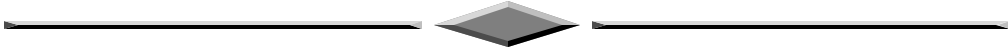




North Carolina's EMS Development Course for Government Agencies



FACT SHEET

OVERVIEW AND CONTENTS

From July 2001 - June 2002, the N.C. Division of Pollution Prevention and Environmental Assistance (DPPEA) offered a free development course on environmental management systems (EMS) for government agencies, based on the ISO 14001 model. This course was modeled on EPA's program to assist local governments with EMS implementation and was intended to walk agencies through the steps required to design and implement an EMS at their facility.

DPPEA decided to offer this course due to the lack of EMS information or development assistance available to government facilities in North Carolina at that time, despite interest at the local, state and federal levels. This fact sheet describes course goals, how the course was conducted, and lessons learned.

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COURSE GOALS

DPPEA offered this course to government agencies at the local, state and federal level in North Carolina to provide assistance for agencies struggling with implementation of an EMS. Additionally, DPPEA hoped to raise interest in and awareness of EMSs at government facilities within the state.

ADVERTISING THE COURSE

The course was first announced to government agencies at the Strategies for Governmental Environmental Management Systems Workshop held by DPPEA in Gastonia in January 2001. A sample press release is shown in Appendix A, and the brochure advertising the course is in Appendix B. Additionally, the course was advertised by mailings to the following groups or articles in the following publications: N.C. Department of Environment and Natural Resources newsletter, N.C. Project Green (state agencies interested in pollution prevention), the N.C. Pretreatment Consortium newsletter and workshop, the City and County Managers Association (CCMA) newsletter, the N.C. Small Business Ombudsman's Office and newsletter, the American Wastewater Association (AWWA) newsletter, the League of Municipalities newsletter and mailing, a mailing to town managers/contacts for all towns with a population greater than 1,000, a mailing to N.C. Federal Department of Defense contacts, a mailing to colleges and universities, and through DPPEA's Web site and presentations by staff.

To apply for the course, facilities were asked to contact DPPEA and submit a letter signed by a top management representative from the organization containing the following information:

- A brief description of the organization and its responsibilities;
- The name of the person who will be given responsibility and authority for leading the work to develop the EMS;
- A willingness to form a core team of employees to work with the lead person on EMS development and implementation;
- An indication of the operation(s) within the facility that would be developing an EMS;
- A description of the reasons why the agency wished to participate and benefits it hopes to achieve from adopting an EMS; and
- Commitment by top management to fully support the core team throughout the project.

Potential participants were also asked to complete a survey about their level of knowledge of EMSs, their level of interest in the course, and any potential problems with the design or schedule of the course. These requests were to ensure that each participating facility would have adequate top management support going into development, and to help tailor the course to the needs of participants.

COURSE PARTICIPANTS

Twelve facilities enrolled in the course, including two federal facilities, four state facilities, and six local facilities. However, due to the events of Sept. 11, 2001, several participants were forced to leave the course after the second meeting in order to devote their time to anti-terrorist activities. One additional facility left about halfway through the class due to lack of upper management support. Nine facilities graduated from the course, including one federal facility, three state facilities, and five local facilities. Three facilities—one state and two local—were certified to ISO 14001 in 2002. A list of graduating and certified facilities can be found on page 5.

COURSE REQUIREMENTS

Course participants were asked to attend all course meetings, and were encouraged to send two contacts so that at least one person would be available for all meetings. Upper management support and a team approach to EMS design and implementation were emphasized throughout the course, as these items had been identified as stumbling blocks by the EPA's pilot program with public agencies and EMSs.

At the opening meeting, participants were asked to remember their BACKPACKS during the yearlong course:

- **Be enthusiastic**
- **Attend all courses**
- **Complete homework and bring to course**
- **Keep in touch with your coach**
- **Persevere**
- **Ask for help**
- **Be creative**
- **Keep developing your EMS between course meetings and after the course ends**



Participants were asked to share their EMS documents and development tools with DPPEA so that they could be used to assist other public facilities with implementation in the future. Additionally, they were asked to allow DPPEA to write a case study about their EMS after completion of the course.

COURSE SCHEDULE

The course met nine times between July 2001 and June 2002—or approximately every five weeks—excluding the November - December holiday season. Additionally, a half-day general overview and training class on EMS was offered before the first course meeting; a daylong internal auditor training class was held after the eighth meeting; and a graduation ceremony was held after completion of the course. Meetings were held at various free locations around the state, including facilities provided by course participants. The course coordinator was Julie Woosley, who also directed all course meetings.

Each course meeting covered a few sections of the ISO 14001 standard, and included a series of homework assignments so that a small to medium-sized facility could have its EMS largely completed by the end of the course. The topics of the nine courses were:

- EMS Overview
- Aspects and Impacts
- Aspects and Impacts Continued, and Ranking
- Objectives and Targets, the EMS Program, and Implementation and Operation
- Training, Awareness, and Competence
- Operational Control and Monitoring and Measurement
- Communication, Document Control, Record and Emergency Preparedness and Response
- Internal Auditing and Checking and Corrective Action
- Management Review and Third Party Certification

Appendix C is a complete table of course meetings, topics, times and locations, including optional training classes.

COURSE MEETINGS

Course meetings included the following elements:

- A quick check-in to give participants a chance to talk about their homework assignments from the previous class, including any problems they had encountered or any questions they still had.
- The current day's topics from the ISO 14001 standard were presented, with examples from certified facilities.
- Speakers from public and private entities that had implemented an EMS at their facility talked about the day's topic and about their experiences implementing an EMS at their facility. Speakers included representatives from a variety of industrial and governmental facilities, including a wastewater treatment plant, a state department of environmental quality, an egg farm, an auto supplier, an aerospace supplier, a medical supplier, an electronics manufacturer, a waste fuel energy facility, a contract construction company, a federal nuclear facility, an EMS consultant, an EMS auditor, and an EMS researcher.
- A "P2 Speaker" gave a brief (usually 15 minute) presentation on related pollution prevention topics at each meeting, such as water conservation, energy efficiency, lighting, environmentally preferable purchasing, and hazard mitigation planning.
- Many course meetings also included hands-on exercises to practice EMS implementation steps or to illustrate the purpose of components of an EMS.
- Two meetings included facility tours. One tour was held at Novozymes North America Inc., an ISO 14001 certified private facility in Franklinton, and included presentations by key personnel in the facility's EMS implementation process. The other was at the N.C. Zoological Park, and included a tour of all the zoo's "green" projects as well as its developing EMS program.
- Towards the end of the course, three participants also gave presentations about their developing EMS programs: the N.C. Zoological Park, the town of Cary Water Reclamation Facility, and the city of Shelby Wastewater Treatment Plant.
- At the end of each day, a session wrap-up included going over the days' topics and the assignments for the next course, with time for questions or clarification.



To view the actual daily schedules from the course and view speaker presentations, go to <http://www.p2pays.org/iso/public/govcoursesched.asp>. An example of a day's schedule is also shown in Appendix D.

COURSE TOOLS

Web site

One important tool used to conduct the course was the course Web site. The Web site was updated continually and was used to convey important information about the course to participants, such as directions to each meeting location, the day's schedule, handouts (which the participants were asked to print and bring with them to course meetings), and links to related information. Additionally, each speaker's presentation was linked to the page so that participants who were interested could review or print the slides. This significantly reduced the amount of paper handouts required at the meeting, and ensured that participants who missed a meeting were still able to access all the relevant handouts and presentations. The Web site also served as a starting point from which participants could link to relevant information as they developed and implemented their EMS. The site was linked to DPPEA's main EMS Web site

(<http://www.p2pays.org/iso/>), and to individual pages that might be useful to participants, such as pollution prevention information for POTWs (<http://wrrc.p2pays.org/industry/localgov.htm>) or EMS information for government agencies (<http://www.p2pays.org/iso/public.asp>).

Coaches

A second important tool for assisting facilities with EMS development was the use of course coaches. Each participating facility was assigned at least one coach from DPPEA. Coaches were asked to call facilities ahead of time and to meet with facility contacts at course meetings and at other times as needed. They were expected to be available for assistance as requested by the facility, and were asked to check in with their facilities on a regular basis. Many coaches traveled to their facilities and assisted in the EMS development and training of facility personnel.



Before the beginning of the course, coaches were provided with training in EMS and ISO 14001. Most coaches had attended a lead auditor training program and had previous experience working with EMS. During a half-day preparation session, each coach was given a one-page sheet of expectations for their work with facilities and asked to track their contact with their facility. In addition, coaches were given general training in meeting management and facilitation, and a presentation on general expectations for the EMS implementation process at a facility, including potential stumbling blocks.

RESULTS

Nine facilities completed the course. A graduation ceremony was held at the new EPA campus in Research Triangle Park, N.C. Bill Ross, secretary for the N.C. Department of Environment and Natural Resources, was the keynote speaker. Additional speakers and award presenters were Gary Hunt, DPPEA division director; Julie Woosley, course coordinator; Linda Rimer from U.S. EPA Region IV; and Pete Schubert, EPA, OARM, project engineer. Following the graduation ceremony, participants were invited to eat lunch in the new EPA cafeteria and take a tour of the new facility, which was the first EPA campus built using “green building” techniques for siting, materials, construction and waste disposal.



Graduating facilities were:

- City of Shelby, Wastewater Treatment Plant
- Town of Cary, Wastewater Treatment Plant
- Buncombe County Metropolitan Sewerage District
- Charlotte-Mecklenburg Utilities Department, Wastewater Treatment
- Roanoke Rapids Sanitary Sewerage District, Wastewater Treatment Plant
- N.C. Zoological Park, Horticultural Division
- N.C. Division of Pollution Prevention and Environmental Assistance
- UNC-Chapel Hill Environment, Health and Safety Department
- Cherry Point Naval Aviation Department

Following completion of the course, three participating facilities became certified to the ISO 14001 standard:

- City of Shelby Wastewater Treatment Plant,
- N.C. Zoological Park's Horticulture Division, and
- Metropolitan Sewerage District of Buncombe County, Wastewater Treatment Facility.

Case studies and press releases about these facilities' certification can be found at:
<http://www.p2pays.org/iso/public/localgovcase.asp>.

LESSONS LEARNED

While the course was a success, several lessons were learned during the year.

- **The course was initially marketed to small businesses as well as government agencies, but none signed up.** A yearlong course was too much commitment for most small businesses to consider. Single day or half-day courses would probably be more feasible for this audience.
- **Many participants were unable to keep up with the homework assignments.** Especially after Sept. 11, 2001, some participants found that added work duties made it difficult or impossible for them to keep up with the homework assignments. Many participating facilities did not complete an EMS during the course, or even make substantial headway towards implementation. However, these participants found the course helpful despite falling behind. Feedback included that the course divided up a monumental task into more bite-sized pieces so that design and implementation seemed much less overwhelming. Another said that learning about EMS helped them to think about how to prioritize environmental duties, how to standardize work practices, and how to get existing programs to work together to achieve environmental goals, even without a formal EMS in place. One participant learned the importance of training personnel to improve environmental performance. Another participant felt that learning about EMS would help them when they were able to commit to implementation at a later time, as well as helping him professionally in his career.
- **Travel to the course was one of the biggest impediments for participants.** In a year when most faced significant fiscal restraints, and due to the location of participating facilities over more than a 330-mile span in the state, it was difficult for some of the more remote facilities to attend each course, depending on where the course was held. While moving the meetings around the state ensured that most participants had at least one course near their facility, travel was constantly an issue for the course coaches as well as participants. Holding a course for a smaller geographic area might work better and ensure a higher level of attendance.
- **Participants were not interested in related pollution prevention information.** Some participants expressed boredom or inattention to speakers brought in to talk about related issues, such as water conservation or energy efficiency. However, participants were interested in speakers who talked about topics related to implementing an EMS at their facility, such as effective training techniques or emergency management.
- **More time was needed for class discussion.** Several participants requested more time during course meetings for discussing their experiences during the implementation process with each other, and hearing about what other facilities were doing, problems they were having, etc.
- **The internal auditor training needed to be stretched over two days.** One of the most valued aspects of the course, some participants felt that it was a little overwhelming and needed to be expanded into a two-day training.
- **Facilities with more proactive and involved coaches were more successful.** The facilities that expressed great appreciation for the assistance of their coaches had coaches who were very involved and hands-on in their

approach. For example, two of the three facilities that were later certified to ISO 14001 both had a coach who attended the facility's EMS Team monthly meetings regularly and assisted with the process directly. This coach worked with staff to write and edit EMS manual procedures, such as the document control procedure, and related documents such as standard operating procedures or individual work instructions.

PARTICIPANT FEEDBACK

Some of the more popular aspects of the course were:

- Facility tours;
- Individual speakers who were considered informative, interesting and relevant to participants;
- A presentation by an accredited auditor about the most common nonconformances found in ISO 14001 certification audits
- The free, daylong internal auditor training



One of the least popular aspects of the course was the pollution prevention speaker brought in for each meeting to give a short presentation on a related topic. Many participants felt that this was not relevant to them and not a good use of their time.

Overall, participants felt that the development course was helpful to them, whether they ended up completing implementation of their EMS or not. Some participants' comments from the end of the course follow:

“The EMS Development Class gave me the opportunity to discuss the EMS program with individuals who have an EMS program in place and learn from their mistakes.

The biggest challenge I faced in implementing the EMS was change. People do not like changing the way they are used to doing things.”

- Cynthia Walters, city of Shelby

“Without the EMS Class, I would have been lost and operating solo. The monthly topics, guest speakers and interactions allowed us all to get a better idea of the finished product.”

- Rich Miller, UNC – Chapel Hill

“The Zoo could not have designed an EMS without the class, especially the assistance of our untiring coach, period.

The course took an overwhelming process and broke it into a step by step process. The speakers, case studies, resources and DPPEA staff were excellent. The most important ingredient, though, is the coach. Without our coach I'm not sure we would have an EMS.”

- Mary Joan Pugh, N.C. Zoological Park

For more information about the EMS Development Course for Government Agencies, please contact Julie Woosley at Julie.Woosley@ncmail.net, or (919) 715-6500.

BEYOND THE COURSE

In 1997 EPA, partnering with the Global Environment and Technology Foundation (GETF), hosted the first national EMS development course for government entities. Two more initiatives have followed. Gin Wall, curator of horticulture at the N.C. Zoo, traveled to Alabama in early 2003 to talk to the participants of the EPA's Third EMS Initiative for Government Entities about her experiences developing an EMS at the zoo.

EPA and GETF have developed the Public Entity Environmental Management System Resource Center, or PEER Center, a Web site of EMS information and resources for government entities at <http://www.peercenter.net>. The National Biosolids Partnership has developed an EMS program for biosolids management: <http://biosolids.policy.net>. Additionally, a national task force has been established to develop an EMS template and guidance documents for wastewater treatment facilities, to be completed in 2004.

Matt Jordan of the city of Gastonia, which participated in North Carolina's EMS pilot program and contributed to the National Database on EMS, is now a member of the N.C. Environmental Stewardship Initiative's (ESI) Advisory Workgroup. This group reviews applications to the ESI, a program that establishes incentives to stimulate business, industry, government agencies and nonprofits to develop and implement programs that use pollution prevention and other innovative approaches to meet and exceed their regulatory requirements. The ESI program requires facilities to implement or have an existing EMS. Visit <http://www.p2pays.org/esi> for more information.

ACKNOWLEDGMENTS

DPPEA would like to thank the following people who made this course not only possible but also successful:

Speakers

Sharon Baxter, VA Dept. of Environmental Quality
Dempsey Benton, N.C. DENR Deputy Secretary
Jack Blackmer, Novozymes North America Inc.
Dan Carey, American Ref-Fuel, Niagara Falls Facility
Tom Carter, N.C. State University Poultry Science Department
Phil Castro, Baxter International
Bob Danhauser, American Quality Assessors
Beth Eckert, Gastonia Wastewater Treatment Plant
Dave Edwards, UNC-Chapel Hill
Rick Gehrke, NSF
Harry Gregori, Virginia Department of Environmental Quality
Michael Hardman, Beers-Skanska
Bob Leker, N.C. Dept. of Administration, State Energy Office
David Lester, EMS contractor for Westinghouse Savannah River Company
Neal Moore, Kemet Electronics
T. Dan Mull, Carolina Consulting Group Inc.
Randy Mundt, N.C. Emergency Management
Brian Phillips, Eaton Corporation
Robert Pike, Braswell Foods
Paul Rehder, Novozymes North America Inc.
Jack Rockstad, NCI
Suzanne Sessoms, Environmental Management Systems
Steve Stadelman, Novozymes North America Inc.

Coaches (DDPEA staff unless otherwise noted)

Bill Albright
John Burke
Bob Carter
Beth Graves
Jim Grovenstein
Ray Guerrein, Waste Reduction Partners
Rusty Harris-Bishop
Sarah Ketchem
Margie Meares, Waste Reduction Partners
Rudy Moehrbach
Ron Pridgeon
Tom Rhodes
Sharron Rogers
John Seymour
Julie Woosley

Course Location Providers

Jack Blackmer, Novozymes North America Inc.
Bill Laxton, EPA OARM
Donna Davis, Charlotte-Mecklenburg Utilities
John Holloway, Town of Cary Water Reclamation Plant
Mary Joan Pugh, N.C. Zoological Park
Rich Miller, UNC-Chapel Hill
Cynthia Walters and John Rhom, City of Shelby Wastewater Treatment Plant

APPENDIX A

Sample Press Release

FREE GOVERNMENTAL/SMALL BUSINESS EMS DEVELOPMENT COURSE TO BEGIN IN JULY

The Division of Pollution Prevention and Environmental Assistance (DPPEA) is offering a free “EMS (Environmental Management System) Development Course” for local, state and federal government agencies, and small businesses to design and implement an EMS using the ISO 14001 model. EMS is based on a Plan-Do-Check-Act model and may assist an organization in identifying and reducing its impact on the environment.

State agencies – especially DENR divisions – are encouraged to consider participating in this course. The course is open to state and federal agencies, as well as small businesses. DENR employees are asked to promote the course to permittees such as local government wastewater treatment plants or solid waste operations. DENR adopted a policy in 1999 encouraging the adoption of EMS by North Carolina organizations, both private and public.

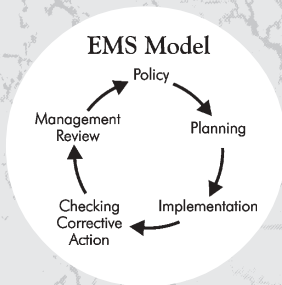
The class is modeled on EPA’s program to assist local governments with EMS implementation. DPPEA staff will coordinate training sessions and lead instruction. In addition, guest speakers from government and industry who have implemented an EMS for their operations will be invited to speak. The class will meet every four to six weeks starting in July 2001.

Organizations should contact DPPEA by April 30, 2001, to express interest in becoming a participant in the EMS Development Course. For more information on this project, contact Julie Woosley, DPPEA, phone: (919) 715-6527 or (800) 763-0136, e-mail: Julie.Woosley@ncmail.net, or go to <http://www.p2pays.org/dppea/calendar/course.pdf>.

APPENDIX B

Course Advertising – Brochure used for Mailings (on following pages)

DON'T MISS THIS OPPORTUNITY! APPLY TODAY!



ENVIRONMENTAL MANAGEMENT SYSTEMS DEVELOPMENT COURSE FOR GOVERNMENT AGENCIES AND SMALL BUSINESSES

EMS DEVELOPMENT COURSE

The Division of Pollution Prevention and Environmental Assistance (DPPEA) is offering a free course for local, state and federal government agencies and small businesses to design and implement an EMS, using the ISO 14001 model. An Environmental Management System (EMS) is a tool that provides organizations with a method to systematically manage their environmental activities, products and services and helps an organization achieve its environmental obligations and performance goals. An EMS follows a Plan-Do-Check-Act Cycle, or PDCA.

DPPEA staff will coordinate training sessions and lead instruction. In addition, guest speakers from government and industry who have implemented an EMS for their operations will be invited to speak. **The course will meet every four to six weeks starting July 2001.** No direct financial assistance to participants will be provided.

This course is modeled on EPA's program to assist local governments with EMS implementation. A list of agencies that have or are participating in its EMS Initiative may be found on the back of this sheet. In addition, DPPEA has worked with the cities of Gastonia and Burlington wastewater treatment staff on EMS development.

BENEFITS OF AN EMS

Many organizations have chosen to adopt an EMS based on the international voluntary standard ISO 14001. An EMS provides the framework for an organization to meet the environmental goals and objectives that it sets for itself.

The N.C. Department of Environment and Natural Resources (DENR) adopted a policy on Aug. 17, 1999, encouraging the adoption of EMS by North Carolina organizations. DPPEA is the lead agency within DENR working on EMS.

DENR supports implementation of EMS by organizations, both private and public, and feels there are benefits to the environment as well as to the organization through:

- enhanced compliance;
- increased employee environmental awareness;
- improved efficiencies;
- increased pollution prevention activities;
- better understanding of root causes of noncompliance;
- addressing non-regulated as well as regulated activities and impacts.

HOW TO APPLY

Organizations should contact DPPEA by **April 30** to express interest in becoming a participant in the EMS Development Course. Prior to the first class, participating agencies will be asked to submit a letter signed by a top management representative from the organization containing the following information:

- 1 A brief description of the organization and its responsibilities.
- 2 The name of the person who will be given responsibility and authority within the organization for leading the work to develop the EMS. This person should be available to travel within North Carolina and participate in training sessions with other course participants for the life of the project. Workshops will be held every four to six weeks.
- 3 A willingness to form a core team of other employees that will work with this person on EMS development and implementation. DPPEA staff will be available to assist participants as they form core teams and over the life of the project.



NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF POLLUTION PREVENTION AND ENVIRONMENTAL ASSISTANCE
1639 MAIL SERVICE CENTER • RALEIGH NC 27699-1639

FEBRUARY 2001

- 4 An indication of the operation(s) within the organization that will be developing an EMS (i.e. wastewater treatment plant, solid waste operations, etc.)
- 5 A description of the reasons why the agency wishes to participate and some of the benefits it hopes to achieve from adopting an EMS.
- 6 Commitment by top management to fully support the core team throughout the life of the project. Top management support and visibility are essential to the successful development of an EMS.

FOR MORE INFORMATION

For more information on this project, please contact:

Julie Woosley, Environmental Chemist, DPPEA
 1639 MAIL SERVICE CENTER
 RALEIGH, NC 27699-1639
 Phone: (919) 715-6527 or (800) 763-0136
 Fax: (919) 715-6794
 E-mail: Julie.Woosley@ncmail.net.

EPA'S FIRST GOVERNMENT EMS INITIATIVE: SEPTEMBER 1997 — SEPTEMBER 1999

PARTICIPANT	"FENCELINE" ORGANIZATION
Town of Londonderry, N.H.	Public Works
City of Lowell, Mass.	Wastewater Treatment Facility
Wayne County, Mich.	Wastewater Treatment Facility
City of Indianapolis, Ind.	Public Works
Massachusetts Corrections Institute, Norfolk, Mass.	Industries/Power Plant/Wastewater Treatment Plant
City of Gaithersburg, Md.	Public Works
Lansing Board of Water and Light, Mich.	Electric Generating Facility
City of Scottsdale, Ariz.	Municipal Government
New York City, N.Y.	Transit Authority/Capital Project Management

EPA'S SECOND GOVERNMENT EMS INITIATIVE: APRIL 2000 — JANUARY 2002

PARTICIPANT	"FENCELINE" ORGANIZATION
City of Berkeley, Calif.	Solid Waste Management Division
City of San Diego, Calif.	Refuse Disposal Division
City of Detroit, Mich.	Dept. of Recreation and Public Lighting
Florida Gulf Coast University, Fort Myers, Fla.	Solid Waste Activities and Services
Port of Houston, Texas	Container Terminal and the Central Maintenance Dept.
Jefferson County, Ala.	General Services Department
Little Blue Valley Sewer District, Independence, Mo.	Wastewater Treatment Facility -All Operations
Louisville and Jefferson County Metropolitan Sewer District, Louisville, Ky.	Operations Division and Purchasing
Wisconsin Dept. of Natural Resources, Madison, Wis.	Air Management Bureau
Tri-County Metropolitan Transportation District, Portland, Ore.	Maintenance Facilities
King County Solid Waste District, Seattle, Wash.	Eight Transfer Stations/One Regional Landfill
Massachusetts Dept. of Environmental Protection, Lawrence, Mass.	Wall Experiment Station - Analytical Laboratory
University of Massachusetts, Lowell, Mass.	Olney Science Building
New Hampshire Dept. of Transportation, Concord, N.H. ..	Bureau of Traffic



The North Carolina Division of Pollution Prevention and Environmental Assistance provides free, non-regulatory technical assistance and education on methods to eliminate, reduce, or recycle wastes before they become pollutants or require disposal. Call DPPEA at 919.715.6500 or 800.763.0136 or e-mail nowaste@p2pays.org, or visit DPPEA's Web site at www.p2pays.org for assistance with issues in this fact sheet or any of your waste reduction concerns.

APPENDIX C

Complete Course Schedule

All meetings were held from 9:30 a.m. – 4 p.m. unless otherwise noted.

Course	Course Subject	Course Location
Optional Pre-course Training	EMS and ISO 14001 Overview Training Class (optional)	DPPEA facility Raleigh (central–eastern NC) 1:30 p.m. - 4:30 p.m.
Course Meeting 1	EMS Overview	DPPEA facility Raleigh (central-eastern NC) 9:30 a.m. - 3:30 p.m.
Course Meeting 2	Aspects and Impacts	DPPEA facility Raleigh (central-eastern NC)
Course Meeting 3	Aspects and Impacts -Ranking	Novozymes facility Franklinton (central - eastern NC)
Course Meeting 4	Objectives and Targets, the EMS Program and Implementation and Operation	N.C. Zoological Park Asheboro (central NC)
Course Meeting 5	Training, Awareness and Competence	CMUD facility Charlotte (central-western NC)
Course Meeting 6	Operational Control and Monitoring and Measurement	Water Reclamation Facility Cary (central-eastern NC)
Course Meeting 7	Communication, Document Control, Records and Emergency Preparedness and Response	DENR Regional Office Winston-Salem (central NC)
Course Meeting 8	Internal Auditing and Checking and Corrective Action	Utilities Operations Center Shelby (central-western NC)
Optional Internal Auditor Training Course	ISO 14001 Internal Auditor Training	Shelby (central-western NC) 8 a.m. - 4:30 p.m.
Course Meeting 9	Management Review and Third Party Certification	UNC-Chapel Hill campus Chapel Hill (central-eastern NC)
Graduation Ceremony	Graduation Ceremony	EPA's new campus Research Triangle Park (central-eastern NC) 10:30 a.m. – 2 p.m.

APPENDIX D

Sample Class Schedule

For a complete list of individual class schedules and links to presentations, please visit <http://www.p2pays.org/iso/public/govcoursesched.asp>. Underlined items below are live links to the Web site.

Class 4: Objectives and Targets, the EMS Program and Implementation and Operation

Tuesday, Nov. 13, 2001, 9:30 a.m. - 4 p.m.

N.C. Zoo, Education Building, Asheboro, NC

- 9:30 - 10:45** [Housekeeping: review of aspect/impact ranking; check-in. Introduction to objectives and targets \(4.3.3\), the EMS program \(4.3.4\), implementation and operation: structure and responsibility \(4.4.1\); and begin documentation.](#) Julie Woosley, DPPEA
[Level 1, 2 and 3 documents](#) John Burke, DPPEA
- [Gastonia EMS Manual](#) - 12 pages
 - [Sample EMS Manual Structure](#) - 12 pages
 - [Sample Procedure Structure](#) - 2 pages
 - [Sample Aspect and Impact Form](#) - 9 pages
 - [Gastonia Aspect and Impact Procedure](#) - 3 pages
 - [Gastonia Aspect and Impact Form](#) - 1 page
- Homework: Begin documentation; consider potential objectives and targets (4.3.3) and the EMS program (4.3.4); and begin implementation and operation: structure and responsibility (4.4.1) Julie Woosley, DPPEA
- 10:45 - 11:30** [Overview of Eaton's EMS, Objectives and targets \(4.3.3\), benefits and cost savings.](#)
Brian J. Phillips, Eaton Corporation, Roxboro facility
- 11:30 - 12:30** Lunch - Plan to bring your lunch or purchase one of the bag lunches that will be available due to time constraints. You should also have time to visit some of the animal exhibits before the afternoon session.
- 12:30 - 12:45** Guest P2 speaker: [Water Conservation](#) Rusty Harris-Bishop, DPPEA
- [Water Efficiency Manual for Commercial, Industrial and Institutional Facilities](#) - 129 pages
- 12:45 - 1:45** [The EMS program \(4.3.4\), structure and responsibility \(4.4.1\), operational control \(4.4.6\)](#) Jack Rockstad, NCI
- 1:45 - 3:55** Tour of Zoo's Horticulture Section, where EMS implementation is planned; implementation of the EMS and current pollution prevention programs
- 3:55 - 4** Wrap-up Julie Woosley, DPPEA



The North Carolina Division of Pollution Prevention and Environmental Assistance provides free, non-regulatory technical assistance and education on methods to eliminate, reduce, or recycle wastes before they become pollutants or require disposal. Telephone DPPEA at (919) 715-6500 or (800) 763-0136 for assistance with issues in this fact sheet or any of your waste reduction concerns.

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