi	Beth Graves, DPPEA (800)763-0136
N.C. Pretreatment Workshop	Aug. 2002	Raleigh	Donald Smith (919) 319-4564
National Electronic Equipment Management & Compliance Assistance Workshop	Sept. 23-24	Atlanta, Ga.	info@swix.ws (800) 441-7949