AQRP Monthly Technical Report

PROJECT TITLE	Improving the Modeling of Wildfire Impacts on Ozone and Particulate Matter for Texas Air Quality Planning	**PROJECT #**	AQRP 16-024
PROJECT PARTICIPANTS	Matthew Alvarado (AER) Chantelle Lonsdale (AER) Christopher Brodowski (AER)	**DATE SUBMITTED**	11/08/2016
REPORTING PERIOD	**From:** 10/17/2016 (Start of Project) **To:** 10/31/2016	**REPORT #**	1

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

The project began in this reporting period, so most of our accomplishments were to begin work on the project tasks.

Task 1: Develop improved parameterization and assess the impact on Texas air quality

We perfromed preliminary runs of the coupled SAM-ASP model and began evaluating the formation of O_3 and other pollutants in these simulations versus the box model simulation sof Alvarado et al. (2015). We also began setting up the CAMx model to run the 2012 modeling episode from TCEQ.

Task 2: Investigate the impact of long-range transport of BB pollution on Texas air quality

We developed a plan to look for cases where CO mixing ratios along the outer boundary of the simulations are above 120 ppb and to then use satellite observations and the STILT footprints to determine which of these are likely due to biomass burning. We will carry out this plan in the next reporting period.

Preliminary Analysis   Nothing to report.

Data Collected   None.

Identify Problems or Issues Encountered and Proposed Solutions or Adjustments

None.

Goals and Anticipated Issues for the Succeeding Reporting Period

Task 1:
- Run CAMx simulations for the 2012 modeling episode
- Begin adding fires to the simulation via the Plume-in-Grid module
- Validate performance of the SAM-ASP model against Alvarado et al. (2016) and begin running BBOP plume simulations.

Task 2:
- Identify periods where biomass burning CO may have impacted the GEOS-Chem derived boundary conditions.
- Use STILT back-trajectory runs to evaluate the contribution of fires to the observed CO during these episodes.

Detailed Analysis of the Progress of the Task Order to Date

As this is the first reporting period for this project, this is the same as above.

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   __X_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   __X_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   __X_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   __X_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   __X_No

Submitted to AQRP by   Matthew J. Alvarado (AER)

Principal Investigator   Matthew J. Alvarado (AER)