



FOCUS

Providing pollution prevention assistance to North Carolina industries since 1984

Environmental Excellence Continues in North Carolina

Secretary William Ross Jr., N.C. Department of Environment and Natural Resources, will recognize GKN Driveline - Precision Forming as an Environmental Steward at a ceremony in April 2006 at the facility's Sanford plant. The facility manufactures constant velocity joint preforms for the automotive industry. GKN Driveline - Precision Forming is only the sixth organization to achieve this prestigious recognition since DENR's Environmental Stewardship Initiative was established in 2002.

"We recognize these organizations because they continue to set the bar in the development of environmental management systems, driving improvements in environmental performance beyond regulatory requirements," said Ross.

DENR's ESI, a voluntary program that encourages facilities to use pollution prevention and innovation to meet and go beyond regulatory requirements, has three levels of membership - Partner, Rising Steward and Steward. A Steward is the highest level of membership in ESI and is intended to recognize organizations that demonstrate aggressive environmental performance goals, beyond compliance activities, a mature environmental management system that is integrated into core business functions and processes to communicate with the local community on environmental activities.

GKN's aggressive performance goals included:

- Reducing energy consumption by 18 percent normalized to production by 2005 from 1999 baseline;
- Reducing water consumption by 17 percent normalized to production by 2005 from 1999 baseline; and
- Reducing waste generation by 48 percent normalized to production by 2005 from 1999 baseline.

The GKN plant has additional "beyond compliance" activities including installation of environmental control equipment, internal environmental auditing and monitoring, recycling and

reuse of solid and hazardous wastes and tracking of carbon monoxide emissions including supply chain releases. The facility communicates its environmental activities by presenting to local government representatives and partnering with area industries

to benchmark activities and solve environmental issues. GKN has integrated its EMS into core business functions by frequent communication of progress toward environmental goals to upper management and employees, integrating goal performance into personnel performance evaluations and inclusion of environmental issues into programs established to improve worker efficiency and quality work practices.

DENR is recognizing three new Rising Stewards and 15 new Partners for

2005. ESI Partners are recognized for the voluntary commitment to improve performance. Rising Stewards are recognized for the achievements already made by demonstrating a mature EMS and setting measurable performance goals. This tiered membership seeks to drive development of environmental management systems to reduce environmental impacts resulting in a stronger economy and conservation of our natural resources. ESI members submit annual progress reports and must reapply after five years. Go to <http://www.p2pays.org/esi/> for more information on this innovative program and to see a list of members.



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Measuring Success

The main goal of the N.C. Department of Environment and Natural Resources' ESI program is to promote and encourage superior environmental performance. Measuring success can be a challenge, but annual reporting by ESI members provides a valuable tool. This data, along with tracking program measures such as the number of members in the program and the number of members who progress to higher levels, gives a picture of the effectiveness of the program. Overall these measures indicate that ESI facilities are making positive changes to improve the environment, conserve natural resources and provide long-term economic benefits.

Growing in Numbers

Since its creation, the ESI has experienced significant growth. Organizations seeking technical assistance, training, networking opportunities and recognition have joined the ESI, increasing membership to 65 organizations representing 91 sites. At the end of 2005, the program had 76 Partner sites, nine Rising Stewards and six Stewards. Some member facilities have been successful in moving up to higher ESI levels. Five members have moved from Partner to Rising Steward, one moved from Rising Steward to Steward and one Partner made the big jump to Steward!

Establishing Goals

ESI members are required to establish environmental performance goals. Members reported in 2005 on goals and progress for calendar year 2004. For 2004, ESI members set a total of 221 environmental goals addressing everything from improving or certifying management systems to reducing water and energy consumption.

Reducing Impacts

ESI members also report on performance toward goals and environmental impact reduction. During 2004, 34 members reported the following achievements:

<u>Area</u>	<u>Reduction</u>
Air Emissions	297 Tons
Hazardous Waste	12 Tons
Waste Sent to Landfills	997 Tons
Energy Use	11,737 Mbtus
Water Use	369 Million Gallons
Material Consumption	509 Tons
Wastewater Pollutants	379 Tons
Total 2004 Recycled Volume	10,015 Tons

Preventing Pollution

ESI members identified and implemented a number of ways to reduce, reuse and recycle. Techniques used by members to reduce pollution and improve environmental performance included:

- Reduced carbon monoxide, toxic air pollutants, hazardous air pollutants, particulate matter and volatile organic carbons through elimination of No. 6 fuel oil, solvent based chemicals in textile bonding, dyeing and finishing operations and coating operations through switching to galvanized steel housings.



- Reduced amount of waste sent to landfills by identifying markets and increasing employee participation in recycling programs.
- Reduced liquid and solid hazardous waste by modifying cleaning procedures, substituting materials with non-hazardous chemicals, improving spill management practices and replacing mercury-containing devices.
- Reduced water consumption by implementing reclaimed water systems.
- Reduced organics, nutrients, metals and suspended solids in wastewater by identifying wastewater pollutant sources and improving treatment efficiencies.

With EMSs serving as a foundation for these organizations' environmental programs, ESI members continue to be successful in meeting and going beyond environmental regulations and reducing impacts with pollution prevention and innovation.

ESI Applications are the **Hot Ticket!**



In 2005, the ESI received 19 applications for 45 sites. Partner applications are accepted year-round and reviewed semi-annually. **Steward and Rising Steward applications will be accepted between March 1 and April 28, 2006.** Go to <http://www.p2pays.org/esi/> or contact **John Burke** at (336) 249-1480 for applications.

ESI GRANTS PRODUCE SUBSTANTIAL GAINS

In 2004, five ESI participants were awarded Pollution Prevention Grants. Each project had to address an objective and target from the facility's EMS and relate that to ESI performance goals. Each grantee completed a final project report. The following summarizes the grant results:

Borg Warner Emissions/Thermal Systems developed a recycling system for its parts washer. This unit reduces the amount of water and cleaning chemicals needed to properly wash machinery parts and the time needed to clean the washer.

Borg Warner also developed an ultra filtration process for recycling wash water from the plant's parts washers. Since June 2005, more than 52,000 gallons of dirty wash water that would have previously been discarded to the local wastewater treatment plant have been recycled. After four months of operation, the annualized savings of the new system is 156,000 gallons per year.

Duke University Medical Center implemented a strategy to identify and select best management practices to reduce mercury in waste streams. The goals included:

- conducting an in-depth inventory of mercury containing devices and other mercury sources in the university, medical center and hospital departments,
- identifying management strategies for each source,
- evaluating each strategy using select criteria, and
- developing a plan for the future management of mercury at Duke.

More than 200 laboratories in the hospital, clinics, research laboratories and teaching laboratories were surveyed and a comprehensive database has been developed to track changes as the project progresses.

The City of Gastonia sought to limit metals in the biosolids from its Crowders and Long Creek Wastewater Treatment Plants. The city's pretreatment program identified and reduced the sources of excessive nickel and zinc discharges to the city's sewer system. With these reductions, the city's biosolids land application program was able to maintain compliance and sustainability.

The success of this project was measured by the reduction in nickel and zinc discharged to the city's sewer system and consequently reduced metals in the land-applied biosolids. Nickel in Crowders WWTP's biosolids has been reduced by 382 mg/kg. Zinc in Long Creek WWTP's biosolids has been reduced by 4,960 mg/kg.

The City of Gastonia's Long Creek Waste Water Treatment Plant replaced two 150-horse power re-aerations blowers with smaller more efficient blowers. The old blowers were oversized and provided more air than was needed - wasting approximately 60 percent of the energy used. The smaller blowers have allowed the plant to realize an estimated annual savings of 588,146 Kwh. The smaller blowers have also improved the Long Creek WWTP's nitrogen removal process. One of the old blowers was moved to the Crowders Creek facility to replace a 250-hp unit. This resulted in a cost savings of equipment purchase along with an estimated 1,176,293 Kwh savings per year.

The N.C. Zoo in Asheboro designed a constructed wetland associated with a picnic/catering area to filter storm water runoff from the Zoo's North America parking lot. The N.C. Department of Transportation designed the constructed wetland at no cost to the Zoo and the ESI grant funded the Stormwater Wetland Feasibility Study. The Zoo tested samples from culverts carrying storm water into the area of the proposed constructed wetland as well as other areas of concern for heavy metals associated with storm water runoff from parking lots. These and other samples tested for suspended solids, pH, dissolved oxygen, turbidity and nitrates will be used as a baseline for measuring the performance of the constructed wetland. Monitoring information was also used to select a preliminary list of plants for the wetlands. Contact **Lisa Shanklin** at (919) 715-6527 for details on these grant results.



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ESI Workgroups Provide Continuous Improvement

The **ESI Advisory Workgroup** includes representatives from industry, small business, government, academia, trade groups and environmental non-governmental organizations. This workgroup makes recommendations to the N.C. Department of Environment and Natural Resources' Secretary on whether to accept applicants for the Rising Steward and Steward levels, membership status for these levels and changes to program structure.

In 2005, many workgroup charter members completed their terms. We would like to give a special thanks to these individuals who provided significant insight and guidance during the establishment and growth of the ESI. These participants are Jane Preyer, Southeast Regional Director Environmental Defense; Dr. Richard Andrews, Director of Graduate Studies, UNC Chapel Hill Department of Public Policy and Scott Brewer, Director of Environmental Management Division, Marine Corps Base Camp Lejeune.

We are also excited to announce our new members and recognize existing members.

The **DENR Internal Workgroup** is an integral part of the ESI. Its members serve as liaisons to DENR regulatory divisions by coordinating compliance reviews, soliciting feedback from regulatory staff on applicants' performance, reviewing and recommending Environmental Partner applications to the DENR Secretary and communicating ESI activities to their divisions. It also reviews program materials and provides guidance to the Advisory Workgroup and makes recommendations on program improvements.



We would like to thank Tom Poe of the Division of Water Quality for his service to the workgroup and in helping to make the ESI a success.

Current Members

Katy Ansardi, Sustainable North Carolina
 Kristin Beck, Progress Energy
 Jack Blackmer, Novozymes North America Inc.
 Jimmy Carter (Chair), N.C. Dept. of Environment and Natural Resources
 Eric Henry, TS Designs
 Preston Howard Jr., P.E., Manufacturers and Chemical Industry Council of North Carolina
 Matt Jordan, P.E., City of Gastonia
 Danny Yount, ASMO North Carolina

New Members

Jennifer Adams, Corning Inc.
 Alex Davis, Naval Air Depot Cherry Point
 Todd Miller, North Carolina Coastal Federation
 Ivan Urlab, North Carolina Sustainable Energy Assoc.

Current Members

Jimmy Carter, Chair, Office of the Secretary
 Sonya Avant, Division of Land Resources
 Linda Culpepper, Division of Waste Management
 Dale Dusenbury, Division of Environmental Health
 Edythe McKinney, Customer Service Center
 Donnie Redmond, Division of Air Quality/ Planning
 Ruchi Singal, Division of Air Quality/ Technical Services
 John Sutherland, Division of Water Resources

New Members

David Williams, Division of Soil and Water Conservation
 Tom Belnick, Division of Water Quality

Environmentally Preferable Purchasing

- What are North Carolina state agencies and universities doing in green procurement?
- Where can local governments, schools and businesses find examples of policies, specifications and studies on recycled content and environmentally preferable products and services?

www.p2pays.org/epp

Learn how to green your purchases!

Classes Discounted for ESI Members

N.C. State University's Industrial Extension Service provides training for engineering, manufacturing, energy and technology professionals. IES offers ISO 14001 classes for EMS design and implementation. ESI participants receive a discount for these classes. For more information, contact Charlie Parrish at (919)515-4266 or e-mail him at charles_parrish@ncsu.edu. You can also check out the IES Web site, www.ies.ncsu.edu.

Resources Fit For a Steward

If you're interested in opportunities for recognition of your company's environmental efforts, want to improve your strategies for communicating these types of successes or learn about new ideas for environmental improvements, check out the following links to various programs, events and resources:

Environmental Leadership Programs/Events

- EPA's Performance Track is voluntary and recognizes top environmental performance among participating U.S. facilities.
- 2006 National Environmental Partnership Summit merges the National Pollution Prevention Roundtable Spring Conference, the National Compliance Assistance Providers Forum and the Performance Track Participants Association annual meeting, May 8-11, Atlanta, Ga.

Environmental Reporting and Investing

- The Global Environmental Management Initiative published "Clear Advantage: Building Shareholder Value," helping businesses understand how to measure, manage and communicate EHS to the financial community.
- Ceres is a national network of investment funds, environmental organizations and other public interest groups working to advance environmental stewardship in business. Ceres is engaged in several projects related to sustainability reporting and investor programs.



- GreenBiz.com provides resources to help companies integrate environmental responsibility into operations and combine ecological sustainability with profitable business practices.

Energy Conservation – Renewable Energy

- The U.S. Department of Energy has launched a "Save Energy Now" lecture series geared toward industrial energy users. The series addresses building management, boiler efficiency, combined heat and power, combustion systems and steam systems.
- NC GreenPower is an independent, nonprofit organization created to improve our state's environment through voluntary contributions toward renewable energy.

ECOS/EPA Work to Improve Effectiveness of Performance-Based Programs

North Carolina's ESI program, established in 2002, is one of approximately 20 state performance-based programs seeking to recognize and encourage good environmental performance from regulated facilities. A similar performance-based program was established at the federal level in 2000, the National Environmental Performance Track program, or PTrack.

In fall 2004, then EPA Administrator Leavitt asked states how federal and state performance-based programs could work more effectively. More than 40 states, through the Environmental Commissioners of the States, responded in January 2005 with a report recommending specific issues to examine. These include:

- supporting state programs and state efforts to work with PTrack,
- assuring program support from all EPA offices,
- providing better incentives to participants faster, and

- conducting more strategic marketing and education of performance-based programs.



ECOS



In spring 2005, two workgroups were established – one to study supporting state programs and state efforts to work with PTrack called the Integration Workgroup, and the other to examine a revitalized system to provide better incentives to participants faster called the Incentives Workgroup. Both workgroups had representatives from state programs as well as a range of EPA offices and all major media programs.

Both workgroups presented recommendations at the October 2005 Innovation Action Council meeting. IAC is comprised of all EPA offices and regions and a few invited state participants. Discussion of the workgroups' recommendations continues and will be on the agenda at the next IAC meeting being held in late February 2006. For more information, contact Beth Graves at beth.graves@ncmail.net.

Environmental Notices and Rule Updates

Clean Air Act

- Title V Operating Permit Program Exemptions. (12/19/05, 70 FR 75319) EPA issued a final rule exempting five categories of non-major (area) sources subject to national emission standards for hazardous air pollutants from the Title V operating permit program. The categories include dry cleaners, halogenated solvent degreasers, chrome electroplaters, ethylene oxide sterilizers and secondary aluminum smelters. For information, contact Jeff Herring at (919) 541-3195, herring.jeff@epa.gov. Full text document location: <http://a257.g.akamaitech.net/7/257/2422/01jan20051800/edocket.access.gpo.gov/2005/05-24072.htm>.
- Delisting of Methyl Ethyl Ketone. (12/19/05, 70 FR 75047) EPA removed methyl ethyl ketone from the list of hazardous air pollutants contained in Section 112 of CAA. Based on available information regarding potential hazards of, and projected exposures to MEK, EPA has determined there are "adequate data on the health and environmental effects of MEK to determine that emissions, ambient concentrations, bioaccumulation, or deposition of the substance may not reasonably be anticipated to cause adverse effects to human health or adverse environmental effects." For information, contact Mark Morris at (919) 541-5416, morris.mark@epa.gov. Full text document location: <http://a257.g.akamaitech.net/7/257/2422/01jan20051800/edocket.access.gpo.gov/2005/05-24200.htm>.
- Class I Ozone Depleting Substances. (12/29/05, 70 FR 77048) EPA extended the global laboratory and analytical use exemption for production and importation of nonessential (as identified by EPA) class I ozone-depleting substances from Dec. 31, 2005 to Dec. 31, 2007. EPA also deferred final action on the applicability of laboratory and analytical use exemption to production and importation of methyl bromide after the Jan. 1, 2005, phase-out. For information, contact Hodayah Finman at (202) 343-9246, finman.hodayah@epa.gov. Full text document location: <http://a257.g.akamaitech.net/7/257/2422/01jan20051800/edocket.access.gpo.gov/2005/05-24612.htm>.

Clean Water Act

- NPDES General Permit. (12/23/05, 70 FR 76285) EPA extended the comment period on the proposed National Pollution Discharge Elimination System General Permit for

storm water discharges from industrial activities by one month, to Feb. 16, 2006. The initial notice was published Dec. 1, 2005 (70 FR 72116). For information, contact Jenny Molloy, 202-564-1939, molloy.jennifer@epa.gov. Full text document location: <http://a257.g.akamaitech.net/7/257/2422/01jan20051800/edocket.access.gpo.gov/2005/E5-7778.htm>.

Federal regulatory information was provided by the U.S. Army Environmental Center, Southern Regional Environmental Office located at <http://aec.army.mil>.

Outdoor Burning Banned On Air Quality Action Days

Outdoor burning is now prohibited in major metropolitan areas across the state when air quality forecasts call for high levels of ozone in those areas. The rule is aimed at reducing emissions that contribute to ozone and particle pollution when the air quality is expected to be poor. The ban will be triggered on "air quality action days," when the Division of Air Quality or local air programs forecast Code Orange, Red or worse ozone conditions. Air quality forecasts can be found at the DAQ web site, <http://www.ncair.org>.



Many of the counties covered by the air quality forecasts are included in non-attainment areas. The burning ban is one of a series of steps the state is taking to bring these areas back into

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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.



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DPPEA
online:

www.p2pays.org

CALENDAR OF EVENTS

EVENT	DATE	LOCATION	CONTACT
Carolina Recycling Association Annual Conference & Trade Show	March 21-24, 2006	Raleigh, N.C. The Hilton North Raleigh	Carolina Recycling Association (919) 545-9050
Sustainable Energy Conference	March 28-29, 2006	Raleigh, N.C. McKimmon Conf. Center	N.C. State Energy Office (800) 662-7131
ISO 14001 Training	Ongoing	North Carolina Locations	http://www.p2paysiso/training.asp

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compliance with national air quality standards. Areas covered by the new open burning rule include 39 counties. A map showing all of the forecast counties is posted on the DAQ web site at <http://daq.state.nc.us/airaware/ozone/monitors/>. The ban does not apply to the Rocky Mount area because EPA designated Nash and Edgecombe non-attainment for ozone but citizens in those counties are encouraged not to burn outdoors on Code Orange and Red days.

North Carolina law restricts open burning because the smoke from outdoor fires can cause serious health problems and pollute

the air. Under the open burning rule, it is always illegal to burn non-vegetative materials such as:

- garbage, paper and cardboard;
- tires and other rubber products;
- building materials, including lumber;
- wire, plastics and other synthetic materials;
- asphalt shingles and heavy oils;
- paints, and household and agricultural chemicals.

Go to <http://daq.state.nc.us/enf/openburn/> for more information.

Award-Winning ESI Members

- Novozymes North America Inc. won the "**Presidential Green Chemistry**" award. <http://www.epa.gov/greenchemistry/aspa05.html>
- **Fort Bragg:**
Record Breaking: "**Environmental Performance Assessment System**" inspection breaking all Army records, including Fort Bragg's own record.

Regional Finalist: "**Secretary of the Army Award**" for Environmentally Preferred Purchasing program.
- The N.C. Zoo received the "**Global Sustainability**" award from Sustainable North Carolina for institutions that "demonstrate the integration of all aspects of sustainability throughout the organization." <http://www.sustainnc.org/>
- The Naval Air Depot - Cherry Point received the "**Pollution Prevention**" sustainability award from Sustainable North Carolina for "projects that minimize waste and emissions from operations." <http://www.sustainnc.org/>
- Smithfield Tar Heel Facility received the "**Environmental Star Award**" from the American Meat Institute in October 2005.
- The Water and Sewer Authority of Cabarrus County received "**Peak Performance Awards**" from the National Association of Clean Water Agencies for the Rocky River Regional Wastewater Treatment Plant and the Muddy Creek Wastewater Treatment Plant for 2004.



- Catepillar Precision Seals in Franklin received two "**Gold Catepillar Environmental Excellence Awards**" for its Swarf Reduction=Landfill Reduction and Coolant Reduction=The Circulation of \$\$\$ projects.
- Tammy Smith and Jeff Musselwhite of Smithfield Tarheel received the "**Environmental Excellence Award**" from Smithfield Corporate Office for their Community Outreach program.
- The Zoo's Bob Langston received the "**DENR Sustainability Award for Individual Small Project**," and the Zoo received an honorable mention for its Biofuels Project in the "Group Project" category.