

US EPA ARCHIVE DOCUMENT

**Pre-proposal for the State Innovation Grant Program
January 18, 2007**

Project Summary

Title:

Use of Whole Farm EMS as a Supplement to CAFO Permits for the Dairy Sector

Applicant:

Wisconsin Department of Natural Resources

Project Manager:

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Project Cost:

[Budgetary Information Withheld by U.S. EPA]

Project Period:

October 2007-October 2009

Summary Statement:

Wisconsin has been significantly impacted in recent years by agricultural runoff to both surface and groundwater, due in part to the high number of dairy farms in the state. This project will explore the potential and expand the capacity for Wisconsin's dairy sector to use whole farm EMS as a tool for multi-media environmental improvement - not just on the few large CAFOs that hold WPDES permits, but also at small and mid-size dairy farms.

Statutory Authority and Flexibility:

This project is based upon the Clean Water Act's authorization of programs which prevent water pollution. WDNR does not believe that any specific regulatory flexibility is necessary to implement this project. If any regulatory flexibility is ultimately pursued, WDNR will use the authority found in Wisconsin's "Green Tier" law (§299.83, Wis. Stats.) and adhere to the October 3, 2005 MOA between WDNR and EPA concerning Performance Track and Green Tier (or any future replacement agreements between the same parties).

State Agency Support:

The Secretary of the Wisconsin Department of Natural Resources is aware of and endorses this proposal.

Project Narrative

A. Project Description

WDNR proposes to provide outreach, training, and detailed technical assistance to help dairy farmers in Wisconsin's Lakeshore Basin develop and implement whole farm environmental management systems (EMS). This effort will build upon an ongoing collaborative partnership called the Agricultural Watershed Improvement Network (AWIN), and make use of Wisconsin's Green Tier program for Environmental Excellence. The project has been designed to be completed over a two year period with a grant from EPA of [Budgetary Information Withheld by U.S. EPA]

. It is based upon Clean Water Act authorization for experiments and demonstration projects to prevent water pollution.

The following narrative provides an introduction to the environmental problem we seek to address and a summary of how we propose to use EMS as an innovative solution. It also provides background information on AWIN and Green Tier.

i. The Problem

Urban nonpoint and agricultural pollution is the leading cause of water quality problems in Wisconsin, degrading or threatening an estimated 40 percent of the streams, 90 percent of the inland lakes, many of the Great Lakes harbors and coastal waters, many wetland areas and substantial groundwater resources in Wisconsin. Polluted runoff contributes to habitat destruction, fish kills, reduction in drinking water quality, harbor and stream siltation, and a decline in recreational use of lakes. In April 1993 an outbreak of cryptosporidium in Wisconsin infected more than 400,000 people and killed 54. Agricultural runoff was the suspected culprit, but the adopted solution was to spend \$89 million improving urban drinking water supplies.

This project will focus primarily on northeast Wisconsin's Lakeshore Basin, which is centered on Manitowoc, Kewaunee, and Door Counties and home to well over 100,000 people. Nearly 70% of the land within the basin is farmed, with dairy farming being the dominant sector, and problems with agricultural runoff are especially acute. Large portions of the basin consist of karst (fractured bedrock), which allows pollutants such as bacteria to move quickly and which makes the groundwater resource highly susceptible to contamination. The number of recent fish kills and well contaminations in the basin has been a source of much concern and publicity.

In Wisconsin, approximately 1% of our 15,000 dairy farms are required to have water permits and comply with existing confined animal feeding operation (CAFO) regulations. In the Lakeshore Basin the percentage of permitted CAFOs is slightly higher, but in any event well over 90% of dairy farms don't have any environmental permits at all and are largely unregulated by WDNR. Wisconsin is faced with an obvious choice between expanding the CAFO permit program to address our serious environmental problems, and supplementing the permit program with other programs that can deliver environmental improvement. However, recent proposals that would have expanded the CAFO permit program to cover just a few additional farms in the entire state encountered fierce political resistance. As a practical matter, the only short-term

prospect for Wisconsin to address our agricultural runoff issues on the smallest 95% of farms is by supplementing, rather than expanding, the CAFO permit program.

ii. Whole Farm EMS as a Supplement to CAFO Permits for the Dairy Sector

This project will explore the use of whole farm EMS as a tool to establish voluntary environmental improvement goals, measure progress, and ultimately protect and restore water quality and natural resources. The EMS approach is relevant and helpful; both to regulated CAFOs which can use the EMS to ensure compliance and go beyond compliance, as well as to smaller farms which can use the EMS to drive improvements in unregulated aspects. The EMS process encourages farmers to move beyond a “permit compliance” or “best practices” mindset to a “continual improvement” mindset that acknowledges how best practices evolve over time. The EMS approach also has the distinct advantage of being a whole farm, multi-media tool, and it can even be used to influence the environmental performance of others up and down the supply chain. For those reasons, using whole farm EMS as a supplement to CAFO permits for the dairy sector has enormous potential to contribute to solving national priority issues, most obviously in the area of urban nonpoint and agricultural pollution.

The application of EMS principles to the dairy sector is still viewed by many as hypothetical or foreign, but in fact WDNR and others in Wisconsin have been working for several years to develop capacity and relevant local examples. WDNR’s dairy sector specialist spent nearly three months in Australia in 2002 learning from the world’s leading experts on agricultural EMS. He later spent close to a year in England studying EMS and other non-regulatory approaches to environmental improvement in agriculture. WDNR has collaborated in recent years with the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP), the Wisconsin Agriculture Stewardship Initiative (WASI), the Wisconsin Dairy Business Association (DBA), the University of Wisconsin, and consultants to promote EMS in Wisconsin’s dairy sector. As a result, WDNR believes that at least 2 dairy farms in Wisconsin now have an EMS that would meet the international standard, ISO 14001, and at least 3 other farms are approaching that goal.

The purpose of this grant proposal is to build upon the EMS knowledge and capacity we have developed here in Wisconsin, and move beyond the feasibility or “proof of concept” stage to test the full potential of EMS as a tool for environmental improvement in the dairy sector. We will concentrate our efforts within the Lakeshore Basin, striving to develop a critical mass of land and animals protected by an EMS and maximize the chance that improvements at the individual farms will aggregate into noticeable changes in ambient environmental conditions. We will also try to link dairy producers using EMS with dairy processors using EMS, and otherwise forge supply-chain relationships that can drive and reward environmental improvement.

Over the next two years, with the benefit of a State Innovation Grant, WDNR will

- Develop and disseminate free EMS information that is targeted to the dairy sector.
- Offer at least 10 free EMS workshops for the dairy sector.
- Recruit dairy producers and processors for EMS training and development.
- Offer at least 10 dairy sector EMS training sessions that are subsidized or free.
- Provide free individualized EMS technical assistance to dairy sector participants.
- Offer EMS auditing to dairy sector participants that is subsidized or free.
- Encourage participants to consider Wisconsin’s Green Tier program.
- Support and contribute to the broader goals of the AWIN partnership.
- Learn from and compare results with an agricultural ERP project in Minnesota.

WDNR will employ contractors to deliver the EMS training, technical assistance, and auditing services. All work will be completed by October 2009. WDNR anticipates offering approximately half of the workshops, training, etc. in winter 2007-2008 and half in winter 2008-2009, as these are the least busy months for most Wisconsin dairy producers. WDNR will strive to recruit participants primarily from the Lakeshore Basin, looking elsewhere only if necessary to fill up the workshops and training sessions.

By focusing on the dairy sector and concentrating primarily on one basin, WDNR can reach more people, deliver better results, and prove the value of EMS to other agricultural sectors and other areas. If this project is successful it will create results that are highly replicable and relevant throughout the country. This might some day allow regulators to redirect oversight from lower to higher priority areas, and allow producers to move beyond a “best practices” mindset to a “continual improvement” mindset. It will also test whether supply chain relationships based on the use of an EMS can drive performance.

iii. About AWIN

AWIN is a partnership of representatives from WDNR, DATCP, WASI, the Lakeshore Natural Resource Partnership (LNRP), County governments, and University of Wisconsin Extension. Initial funding was provided by The Joyce Foundation. The initiative began about four years ago as a government-led project to develop a network of stakeholders committed to addressing conflicts in Wisconsin’s Lakeshore Basin arising from agricultural environmental issues. In the past year AWIN has evolved into a locally-led and comprehensive effort to inform, educate, facilitate, demonstrate and coordinate agricultural practices that contribute to improving the Basin’s water quality.

iv. About Green Tier

Green Tier is WDNR’s voluntary program to promote and recognize Environmental Excellence. The program is sanctioned by a state law, §299.83 Wis. Stats, and has two tiers or participation levels. Tier 1 is an entry level, designed to encourage innovation, collaboration and new environmental goal-setting. Tier 2 involves more rigorous participation requirements, places greater emphasis on superior environmental performance, and uses contracts as a means of giving customized regulatory flexibility proportional to environmental performance. An EMS is required for participation in either tier, as are self-auditing, public involvement and reporting processes that make the program transparent and the results verifiable.

WDNR will encourage participants in the project described in this pre-proposal to also participate in Green Tier, provided they meet all eligibility requirements. WDNR is also setting a statewide framework for EMS development through Green Tier Charter negotiations with the DBA. Charters are an entirely new Green Tier environmental tool to be used by business sectors, geographic regions, trade associations and/or parts of a supply chain to create new relationships, jointly manage environmental risk, address collective incentives and manage participation by participants at various levels of the program. DBA is particularly interested in how dairy producers and dairy processors can use EMS and Green Tier to establish market value for branded products.

B. Environmental Outputs and Outcomes

WDNR in collaboration with AWIN and other partners shall deliver these project outputs:

- Develop information resources to help dairy producers and processors in Wisconsin easily identify all applicable federal and state legal requirements.
- Print at least 30 copies of the EMS Manual developed by NRT consultants for Wisconsin dairy farms, and/or similarly helpful materials.
- Conduct EMS outreach to dairy producers and processors and recruit participants.
- Hold approximately 10 EMS workshops and 10 EMS training sessions, with the goal of reaching at least 30 dairy farmers in the Lakeshore Basin.
- Arrange for at least one ISO 14001 certification audit of a whole farm EMS
- Process any associated Green Tier applications according to established procedures for public involvement.
- Explore alternatives to traditional CAFO permit programs, such as ERP and integrated multi-media permits.
- Assess policy lessons and implications of this project and the larger AWIN project.
- Deliver progress and project summary reports detailing all the above activities.
- Disseminate information about all project activities on the website(s) of one or more AWIN partners.

Over the short term, WDNR expects this project will lead to the following outcomes in the basin:

- Improved communication among and between local, state and federal government.
- Improved understanding among producers about EMS and ISO 14001, state and federal regulatory requirements, and best practices for manure handling procedures including spreading, that will minimize risk of spills or runoff to surface and groundwater.
- Increased number of animal units and acres protected by an EMS.

Over an intermediate period of time, WDNR expects the following outcomes in the basin:

- AWIN serves as a model for sharing ideas, learning from changes in practices and, in doing so, will help further the development of a network of farmers and stakeholders who share the AWIN vision. AWIN will also serve as a platform for local leadership development. Farmers and others in the AWIN region will serve as statewide leaders for the agricultural community.
- Significant basin-wide increase in number of producers, number of animal units, and number of acres protected by emergency response plans, winter spreading plans, nutrient management plans, comprehensive nutrient management plans, environmental management systems (EMS), and, ultimately, participation in Green Tier.

Over the long term, WDNR hopes for the following outcomes:

- AWIN will serve as a vehicle for substantial change in agricultural practices and, in doing so, will contribute to reductions and eliminations of pollution to both ground and surface water. AWIN will serve as a platform for the local community to realize the importance of cleaner surface and groundwater. The process will lead to proactive and innovative changes in how to solve problems, rather than to assess blame.

- WDNR and DATCP will develop effective strategies to work with producers to accomplish similar outcomes within different Wisconsin watersheds.
- Increased compliance rates for permitted operations in the Lakeshore Basin.
- Improved groundwater and surface water quality in the Lakeshore Basin.

Measurement of outputs and outcomes will rely on the results of multiple questionnaires, rosters of attendees at EMS training sessions and workshops, EMS registries, and feedback from AWIN partners and others. WDNR will also make use of WPDES permit documents and compliance data for CAFOs, as well as the annual reports from any entities that participate in Green Tier. Each of these outputs and outcomes will be an indicator of whether the project is, in fact, contributing to the intended result; improved water quality and broader awareness of and implementation of practices identified.

C. Public Involvement

Information about the receipt of the grant, ways to get involved, and major accomplishments will be shared with the public via one or more websites hosted by AWIN partners, and by press releases to Wisconsin agricultural media outlets, agricultural NGOs, and appropriate state and local media outlets.

There is widespread and legitimate public concern about the potential environmental impacts of the dairy sector. Entities that implement an EMS should ultimately *increase* the extent to which they engage their neighbors and the broader public in a discussion of environmental problems and solutions. This happens to an even greater extent in Wisconsin's Green Tier program, where the inherent transparency of the EMS is enhanced by mandatory public involvement processes. All Green Tier applications are subject to public notice requirements with the possibility of a public informational meeting. Furthermore, members of the public and stakeholder groups are allowed to request to participate in the negotiations on any Tier 2 participation contract. Once an entity is accepted into Green Tier at any level, they are subject to annual public reporting requirements. This extensive level of public involvement will in most cases serve to dispel the idea that EMS and Green Tier could somehow lead to a relaxation of environmental standards.

Phase I of AWIN focused more on stakeholder involvement and idea sharing than on any other activity. Key elements of public involvement included:

- An event that brought environmental NGO representatives to working dairy farms to learn more about the constraints farmers face and to share in a more personal way their concerns and ideas about sustainable dairy farming.
- Facilitated discussions of environmental issues between farmers and their neighbors.
- A multi-stakeholder effort to consider how Green Tier could best be used in the agricultural sectors to drive environmental improvements.
- Countless presentations and discussions by AWIN partners with dairy farmers, NGOs, and town and county officials.

F. Collaborations or Partnerships

WDNR will collaborate and partner with a variety of key stakeholder groups and other governmental agencies to engage dairy producers and processors, build EMS capacity, and disseminate lessons learned. Most importantly, the activities proposed herein will build upon work already initiated by the AWIN partnership. Among the AWIN partners, WDNR has the primary responsibility for funding and staffing activities related to EMS. Identifying and recruiting dairy producers and processors for EMS training will be a joint activity with WASI, the County Conservation Departments, and Wisconsin NRCS all playing a vital role.

WDNR will also continue to collaborate with DBA in the development of a Green Tier charter for the dairy sector. Although this pre-proposal requests no funds for that effort, a successful charter could catalyze interest in Green Tier within Wisconsin's dairy sector, establish firm commitments by both WDNR and DBA, and facilitate the success of the activities that are described in this pre-proposal.

Finally, WDNR has discussed this pre-proposal with the Minnesota Pollution Control Agency (MPCA), which received a 2004 State Innovation Grant from EPA to develop an ERP program for livestock facilities not covered by CAFO permits. Should this pre-proposal be funded, WDNR and MPCA will exchange information with each other about activities and results related to each grant. This exchange shall at a minimum include office and site visits in both states. WDNR will include a summary of the results of this exchange in WDNR's grant reports to EPA, along with a paper comparing and contrasting the ERP and EMS approaches. MPCA will fund its share of this exchange as match for federal grant money.

Budget Summary

State Agency: Wisconsin Department of Natural Resources

Project Title: Use of Whole Farm EMS as a Supplement to WPDES Permits in the Dairy Sector

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Expected Costs by Major Categories:

[Budgetary Information Withheld by U.S. EPA]

EPA funds will support the work and travel expenses of key WDNR staff that are necessary to fulfill the commitments made in this pre-proposal. This will include project management, EMS outreach, Green Tier outreach and technical assistance, ongoing participation in the AWIN partnership, and contract oversight. Contractual dollars will be used to hire consultants who can deliver EMS training, technical assistance, and/or auditing services to the dairy sector. Other expenses primarily reflect the costs of printing and disseminating EMS training materials and providing suitable venues for training.

The proposed state leverage funds will be spent in order to allow WDNR and MPCA to exchange information and learning about ERP and EMS approaches to agriculture. Each state will pay for the necessary staff time and travel expenses out of state funds not matched to any federal grant dollars.

Environmental Results Past Performance

State Innovation Grant – Improved Environmental Results and Increased Regulatory Flexibility in Air Permitting for the Printing Sector Using EMS and ERP Cooperative Agreement No. PI 965809-01 –

Ongoing three-year agreement initiated in July 2005. Through this cooperative agreement the Wisconsin Department of Natural Resources (WDNR) will be piloting two alternative approaches for Wisconsin's printing industry.

For larger printing facilities, a performance-based EMS combined with a Title V permit will be developed with several pilot facilities. For small printers, an Environmental Results Program (ERP) modeled after the work done with the industry in Massachusetts is being developed in collaboration with the Wisconsin Department of Commerce (WDCOMM).

This is a voluntary program that has the potential to include 3,000 printing establishments in Wisconsin. Quarterly reports are prepared that provide progress at achieving significant milestones. These reports are being provided to EPA Region 5 and EPA's Office of Environmental Policy Innovation in Washington DC. Good progress is being achieved and we are committed to providing EPA with a final project report by July 2008. We have been collaborating with EPA in the development of performance measures for both alternative approaches for inclusion in the final project report.

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Programmatic Capability

Wisconsin DNR has no relevant past performance or reporting history for federally funded projects similar in size, scope and relevance to the proposed project outlined herein.

Resumes of Key Personnel

[Resumes Withheld by U.S. EPA]

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