

## AQRP Monthly Technical Report

<b>PROJECT TITLE</b>	A Next Generation Modelling System for Estimating Texas Biogenic VOC Emissions	<b>PROJECT #</b>	16-011
<b>PROJECT PARTICIPANTS</b>	Ramboll Environ Alex Guenther	<b>DATE SUBMITTED</b>	05/10/2017
<b>REPORTING PERIOD</b>	<b>From:</b> April 1, 2017 <b>To:</b> April 30, 2017	<b>REPORT #</b>	7

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 15<sup>th</sup> of the month following the reporting period shown above.

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### Detailed Accomplishments by Task

#### *Task 1: Development and Application of a Transparent Approach for Estimating BVOC Emission Factor Distributions*

Dr. Guenther reviewed the BVOC emission factor (EF) database system and code.

Ramboll Environ added a calculation for developing grid average Light Dependent Fraction (LDF) data. Ramboll Environ performed a test run of the EF processor to prepare MEGAN3 inputs (EFs and others) for the CAMx modeling domains and updated the EF processor based on information gained from the test run. Scripts were modified to correctly format files from and to the EF processor

#### *Task 2: Emission Factor Development*

Dr. Guenther developed an approach for setting default data including zero values, and flagged suspect emissions data. Dr. Guenther integrated additional emissions data from studies reported in the literature into the emission measurement database.

#### *Task 3: Development of MEGAN3*

Dr. Guenther evaluated and assessed the MEGAN code and began writing documentation for code and inputs.

Ramboll Environ generated a map of W126 data (long-term ozone exposure metric) from air quality modeling output. The purpose of this input file is to determine whether plants are undergoing stress due to pollution. Ramboll Environ performed a test run of the new MEGAN3 code with required inputs and verified the results against spreadsheet calculations.

#### *Task 4: MEGAN Evaluation and Sensitivity Study*

Task 4 has not yet been initiated.

*Task 5: Project Management and Reporting*

This task is ongoing. Dr. Guenther continued compiling information for the final report.

**Preliminary Analysis**

None.

**Data Collected**

None.

**Identify Problems or Issues Encountered and Proposed Solutions or Adjustments**

None.

**Goals and Anticipated Issues for the Succeeding Reporting Period**

Begin MEGAN3 sensitivity testing under Task 4.

**Detailed Analysis of the Progress of the Task Order to Date**

None.

**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

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Submitted to AQRP by  
Principal Investigator

Sue Kemball-Cook  
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