

Environmental Cooperation Pilot Program

2004 PROGRESS REPORT



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The Environmental Cooperation Pilot Program: 2004 Progress Report

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More Information Available

This Progress Report and other information on the Environmental Cooperation Pilot Program are available on the Wisconsin Department of Natural Resource's website at:

<http://www.dnr.state.wi.us/org/caer/cea/ecpp/>



Cooperative Agreement Advisory Group members:

The Wisconsin Department of Natural Resources appreciates the involvement of the current Cooperative Agreement Advisory Group members.

Brian Borofka, Wisconsin Electric Power Company
 Pam Christenson, WI Department of Commerce
 Michael Gromacki, Cook Composites & Polymers Co.
 Marilou Martin, US Environmental Protection Agency
 Dianne Miller, International Truck and Engine
 Randy Nedrelo, Northern Engraving Corporation
 John Piotrowski, Packaging Corporation of America
 Wendy Reno, 3M Company
 Michael Ricciardi, Madison Gas and Electric
 Jeff Schoepke, WI Manufacturers and Commerce
 Caryl Terrell, Sierra Club, John Muir Chapter
 Liz Wessel, Environmental Consultant

<i>Participating Company</i>	<i>Company Contact</i>	<i>DNR Contact</i>
3M Company – Menomonie (Menomonie, WI) Agreement 10/1/02	Wendy Reno, 3M wendyreno@mmm.com (651) 778-7674	Mark Harings, DNR Mark.Harings@dnr.state.wi.us (715) 831-3263
Cook Composites And Polymers (chemical manufacturer in Saukville, WI) Agreement 10/1/01	Mike Gromacki, CCP Gromacki@ccponline.com (816) 391-6011	Lynn Persson, DNR Lynn.Persson@dnr.state.wi.us (608) 267-3763
Madison Gas And Electric (electric and natural gas utility in Madison, WI) Agreement 9/26/02	Mike Ricciardi, MGE Mricciardi@mge.com (608) 252-5627	John Shenot, DNR John.Shenot@dnr.state.wi.us (608) 267-0802
Northern Engraving Corporation (surface coater in Sparta and Holmen, WI) Agreement 6/10/02	Randy Nedrelo, NEC rnedrelo@nasllc.com (608) 269-6911	Mark Harings, DNR Mark.Harings@dnr.state.wi.us (715) 831-3263
Packaging Corporation of America (paper mill in Tomahawk, WI) Agreement 9/10/02	John Piotrowski, PCA Jpiotrowski@packagingcorp.com (715) 453-2131, ext. 349	Laurel Sukup, DNR Laurel.Sukup@dnr.state.wi.us (715) 365-8936
We Energies/ Pleasant Prairie Power Plant (electric utility, Pleasant Prairie, WI) Agreement 2/5/01	Brian Borofka, We Energies Brian.Borofka@we-energies.com (414) 221-4872	John Shenot, DNR John.Shenot@dnr.state.wi.us (608) 267-0802
We Energies – system wide (electric utility) Agreement 9/30/02	Kris McKinney, We Energies kris.mckinney@we-energies.com (414) 221-2157	John Shenot, DNR John.Shenot@dnr.state.wi.us (608) 267-0802



Environmental Cooperation Pilot Program: 2004 Progress Report

I. Executive Summary:

The Environmental Cooperation Pilot Program (ECP) has seen the birth of its “offspring”, the Green Tier Law (Wisconsin Act 276). Environmental and economic results coming from the systematic management of environmental risk and a commitment to continual improvement set the standard for building Green Tier’s performance-based environmental management paradigm. With the passage of the new law, ECP companies will continue in the Program as they research and develop new opportunities for Green Tier companies. Over the course of the last year we have come to appreciate the dynamic nature of the Cooperative Agreements as the companies have sought new and better ways to achieve superior environmental performance and meet ever increasing competitive pressures.

Work with external stakeholders was specifically recognized in 2004 when Cook Composites and Polymers was selected for the Business Friend of the Environment Award by Wisconsin Manufacturers and Commerce. Not all participating companies have had the same level and type of involvement as Cook Composites. Last year’s progress report identified stakeholder involvement as a challenge and despite trying to make some changes, it continues to be a challenge. The coming year will be dedicated to finding new and better ways to meet the challenge.

ECP companies continue to have the excellence of their performance formally recognized. We Energies received the highest honor awarded to electric utilities by the Edison Institute. Packaging Corporation of America was recognized by the Air Program at the United States Environmental Protection Agency. Both were recognized for performance that was achieved through or in part enabled by their Environmental Cooperative Agreements. Currently, both Packaging Corporation of America and Madison Gas and Electric are being considered for awards, evidence that performance recognition is a trend and not just a set of unrelated events.

Both the Packaging Corporation of America and the Northern Engraving cooperative agreements have been amended to accommodate the continual improvement that is being pursued by the participating companies. Similarly, the work at Madison Gas and Electric and We Energies has continued to use the working relationships established through the agreements to raise and address issues as they have arisen at their facilities.

Wisconsin Act 276 (Green Tier) was signed into law on April 16, 2004 and became effective May 1, 2004. ECP companies have been instrumental in helping with both the logistics and policy issues involved in the development of the new program. ECP companies have also volunteered to assist with the outreach to potential Green Tier participants.



II. Program Accomplishments

Now in its eighth year, the Program continues to yield serious environmental results. The following is a brief survey of these accomplishments.

Cook Composites and Polymers --CCP – Saukville



- CCP received Wisconsin's 2004 Business Friend of the Environment Award recognizing CCP's community involvement program and environmental improvements under the Environmental Cooperation Pilot Program. (See photo.)

http://www.wmc.org/PDFfiles/2004_profiles.pdf



- From 2002 through 2004, CCP has creatively developed their EMS as part of an integrated management system (IMS) that includes quality, safety and the environment. Their EMS included substantial management commitment, an innovative approach from their environmental consultants and unprecedented community engagement. Their innovative "lesson plan approach" has brought environmental performance to all levels of the facility and engaged the community.
- CCP has retained Det Norske Veritas (DNV), an internationally recognized registrar for ISO 9001 and ISO 14001 and developed a new tool to audit CCP's Integrated Management System. Independent representatives from CCP's parent company conducted an Internal Pre-Assessment late in 2004, which established that CCP's EMS is ready for 3rd party ISO 14001 evaluation and certification. An independent audit is scheduled for early 2005.
- CCP continues to take leadership in product stewardship by integrating environmental considerations into the design and development of products including commercial development of low-styrene (low hazardous air pollutant -- HAP) composite resins as well as water-based alkyd/acrylic dispersions used in water-based coatings and stains. The development of products using the water-based dispersion technology has contributed to a substantial reduction in xylene use. CCP low-VOC resins and low-HAP and MACT-compliant resins are industry technology leaders. CCP is helping their customers meet MACT requirements using pollution prevention, rather than air pollution control. CCP continues growth and development of a profitable product line of aqueous cleaners and no-HAP and low VOC emission solvent cleaners for use in the composites fabrication industry.
- CCP's Community Advisory Committee decided to meet less frequently because they felt most issues are being addressed. One issue that CCP continues to work on is minimizing noise from sensitive alarms that are part of the plant's safety and environmental protection systems. In order to inform the Community Advisory Committee, Cook developed ten fact sheets on chemicals commonly used in the

plant. In September 2004 CCP also conducted another of its biennial surveys of community concerns.

- Capital improvement projects at the facility, designed to improve environmental quality, include installation of an enclosed Sparkler™ filter to reduce fugitive emissions and odors.
- CCP will recycle for reuse approximately 600,000 pounds of spent glycol generated from its scrubber system and reactor cleaning in 2004. CCP used off-site vendors for this recycling.
- CCP continues to share their experience in developing their EMS with others. During 2004 they met with DNR and US Environmental Protection Agency officials to provide feedback on efforts to incorporate EMS into waste permits. CCP initiated a project with the Delta Institute in Chicago to evaluate the ecosystem (Saukville area) impact of improvements from the EMS. They also participated in a project by the Massachusetts Institute of Technology (MIT) researchers on the effectiveness of EMS and the relationship to community involvement.

Madison Gas and Electric -- MGE - Madison:



- Installed pulsed energization system for reducing air particulate emissions on Boiler No. 8.
- Completed combustion improvement study to improve efficiency of Boiler No. 8 and began discussions with DNR about implementing recommendations of study.
- Changed method of operations so that fly ash is now beneficially reused instead of going to landfill.
- Voluntarily installed storm water pollution control device for large parking lot in downtown Madison to prevent debris, toxins and nutrients from reaching nearby Lake Monona. (See photo.)
- Completed project to improve the existing Environmental Management System (EMS) for Blount Generating Station. The EMS received ISO 14001 certification in September 2004.
- Went beyond earlier commitments in adopting the “Dark Skies” lighting criteria for the Blount station yard.
- Increased use of less-polluting alternative fuels and renewable energy resources. In 2003 MGE utilized 8092 tons of paper-derived fuel. This decreased the use of



coal by 10,758 tons and avoided emissions of 306 tons of SO₂, 1 ton of NO_x, .41 pounds of mercury and 4 tons of ash.

- Voluntarily and regularly shared information and sought advice and comments from stakeholders on the operation of Blount Generating Station.
- Developed a long-range plan for replacement of PCB-contaminated transformers (50-500 ppm PCB).
- Performed mercury reduction study at Blount Generating Station and completed installation of mercury-free automated reading devices on more than 250,000 customer meters as part of the company's mercury control program.

We Energies:



We Energies continues progress on both the 2001 Pleasant Prairie Power Plant Cooperative Agreement and the 2002 Multi-Emission Cooperative Agreement. Highlights include:

- Won the Edison Award in June 2004 on the strength of the company's innovative coal combustion products (CCP) program. This award from the Edison Electric Institute is considered the electric power industry's highest honor. The company's CCP program was also recognized by the U.S. Environmental Protection Agency in a case study published in December 2003.
- Achieved a 98% rate of beneficial use of the company's coal combustion materials in other products.
- Continued the recovery of energy by reburning high-energy ash, displacing over 1,325 railroad cars of coal that would have otherwise been mined and purchased from outside Wisconsin.
- Installed and initiated operation of a selective catalytic reduction (SCR) unit, the first in Wisconsin, reducing nitrogen oxide (NO_x) emissions by over 90% from Unit 1 at Pleasant Prairie Power Plant (P4).
- The company initiated a \$325 million project in early 2004 to install a second SCR and two flue gas desulfurization systems at P4, seeking to reduce emissions of SO₂ by 90-95% and NO_x by 85-90%.
- The company eliminated or offset more than five million tons of greenhouse gas (GHG) emissions in 2003.
- Signed a 20-year renewable power purchase agreement, representing a 400% increase in wind generation in Wisconsin.



Northern Engraving – NEC - Sparta, Holmen, West Salem and Galesville Facilities



On June 23, 2003 NEC signed an Amended Cooperative Environmental Agreement that resulted in the inclusion of two additional facilities located in West Salem and Galesville, Wisconsin.

This report reflects the combined improvements/benefits of the four NEC facilities currently involved unless otherwise stated. NEC has met all requirements of the Agreement to date. NEC expanded Interested Person's Group to include representatives from West Salem and Galesville area. Through permit flexibilities, reformulation, substitution, consolidation, distillation, centrifuging and reuse, NEC has seen the following results as compared to 1996 baseline levels*:

- Annual reduction of roughly 2500 pages of regulatory records at Sparta. (Other facility information not available at this time)
- Reduced VOC emissions by 63% through distillation for reuse at Sparta
- Reduced HAP emissions by 89% through reformulation, centrifuging and reuse at Sparta
- Reduced hazardous waste generation by 79% at Sparta
- Reduced HAP by 85% through ultraviolet screening and HAP elimination in clean-up solvent at Holmen
- Eliminated solvent based sprays which helped reduce VOC emissions at West Salem
- Eliminated solvent-based sprays which reduced HAP emissions by 90% at West Salem
- Reduced natural gas usage in 2003 by 9150 MCF at Sparta and West Salem
- Saved roughly 3100 hours on record keeping and reporting
- * 1996 is the baseline for the Environmental Cooperative Agreement

Packaging Corporation of America (PCA) - Tomahawk:



The 2004 Amendment to the Environmental Cooperative Agreement between the DNR and Packaging Corporation of America (PCA) contained a fuel source change as well as the evaluation of three potential operation changes.

- The fuel source addition was a product of the original Cooperative Agreement signed in September 2002. The biogas fuel is generated as a result of the operation of the onsite wastewater treatment facility. PCA brought the biogas collection and reuse system on-line in mid-March. Under the new process, conditioned biogas is combusted in an on-site power boiler - decreasing the need for natural gas. A new efficiency power boiler was also installed - increasing the overall benefits of the project. The Department of Administration's Office of Focus on Energy recognized the project as utilizing "green energy" and awarded a \$65,000 grant to PCA as an incentive to install the system.
- PCA explored three other operation changes aimed at improving environmental results. However, after conducting comprehensive evaluations, the operation changes were determined not to be feasible for the PCA facility. The specific options and analysis included:

- Conducted a FAN separator dewatering device trial to determine if the technology could augment the dewatering capability of the existing wastewater treatment plant residuals.

Result: The FAN separator screw press utilized in the trial was not able to operate at the efficiency needed and would not be suitable for PCA's needs.

- Evaluated the value and feasibility of installing insulation on the exterior walls of the anaerobic basins as a means of minimizing seasonal temperature variation.

Result: Temperature measurements were taken and evaluated at the anaerobic basins. It was determined that the water column temperature declines less than 1 degree F across the un-insulated basins, and that the insulation would not materially affect the water temperature. It was determined to be an economically unsound technology to pursue.

- Explored a pollution prevention opportunity at PCA's Colby Boxplant. A particular blue ink has relatively high copper content. Product substitution could lead to lower copper levels in residuals.

Result: Discussions were held with the Boxplant manager to determine if alternative inks could be substituted. Unfortunately, due to customer demands the substitution ink was not acceptable.



2003 Pollution Prevention Pays (3P) Program Results

- 23.4 tons scrap nickel plating recovered for reuse.
Cost savings: \$131,000
- Introduction of new process to film products diverted 146 tons of plastic from landfill.
Cost savings: \$525,000
- Recycling of plastic packaging material diverted 337 tons from landfill.
Cost savings: \$16,000
- Recycling of process film diverted 182 tons from landfill. Product is recycled.
Cost savings: \$8,000
- Improved coating methods which diverted roughly 27 tons of material from landfill.
- For the past year, DNR and 3M have been working on permit revisions and amendments to the Environmental Cooperative Agreement signed in October 2002. The Amended Agreement went to Public Comment on October 17, 2004.
- 3M has met all conditions of the current Environmental Cooperative Agreement.

III. USEPA Collaboration

- In 2004, work with US Environmental Protection Agency (USEPA) has focused on the development of amendment language for the 3M Cooperative Agreement. Wisconsin has enjoyed a good working relationship with EPA as concepts have been explored and ultimately as specific language has been shared. This work has been pursued in order to develop the needed flexibility for research and development efforts at the 3M facility in Menomonie.

Consistent with the goal stated in last year's report, Wisconsin has kept USEPA Region 5 apprised of the progress on Green Tier. Meetings have been scheduled to discuss how and when Region 5 may become involved in Green Tier work. The purpose of these discussions will be to begin working to establish a collaborative working relationship with Region 5 for performance based programs overall.

Since June, Wisconsin has been working with USEPA and the Environmental Council of the States to implement a process that can be used to make sure that decisions don't get "stuck" in the administrative processes. At this writing, the process is working through the specific legal requirements that need to be addressed at the federal level and the process should be ready and available to help resolve and address issues that may arise out of the Green Tier discussions.

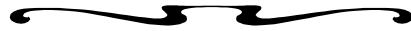
IV. Program Challenges

- Maintaining stakeholder interest – This issue was raised last year and will require continued attention in the coming year.
- The progress that has been made in the Environmental Cooperation Pilot Program will need to be extended to Green Tier. In addition, participants will need to determine what ideas can most appropriately be explored through the Program in anticipation of Green Tier needs.
- Performance Metrics – Improvement is needed in the performance metrics for the program and for metrics that can be used by both Green Tier and the Pilot program.
- Program Resources – The Environmental Cooperation Pilot Program will be further stretched with the implementation of Green Tier. Aspects of some agreements may not be able to be extended without staff resources both within the Bureau of Cooperative Environmental Assistance and within the program bureaus.

V. Conclusions

ECPP is about results just as Green Tier will be about results. Each one of the participants is delivering performance that goes beyond the original expectations when the Agreements were signed. The results are summarized within this report and can be examined in detail at the ECPP web site (<http://dnr.wi.gov/org/caer/cea/ecpp/index.htm>). The two programs, Environmental Cooperation Pilot Program and Green Tier, will need to proceed in a complimentary fashion that draws upon their respective strengths to produce economic growth and superior environmental performance.

DNR is pleased that the companies involved with the Environmental Cooperation Pilot Program have chosen to stay with this Program. These companies and their Agreements are in the best position to test new approaches, explore untested methods and develop innovative ideas that might otherwise be difficult to try. ECPP companies will continue to demonstrate their environmental leadership as they have done for the last several years.



This Progress Report was compiled by:

Wisconsin Department of Natural Resources
Bureau of Cooperative Environmental Assistance

101 S. Webster, PO Box 7921

Madison, WI 53707

Phone: 608/267-9700

Fax: 608/267-0496

E-mail: CEA@dnr.state.wi.us

Web site: <http://www.dnr.state.wi.us/org/caer/cea/ecpp/>

