



REQUEST FOR PROPOSAL

Technical Support for Particulate Matter Emissions Permitting in Minnesota

The Lake Michigan Air Directors Consortium (LADCO) is seeking contractor assistance to review and update a database of particulate matter emissions control information used by the Minnesota Pollution Control Agency (MPCA) to support air emissions permit applications. The goal of this project is create a database of default fine particulate matter (PM_{2.5}) control efficiencies that can be incorporated in Minnesota's Control Equipment Rule (Minn. R. Parts 7011.0060 to 7011.0080) to streamline the state's air emissions permitting process.

Proposals must be received no later than 5 p.m. Central on June 11, 2021. An electronic PDF copy of the proposal is required and should be sent to:

Zac Adelman
Executive Director
Lake Michigan Air Directors Consortium
adelman@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 that describes your approach for accomplishing the activities outlined below in the Scope of Work. The technical proposal should include a draft work plan that clearly describes your technical activities, schedule, and deliverables. The technical proposal should include a summary of your capabilities and your experience in the field of work. Include a complete cost proposal with a detailed breakdown of projected expenditures by task, including person hours and other direct charges. LADCO does not anticipate there being any travel expenses for this project.

Please limit the proposal to 15 pages (single-spaced, 12-point font).

In addition, your response should include an appendix with supplemental information, such as references, resumes, and descriptions of recent relevant work. The supplemental information has no page limit.

All contracts will be issued by LADCO and managed by LADCO's Executive Director. It is anticipated that LADCO will award a fixed price 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 Consortium.

Funds available for this contract are federal funds from the U.S. Environmental Protection Agency (EPA) and contractors must meet requirements associated with the use of federal funds (2CFR 200).

All information and data produced and delivered under this contract will be in the public domain. While LADCO does not anticipate restricting the publication or presentation of results obtained from this study, LADCO reserves the right to review all presentations and manuscripts derived from this study.

LADCO will make positive efforts to utilize small, minority business enterprises (MBE), women's business enterprises (WBE), and disadvantaged business enterprises (DBE), whenever possible.

Details of the LADCO procurement process, including draft contract terms, are available in the [LADCO Procurement Policy Manual](#).

All inquiries regarding this RFP should be directed to Zac Adelman (adelman@ladco.org) no later than 5 p.m. Central on May 24 2021. LADCO will post responses to all received inquiries to the [LADCO website RFPs page](#) by May 26, 2021.

We expect to award the project and enter a contract with the winning bidder by July 1, 2021.

If your organization would like to be included on the interested bidders list for this and subsequent work, then please send an email to the LADCO Executive Director with your email address and contact information.

Scope of Work

Introduction

The Minnesota Pollution Control Agency (MPCA) seeks to streamline the development and review of air emission permit applications for sources operating in Minnesota. The agency identified regulatory defaults for PM_{2.5}¹ control efficiencies as an important element that supports the preparation and review of air emission permit applications. This RFP seeks technical support to review, develop, and improve the default PM_{2.5} control information for future air emissions permitting rulemaking in Minnesota.

Within its air quality permitting rules, Minnesota has adopted a Control Equipment Rule (i.e., the Rule) to establish default PM_{2.5} removal efficiencies for listed control equipment ([Minn. R. 7011.0070](#)). The Rule also contains associated operating, monitoring and recordkeeping requirements for the control devices ([Minn. R. 7011.0072 - 7011.0080](#)). Permittees may choose to rely on the Rule when calculating the potential to emit (PTE) for listed pollutants, as well as to establish in their permits the associated monitoring, recordkeeping and reporting provisions. By codifying the control efficiencies and related compliance tracking requirements in the state rules and state implementation plans, the control efficiencies become federally enforceable, and can be used in a permit application without requiring the permittee to provide additional technical support information.

The MPCA and other Minnesota permitting authorities must set PM_{2.5} emissions limits in permits. The PM_{2.5} emissions estimates that permittees currently include in their permit application are typically extracted from a U.S. EPA database such as AP-42², emissions equipment vendor guarantees, or from emission tests of similar processes. If well-supported emissions data are not available, the MPCA (and U.S. EPA) assume that the PM_{2.5} emissions are equal to either PM₁₀ emissions or PM_{2.5} is equal to PM³. This assumption likely overestimates the actual PM_{2.5} emissions and the permitted PTE at the facility.

¹ For purposes of this effort, PM_{2.5} means finely divided solid or liquid material with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.

² <https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors>

³ PM means EPA Method 5 for the concentration of filterable particulate matter and associated moisture content plus Method 202 for the concentration of organic condensable particulate matter.

The current permitting process in Minnesota can require significant resources from permittees to secure reliable emissions data, and for the MPCA to review and concur with the findings. Additionally, for any permit that establishes new monitoring provisions, a public notification process is required to make the condition federally enforceable. Without default PM_{2.5} tracking provisions in the Rule, many permit amendments require a public notice process when new PM_{2.5} limits are proposed.

To address these issues, in 2005 the MPCA assembled PM_{2.5} emissions control data to provide the technical support to revise the default information in the Rule (Supporting Information Item #2). This project is an extension of similar work completed by the California Air Resources Board (Supporting Information #3). MPCA determined at that time that the PM_{2.5} control efficiency data were not robust enough to support regulatory default control efficiency assumptions. Now with an additional 15 years of data on PM_{2.5} emissions and emissions control device efficiencies, the MPCA seeks to review the available information to understand if it is now sufficient to support the promulgation of new default PM_{2.5} regulatory control device efficiencies for the Rule.

To determine whether there is now sufficient information to support updating the Rule, we seek contractor support to update and expand the current data of default PM_{2.5} emissions control devices and their control efficiencies. Further, a review of the associated operating, monitoring and recordkeeping requirements for each PM_{2.5} emissions control device will ensure that these provisions are complete and appropriate for the revised list of devices. Because we believe that there is likely related data for both PM and PM₁₀, we also seek to collect emissions control device and efficiency data for these pollutants, as appropriate.

Objectives

The objective of this project is to review the available particulate matter emissions control device information with the intent of supporting updates to the Minnesota Control Equipment Rule. MPCA seeks to revise the Rule by reviewing and updating the default PM_{2.5} control efficiencies ([Minn. R. 7011.0070](#)), and by establishing related default monitoring, recordkeeping and reporting provisions ([Minn. R. 7011.0080](#)).

Technical Tasks

Under this contract, the contractor shall perform the following technical tasks, with the results of these tasks to be thoroughly discussed and interpreted in a project final report (Task 4). LADCO will evaluate the technical and cost proposals for each individual task. We may contract for some or all of the tasks, based on the merits of the proposal and available funding. For the purposes of the proposal, the contractor shall provide separate statements of work and cost estimates for each task.

Task 1. Review Current PM_{2.5} Emission Control Information and Identify New Data

The MPCA last updated their data set of PM_{2.5} emissions control equipment and control efficiencies in 2005. These data were originally compiled as an Excel spreadsheet, which is now only available in hard copy (see items 2 and 3 in Supporting Information). Under this task the contractor shall review the current MPCA spreadsheet and identify sources of new information on PM_{2.5} emissions control devices, control efficiencies, monitoring parameters, and recordkeeping requirements for each device. The contractor shall review the methodology and emission factors used to assemble the current spreadsheet and recommend improvements to the methodology and sources of PM_{2.5} control information.

For devices already in the MPCA spreadsheet the contractor shall review the PM_{2.5} control efficiencies and recommend updates. One of the updates shall include adding “vintages” or model years of the control devices to the database. Further, given the potential for PM_{2.5} control efficiencies that vary due to characteristics unique to the emissions source, the contractor shall consider expanding the database to incorporate results specific to emission source types. In their review of the existing MPCA spreadsheet, the contractor shall also consider the approach of including estimates of low, representative, and high PM_{2.5} control efficiencies. The updated spreadsheet shall also use this approach for new and updated control information.

In determining the quality of new or updated control efficiencies, preference shall be given to PM_{2.5} data collected with U.S. EPA method M201A. However, it is possible that for some control devices or emission source types, Method 201A data will be sparse or unavailable. In such cases, the contractor shall propose potential methodologies that would allow for the use of

additional performance test methods to improve the underlying dataset while providing defensible PM_{2.5} control efficiencies.

The contractor shall conduct a comprehensive, national search for technical data related to PM_{2.5} emissions control efficiencies for commonly-used air pollution control devices. The search shall include review of the published literature, technical reports, U.S. EPA databases, state implementation plans, and other air pollution control organization databases. A review of available documentation, reports, and literature from manufacturers, testing companies, and trade associations is expected to be conducted to identify available data. The contractor shall compile a draft list of technical data sources that they propose to mine for updated PM_{2.5} control information for approval by LADCO and MPCA.

Based on their reviews of the current MPCA spreadsheet and the available sources of PM_{2.5} control information, the contractor shall propose an approach to update the MPCA spreadsheet using new methods and data. The contractor shall advise LADCO and MPCA on whether there is sufficient new information to support updating the default PM_{2.5} emissions control device assumptions in the Rule. The contractor shall also propose improvements to the data collection methodologies to produce updated PM_{2.5} control efficiencies. The contractor shall describe their approach for reviewing and accepting new data, managing the data, and how the new control efficiency estimates will be generated.

In the proposal to this RFP, responses should indicate the sources of PM_{2.5} control information that the proposer intends to use for this task, and the approaches that will be used to review, compile, and evaluate existing and new information per the details provided above in the task description.

Task 1 Deliverables:

1. List of current sources of PM_{2.5} emissions control devices, control efficiencies, monitoring parameters, and recordkeeping requirements for each device
2. White paper with recommendations on the sources for which sufficient new PM_{2.5} emissions control information exists to update the MPCA spreadsheet. For those sources with sufficient data, the white paper shall also describe the methods and data sources that should be used to compile the information for updating the spreadsheet.

Task 2. Updated MPCA PM_{2.5} Emissions Control Spreadsheet

Based on the results of the data source and methodologies review conducted under Task 1, the contractor shall develop an updated dataset of PM_{2.5} emissions control device information. This dataset shall include data from the existing MPCA spreadsheet and new information collected under this task. The dataset shall include PM_{2.5} emission control devices, control efficiencies, applicable emissions sources, monitoring parameters, and recordkeeping requirements for each device. Where sufficient data exist, the dataset should include estimates of low, representative, and high PM_{2.5} control efficiencies for each device. The contractor shall propose a scoring system for determining the quality of the control information in the updated catalog.

The contractor shall recommend a schema that will best provide complete details of the contents and quality of the updated PM_{2.5} control device database.

The final results will be an editable Excel spreadsheet containing the control efficiencies for each PM_{2.5} device included in the dataset. The updated dataset shall retain existing data in the current MPCA spreadsheet along with the updated PM_{2.5} information. The approach, data sources, and structure of the database shall be documented in the final report.

In the proposal to this RFP, responses should describe the approach for developing the database, and describe the improvements, revisions, or additional features that might be included to improve the database.

Task 2 Deliverables:

1. Draft Excel spreadsheet of PM_{2.5} emissions control information. The spreadsheet shall include at a minimum the control efficiencies for common PM control devices; the associated operating, monitoring, recording and recordkeeping practices; the applicable source types for which the devices may be used to reduce emissions; and indicators (scores) of the quality of the control information
2. Final database

Task 3. Quality Assurance Project Plan

The contractor shall develop a Quality Assurance Project Plan (QAPP) for this project following the guidelines and specifications set by the EPA for contractors available online at <https://www.epa.gov/quality> (EPA document QA/R-5, reissued May 2006). A draft QAPP shall be delivered for review by LADCO and MPCA. A final QAPP shall assimilate any comments and updates from the review. The final QAPP shall be delivered before starting work on Tasks 1 or 2.

Task 3 Deliverables:

1. Draft QAPP
2. Final QAPP

Task 4. Project Administration and Final Report

At the beginning of the project, the contractor shall develop a draft workplan describing the approach they plan to take to address Tasks 1 through 3, including a project timeline and schedule of deliverables. They shall share this workplan with LADCO for comment. The contractor shall produce a final workplan that addresses any comments from LADCO.

During the project, the contractor shall have regularly (at least monthly) scheduled calls with LADCO and MPCA to discuss the progress of the work. The contractor shall take and circulate notes and action items from these calls with LADCO.

At the end of the project, the contractor shall develop a draft final report to LADCO that documents the data sources and methods used to develop the updated PM controls spreadsheet. The final report shall include chapters corresponding to Tasks 1 and 2 that summarize the review and development methodologies that produced the updated MPCA database. All sources of information used in this project shall be thoroughly documented in this report. The contractor shall share the draft final report with LADCO for comment. The contractor shall produce a final report that addresses the comments received from LADCO on the draft report.

Task 4 Deliverables:

1. Draft workplan
2. Final workplan
3. Monthly conference calls, notes, and action items
4. Draft outline of report
5. Final outline of report
6. Draft report
7. Final report

Optional Task 5. PM₁₀ and PM Emissions Control Database

As PM and PM₁₀⁴ control efficiencies may be available or calculated from the same data sources as PM_{2.5} data, the contractor shall propose evaluating and updating the pollutant controls database for these two pollutants. All requirements for the review and updates of the PM_{2.5} database described above are applicable to PM and PM₁₀.

Under this task, the contractor shall expand the database to include PM and PM₁₀ emissions control devices, including control efficiencies, applicable emissions sources, monitoring parameters, and recordkeeping requirements for each device.

The contractor shall document in the project final report the review and development methodologies, and data sources used to produce the PM and PM₁₀ control device records in the database.

Task 5 Deliverables

1. Draft database of PM and PM₁₀ emissions control information. The database shall include at a minimum the control efficiencies for common PM control devices; the associated operating, monitoring, recording and recordkeeping practices; the applicable source types for which the devices may be used to reduce emissions; and indicators (scores) of the quality of the control information
2. Final database

⁴ PM₁₀ is finely divided solid or liquid material with an aerodynamic diameter less than or equal to a nominal 10 micrometers.

Proposal Requirements

Proposals should include the following elements:

1. Project statement - summarize the project from the perspective of the bidder
2. Technical proposal - detail the approach by task used to accomplish the objectives and requirements of the project
3. Project Timeline - detail the schedule of deliverables by task
4. Cost proposal - description of the projected expenditures by task, including person hours and other direct charges
5. Bidder qualifications - description of the qualifications should include years of experience, number of staff, and a narrative highlighting the bidders capabilities
6. MBE/WBE statement - statement of whether the bidder is a registered minority or woman-owned business
7. Appendix - references, resumes, and descriptions of recent relevant work

Please limit proposal elements 1-6 to 15 pages; there is no page limit for element 7.

Level of Effort and Project Timeline

The project should be completed by November 30, 2021. Additional funding and time considered necessary to conduct a more complete analysis should be included as options to the primary work effort.

Evaluation Criteria

The following criteria will be used in evaluating the responses to this RFP. A review panel will score each of the five factors below from 1 (worst) to 5 (best). The proposal with the highest weighted score will be selected for funding.

1. Project statement: 10%
2. Technical proposal: 45%
3. Cost proposal: 20%
4. Bidder qualifications: 20%
5. MBE/WBE statement: 5%

Supporting Information

1. [Minnesota Rules 7011.0060 to 7011.0080 Control Equipment Rules](#)
2. Update Of Control Equipment Data To Support MPCA's Control Equipment Rule: Final Report*
3. E.H. Pechan & Associates, 1998. Identification of Point Source Emissions Controls and Determination of their Efficiencies. California Air Resources Board, Contract 96-325.
https://ww3.arb.ca.gov/research/single-project.php?row_id=56026
 - a. <https://ww2.arb.ca.gov/sites/default/files/classic//research/apr/past/96-325a.pdf>
 - b. <https://ww2.arb.ca.gov/sites/default/files/classic//research/apr/past/96-325b.pdf>

* Item 2 is included as a PDF Exhibit with this RFP.