



Released 4/21/04

Lake Champlain Basin Program Announcement

Request for Proposals

Demonstrating Technologies for Reducing Nutrients in Farm Waste Streams

The Lake Champlain Basin Program (LCBP) is pleased to announce a Request for Proposals (RFP) for projects utilizing technologies to reduce on farm nutrients from animal manures. The project will support the goal of reducing phosphorus pollution from agricultural lands, as outlined in the Basin Program's management plan, *Opportunities for Action: An Evolving Plan for the Future of the Lake Champlain Basin*.

Phosphorus levels continue to be at unacceptable levels in many parts of Lake Champlain. Despite improvements in management of both animals and their wastes, agricultural activities continue to be a significant source of nutrients entering the lake. This RFP seeks technologies (pilot projects) that will significantly reduce the nutrient content of wastewater from farm operations. Examples of innovative technologies include but are not limited to one or more of the following management and facilities improvements: solids separators; manure and wastewater treatment systems that provide significant removal and reuse of nutrients and solids; construction of edge-of-farm treatment (wetland and/or chemical) facilities; and any other innovative technologies that may be determined to be appropriate.

The RFP is available from the Lake Champlain Basin Program website. Look for the link on our homepage at www.lcbp.org. To receive a copy of the RFP via US Postal Service, contact Kathy Jarvis at the Lake Champlain Basin Program office at (802)372-3213, toll free at (800)468-LCBP in New York and Vermont, or kjarvis@lcbp.org.

To facilitate the review process, applicants must submit proposals in both paper and electronic format. Please see the RFP and the attached proposal format information for complete details.

DEADLINE NOTICE:

Hardcopy (10 copies) and electronic versions (no facsimiles) of proposals must be RECEIVED by the Lake Champlain Basin Program office by the close of business:

Friday, June 4, 2004

LATE OR INCOMPLETE PROPOSALS WILL NOT BE CONSIDERED

Lake Champlain Basin Program

Request for Proposals

Demonstrating Technologies for Reducing Nutrients in Farm Waste Streams

I. Background

The Lake Champlain Basin Program (LCBP) is a partnership between state, provincial, and federal government agencies, as well as many local community and business groups, all working together to protect and enhance the environmental integrity and the social and economic benefits of the Lake Champlain Basin. *Opportunities for Action: An Evolving Plan for the Future of the Lake Champlain Basin* is the comprehensive management plan developed by LCBP partners to address a range of issues from water quality to cultural heritage protection. The highest priorities in the plan are reducing phosphorus pollution, protecting human health, reducing pollution from toxic substances, and controlling nonnative aquatic nuisance species.

Because phosphorus is the pollutant believed to pose the greatest threat to water quality and the human use and enjoyment of Lake Champlain, *Opportunities for Action* stresses the importance of reducing phosphorus inputs to Lake Champlain. The states of New York and Vermont and the Province of Quebec have committed to 20 year phosphorus reduction goals for individual lake segments, as well as five-year interim goals. Toward these goals, many wastewater treatment facilities in the Basin have been upgraded and agricultural Best Management Practices (BMPs) implemented.

In 2000, the LCBP released a *Preliminary Evaluation of Progress Toward Lake Champlain Phosphorus Reduction Goals*. The report, prepared by a team of scientists and managers working on phosphorus issues in the Lake Champlain Basin, estimated a reduction in phosphorus inputs to Lake Champlain of about 38.8 mt/yr by 2001, far exceeding the five-year interim reduction goal of 15.8 mt/yr. The report also determined that phosphorus loads generated by land use changes in the Basin are offsetting some of the gains achieved through reduction efforts. Based on this report, it is clear that not all lake segments can be brought to the loading targets needed to meet the in-lake phosphorus criteria by relying solely on existing reduction programs. Further, there continues to be public interest in accelerating the phosphorus reduction program, to achieve the loading reduction targets in fewer than 20 years.

As one of the land uses significantly contributing to nonpoint source phosphorus loading to Lake Champlain, agriculture must identify additional methods of reducing nutrient loading to the Lake and its tributaries. The identification of innovative, alternative technologies for reducing nutrients in farm waste is needed.

II. Demonstrating On-Farm Technology or Systems for Reducing Nutrients

The Lake Champlain Basin Program is seeking proposals for on-farm projects that will utilize systems or technology that will lead to the reduction of phosphorus and other nutrients in the waste stream. The technology or systems may be part of other technologies utilized to control odor and pathogens as well as generate energy.

Successful proposals will address the following specific elements:

- A proposed project must have a high probability of significant removal of nutrients (phosphorus and nitrogen) from the waste stream. Proposals that can demonstrate a high likelihood of removal of 75% or greater of the nutrients (particularly phosphorous) from the waste stream will be rated more favorably. A 75% nutrient reduction is measured from the waste stream that leaves the barn, milking parlor, feedlot, etc. before entering a waste storage area or other waste treatment system. (The project may be part of a system utilized to produce on-farm energy as long as the total project leads to a significant on farm reduction of nutrients.)
- The project should incorporate outcomes that are economically sound, technologically feasible and systems that are easily incorporated into the farm operation.
- Proposals that leverage additional resources by developing partnerships with related natural resource/energy projects, including sharing project sites, will be rated more favorably.
- The proposed project must be compatible with NRCS standards and specifications.

III. Summary of Other Requirements for the Selected Proposals

- To be eligible, the selected projects are required to show a non-federal match equal to 25% of the project cost.
- For the selected proposals, an approved workplan will be required before a grant agreement can be executed and the work begun.
- To be eligible, the selected proposals must demonstrate a high probability of significant removal of nutrients from the waste stream.
- Proposals must include a detailed project budget and timeline with defined milestones. The budget must include total annual costs, as well as a detailed analysis of the costs associated with design, permitting, construction, and operation and maintenance.
- For projects involving data collection, a Quality Assurance Project Plan (QAPP) must be submitted with the proposal. The QAPP should outline appropriate data quality assurance

provisions.

- Proposals must include a description of the proposed facility where the technology will be implemented, including location, number of animals and animal units (equivalent 1000 pound animals). A written commitment from the farm owner/operator within the Champlain Basin allowing for the construction, operation and maintenance of a pilot facility on the farm must also be included.
- If a project is selected, the vendor will be responsible for obtaining a suitable surety to ensure that the proposed project will be constructed and completed. The surety can be a performance bond, line of credit or other vehicle deemed acceptable to LCBP.
- Proposals must include written notice, if applicable, of whether the technologies, or components thereof, used in the Pilot Project are of a proprietary or protected nature.
- Proposals must include a detailed description of the proposed technology and how it works.
- The contractor will be required to prepare brief quarterly reports documenting progress on each objective and tasks in the project (See attached Proposal Format Requirements). A final report describing all data, methods, technology and systems and fully documenting the project results, including the economics of the system, will be required on project completion.
- The contractor will be required to commit to provide maintenance and management assistance during the term of the work plan and contract.
- The contractor will be required to present the project results before the appropriate Basin Program Committee, such as the Technical Advisory Committee and/or the Manure Management Advisory Committee.

IV. Eligibility

Eligible organizations include colleges, universities, nonprofit organizations, for-profit companies, and government agencies. Projects must take place within the Lake Champlain Basin, or, at a minimum, demonstrate applicability to farms within the Basin.

V. Proposal Evaluation and Selection Criteria

Proposals will be judged according to how well they address the following points:

1. Demonstrated knowledge of and experience with systems and/or technology that will lead to the reduction of on farm nutrient applications and the ability to implement on the farm/facility in a full-scale operational test.
2. Technical merit and feasibility of the proposed systems and/or technology, and likelihood that the proposed technology/project will achieve significant nutrient removal from the wastewater generated at the farm facility.
3. Technical merit and feasibility of the proposed methods to design and test the systems or technology. The methods for evaluating the effectiveness of the systems/technology must be clear and statistically appropriate.
4. Extent to which the project leverages additional resources by developing partnerships with other on farm projects, including but not limited to, those projects which may result in the elimination of odor or provide on farm energy production.
5. Technical credentials of the system designers and investigators.
6. Potential for the project to provide a system that can economically be incorporated into farm operations in the Lake Champlain Basin. Cost effectiveness of the system, including construction, implementation, operation and maintenance will be considered. Also considered will be the ability to transfer the technology to other farms/facilities, both locally and regionally.
7. Provision of an educational element.
8. Clarity, conciseness and adherence to the attached proposal guidelines.

Additional criteria that may be considered for evaluating proposed projects include:

9. The technology provides a value-added element or component to the operation of the farm. For example, a marketable product is produced as a result of the innovative technology.
10. The transferability of the technology to other animal commodities.
11. Any additional environmental benefits derived from the technology.

VI. Available Funds and Match Requirements

Approximately \$350,000 is available to award for projects. It is expected that several projects will be awarded funding. Although a single proposal may be submitted for the total available funds, it is unlikely that one project of this size will be awarded full funding. A 25% match of

the project cost is required, either as funds or in-kind services. Budget proposals should clearly document the intended use(s) and source(s) of matching contributions. Federal funds may not be used as a source of matching funds.

VII. Period of Performance

Work is to be completed within 24 months of the execution of a grant agreement.

VIII. Schedule and Requirements for Proposal Submission

- Please follow the format outlined in the attached Technical Proposal Format Requirements.
- Eight (10) paper copies of each proposal must be RECEIVED by the LCBP office by the close of business on **Friday, June 4, 2004**. Please submit paper copies bound only with a single staple or binder clip.
- In addition, please submit an ELECTRONIC VERSION of your proposal, either on diskette or via e-mail. Electronic versions must also be RECEIVED by close of business on **Friday, June 4, 2004**.

IX. Contact Information

Direct all proposals and other inquiries to:

Miranda Lescaze
Technical Coordinator
Lake Champlain Basin Program
54 West Shore Road
Grand Isle, VT 05458
(802) 372-3213

X. References

Lake Champlain Basin Program. 2003. *Opportunities for Action: An Evolving Plan for the Future of the Lake Champlain Basin* (2003 Revision). LCBP, Grand Isle, VT.

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Technical Proposal Format Requirements

Proposals should adhere to following format and should not exceed a 10 page maximum length (font size 12), NOT including budget information, references cited and investigator resumes.

TITLE: - Concise and descriptive.

POINT OF CONTACT: Name, organization, address, telephone, fax and email.

ABSTRACT: Brief description of proposed work.

INTRODUCTION: Overview of what the project is, how it relates to past projects (in the Basin and elsewhere), and what it will accomplish in relation to the RFP.

OBJECTIVES AND TASKS: List the project's objectives and describe in detail the tasks that will be performed relative to each objective, including methods and approaches.

Note: If the selected proposal involves environmental data collection, the investigator(s) must submit a Quality Assurance Project Plan (QAPP) as part of the contract tasks.

DELIVERABLES: Detailed description of the planned products from each task of the project. Quarterly progress reports and a final report are required deliverables.

SCHEDULE: Timeline showing anticipated dates for completion of the major tasks and deliverables. Quarterly progress reports are due on the last day of December, March, June, and September. Work is to be completed within 18 months after the execution of a contract or grant.

DETAILED BUDGET JUSTIFICATION: Cost breakdown by major budget categories (i.e. personnel, equipment), linking costs to specific tasks/deliverables wherever possible. Breakdown should show costs to be covered by the LCBP award and other sources (if applicable), as well as the required match amounts and totals. A non-federal match equal to 25% of total project costs is required, either in funds or in-kind services. (1 page, not included in the 10 page maximum total for the proposal).

TECHNICAL REFERENCES CITED: List all references used for the proposal (not included in the 10 page maximum total for the proposal).

CURRICULUM VITAE/RESUME OF PRINCIPAL INVESTIGATORS: Include the resume of all the principal investigators together with information on projects and or technologies they have been associated with which has or is capable of reducing on farm nutrients.