

AQRP Monthly Technical Report

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| PROJECT TITLE | The Influence of Alkyl Nitrates from Anthropogenic and Biogenic Precursors on Regional Air Quality in Eastern Texas | PROJECT # | 16-019 |
| PROJECT PARTICIPANTS | University of Texas at Austin (Drs. McDonald-Buller and Hildebrandt Ruiz) Ramboll Environ (Dr. Yarwood) | DATE SUBMITTED | 8/14/2017 |
| REPORTING PERIOD | From: 7/1/2017 To: 7/31/2017 | REPORT # | 9 |

A Financial Status Report (FSR) and Invoice will be submitted separately from each of the Project Participants reflecting charges for this Reporting Period. I understand that the FSR and Invoice are due to the AQRP by the 15th of the month following the reporting period shown above.

Detailed Accomplishments by Task

Task 1: Refinements to the CB6r4 Mechanism in CAMx

Refinements to the CB6r4 mechanism were based on new insights from ambient observations and laboratory chamber experiments of alkyl nitrates (ANs) in gas and aerosol phases and were completed in previous months. The refinements focused on loss of ANs due to hydrolysis, biogenic monoterpene precursors, and anthropogenic alkanes precursors relevant to Texas emission inventories.

Task 2. Evaluating CB6r4 Updates in CAMx Modeling for DISCOVER-AQ

CAMx simulations with all of the mechanism updates were completed and analyzed individually and collectively. CAMx simulations were completed and analyzed with the CB6r6d4 mechanism (which included updates to the hydrolysis lifetime for multifunctional organic nitrates, alkane chemistry, and terpene chemistry) and for the base case that invoked the Decoupled Direct Method (DDM) tool to examine ozone sensitivities to NO_x and VOC emissions from different source sectors.

Task 3. Project Reporting and Presentation

The draft final project report was prepared. We requested and received approval for an extension for its submission to August 4th.

Preliminary Analysis

As above.

Data Collected

None.

Identify Problems or Issues Encountered and Proposed Solutions or Adjustments

None.

Goals and Anticipated Issues for the Succeeding Reporting Period

The objectives by the next reporting period are to complete and submit the draft final project report and to present the findings from the project at the AQRP Data Workshop on August 3, 2017.

Detailed Analysis of the Progress of the Task Order to Date

The project is proceeding as planned.

Do you have any publications related to this project currently under development? If so, please provide a working title, and the journals you plan to submit to.

Yes No

Do you have any publications related to this project currently under review by a journal? If so, what is the working title and the journal name? Have you sent a copy of the article to your AQRP Project Manager and your TCEQ Liaison?

Yes No

Do you have any bibliographic publications related to this project that have been published? If so, please list the reference information. List all items for the lifetime of the project.

Yes No

Do you have any presentations related to this project currently under development? If so, please provide working title, and the conference you plan to present it (this does not include presentations for the AQRP Workshop).

Yes No

Do you have any presentations related to this project that have been published? If so, please list reference information. List all items for the lifetime of the project.

Yes No

Submitted to AQRP by

Elena McDonald-Buller