

REQUEST FOR PROPOSAL

Emission Measurements at Wisconsin Power Plants

The Lake Michigan Air Directors Consortium (LADCO) is seeking contractor assistance to conduct emission measurements at three power plants in Wisconsin during periods of biomass fuel usage. This information will be used to assess the impact of biomass fuel usage at Wisconsin power plants.

You are invited to submit a proposal for this project. Proposals must be received no later than 5 p.m. CST on February 22, 2010. An electronic copy (Word or pdf) of the proposal is required and should be sent to:

Mr. Michael Koerber
Executive Director
Lake Michigan Air Directors Consortium
9501 West Devon Avenue, Suite 701
Rosemont, IL 60018
e-mail: koerber@ladco.org

No late proposals will be accepted, and the offer shall remain effective for a period of 60 days from the date of the mailing.

Your response to this Request for Proposal (RFP) should include a complete technical proposal to describe your approach for accomplishing the tasks outlined below in the Scope of Work. The response should include a draft work plan, which clearly describe your technical activities, schedule, and deliverables, and should include a summary of your organization's capability and experience in the field of work. Please limit the technical proposal to 20 pages (12-point font). In addition, please also provide a complete cost proposal with a detailed breakdown of projected expenditures by task, including person hours by labor category, travel, and other direct charges.

The contract will be issued and managed by LADCO. It is anticipated that LADCO will award a cost plus fixed fee type contract as a result of this solicitation. LADCO may consider awarding another type of contract, provided that its use is consistent with the objectives and interests of the States.

Funding for this contract will be provided by LADCO. Because these funds were received pursuant to a grant from the U.S. Environmental Protection Agency, contractors must meet requirements associated with the use of federal funds. All information and data delivered under this contract will be in the public domain.

All inquiries regarding this RFP should be directed to Michael Koerber either in writing at the above address or via e-mail at koerber@ladco.org. Written responses to inquiries will be sent to all organizations listed on the interested bidders list for this project. If your organization would like to be added to the interested bidders list for this project, then please send an email to koerber@ladco.org with your email address and contact information.

Project Overview

LADCO, in conjunction with the Wisconsin Department of Natural Resources (WDNR) and the University of Wisconsin are working together to characterize the emissions and air quality

impacts, and public health benefits of burning biomass fuels, instead of fossil fuels, at power plants in Wisconsin. Interest in biomass fuels has increased in recent years due to economic, environmental, and national security reasons. In the Midwestern U.S., in particular, there has been a significant increase in the number of new/modified source permit applications involving biomass fuel usage. A challenge for state regulatory agencies is the lack of data (especially, emission factors) to estimate the amount of air pollution associated with burning biomass fuels.

Three power plants are either currently using, or planning to use, biomass fuels: Alliant Energy's Nelson Dewey Plant in Cassville, WI; Detroit Edison's Stoneman Plant in Cassville, WI; and Excel Energy's Bay Front Plant in Ashland, WI. During periods of biomass fuel usage in summer 2010, emission measurements will be made by a contractor using Environmental Protection Agency (EPA)-approved methods. From these data, emission factors for biomass fuels will be developed (by another organization).

Based on the emission factors, an air quality analysis and a benefit-cost analysis will be performed (by LADCO and WDNR). The air quality analysis will include ambient measurements (collected by WDNR in the Ashland and Cassville areas) and mathematical computer modeling to assess the impact of biomass fuel usage at power plants in Wisconsin on ozone and PM_{2.5} concentrations. The benefit-cost analysis will utilize an EPA-approved computer program that quantifies comprehensive health benefits from improvements in air quality. The project will provide information that will benefit residents, air pollution control officials, and power companies in the State.

Scope of Work

Emission measurements shall be conducted for gaseous and particle species at three power plants in Wisconsin burning biomass fuels: Alliant Energy's Nelson Dewey Plant in Cassville, WI; Detroit Edison's Stoneman Plant in Cassville, WI; and Excel Energy's Bay Front Plant in Ashland, WI. Measurements will be collected during summer 2010 using EPA-approved methodology for the following gaseous and particle species: fine particulate matter (PM_{2.5}), sulfur dioxide (SO₂), oxides of nitrogen (NO_x), total hydrocarbons (THC), carbon monoxide (CO), carbon dioxide (CO₂), oxygen (O₂), and hydrogen chloride (HCl). If PM_{2.5} emissions contain a significant fraction of organic carbon, then efforts will be directed as implementing dilution sampling to obtain more detailed emissions profiles for the carbonaceous component of the PM_{2.5} emissions.

Specific tasks for this work effort include:

1. Planning: (expected timeframe: March – April)
The contractor shall work with LADCO, WDNR, and the three power companies to prepare an emission measurement work plan and schedule.
2. Develop quality assurance project plan (QAPP) for emissions measurements (expected timeframe: May)
The contractor shall prepare a QAPP for the emission measurements. LADCO will submit the QAPP to EPA for approval, prior to the stack tests.

3. Conduct stack tests (expected timeframe: July – August)

The contractor shall perform stack tests utilizing the following EPA-recommended methods:

Emission	EPA Method
CO2 and O2	3A
PM	5
SO2	6C
NOx	7E
CO	10
THC	25A
HCl	26

Details for these EPA methods are available at the EPA's Technology Transfer Network (TTN) website: <http://www.epa.gov/ttn/emc/promgate.html> If alternative methods are proposed by the contractor, then appropriate justification shall be provided.

The measurement of particulate matter should include both the solids (the front-half from the stack test results) and the condensable particulate (the back-half from the stack test results).

Measurements for nitrous oxide (N2O) are also desired. There is no formal EPA method for N2O at this time, though EPA Method 320 (FTIR) would qualify. If FTIR is a possible method, then the ASTM 6348-03 is a better choice and is accepted as an alternative method. For this project, however, the preferred approach is Gas Filter Correlation (GFC) IR, which is a common CEM. Then run the CEM by Method 7E. (To confirm data quality, it is suggested that the dynamic spike be performed. The dynamic spiking is a requirement of 7E, but is not required by some regulatory applications.) Please provide a separate cost estimate for N2O measurements.

4. Process stack test data (expected timeframe: August – September)

The contractor shall review the stack test data, perform any necessary data validation, and prepare an electronic database. The file format for the database shall be determined in consultation with LADCO and WDNR.

5. Deliver stack test data and final report (expected due date: October)

The contractor shall deliver the electronic database of emission measurements, along with a technical report summarizing the emission measurement program. The data shall also be submitted to EPA via the Electronic Reporting Tool (ERT).

Schedule

The period of performance is approximately seven months. It is expected that a contract will be awarded in March 2010 and final project deliverables will be due in October 2010.

Deliverables

A kick-off conference call will be held after the contract is awarded to review the scope of work and schedule for this project. Following discussions with the three power companies (and LADCO and WDNR), a project work plan will be submitted in April 2010. An electronic copy (Word or pdf) of the work plan shall be delivered to LADCO's Executive Director.

In lieu of written progress reports, periodic conference calls will be held to review the status of the work and discuss any outstanding issues.

Five (5) paper copies and one electronic copy (Word or pdf) of the QAPP shall be delivered to LADCO's Executive Director. EPA approval of the QAPP is necessary.

Five (5) paper copies and one electronic copy (Word or pdf) of the final report shall be delivered to LADCO's Executive Director, along with an electronic version of the database.

Any programs (or "tools") developed pursuant to this project shall also be delivered to LADCO's Executive Director, upon completion of the project.

Key Personnel

Please identify in your proposal the key personnel for performing this work. Please specify the amount of time each key person will dedicate to the project. Any change in key personnel associated with the project shall be made only with prior written approval of LADCO's Executive Director.

Evaluation Criteria

Evaluation and rating of proposals will be based on the following criteria:

- The proposer's understanding of the overall objectives of this project.
- The proposed technical approach and completeness of coverage with respect to the statement of work.
- The experience, expertise, and other qualifications of the principal investigator and other personnel assigned to the project, and the level of effort proposed for the principal investigator.