

US EPA ARCHIVE DOCUMENT

State Innovation Grant  
Missouri Department of Natural Resources  
St. Louis Air Quality Management Plan  
1<sup>st</sup> Quarter 2009 Progress Report

Synopsis of Accomplishments

Based on the project timeline, the activities planned in this quarter are designed to further the project team's development of the AQMP including the completion of the QAPP for this grant, beginning the transfer of data and modeling constructs to department staff, and furthering the outreach for community involvement in plan development. The development of the conceptual model was on-going during this reporting period and a draft model was submitted to EPA-OAQPS on January 14, 2009. The conceptual model was distributed review by the AQMP working group and was revised to incorporate several comments from EPA Regions V/VII. The "final" conceptual model is attached for your reference. As with all documents relevant to the AQMP, the conceptual model could change based on new information or a change in the overall approach to the AQMP method. There were five AQMP conference calls during the 1<sup>st</sup> quarter of 2009 including one policy-related and one technical-related discussion. During these and other discussions, EPA-OAQPS has informed both states (Missouri and Illinois) that a closer evaluation of air quality efforts already underway in the St. Louis community would bolster the December 2009 AQMP submittal.

A draft Quality Assurance Project Plan (QAPP) was submitted to EPA Region VII on February 6, 2009. Some comments were received on March 23, 2009 and the department is currently working with an EPA contractor (funded by the National Center for Environmental Innovation) to address these comments and finalize the QAPP. During this quarter, the department acquired the necessary computing equipment to conduct the vast majority of the analyses prescribed under the current work plan. NOTE: the department modified its procedure for purchasing computer equipment after the grant was awarded. Therefore, the department was unable to use the funding provided in the grant for the purchase of additional disk space necessary for the modeling analyses. However, the department fully funded this purchase and this will allow the \$55,000 to be utilized in other tasks (\$35,000 for the modeling contract and \$20,000 for additional personal services by department staff).

Also, an initial scoping document was developed for the change to the Missouri Emission Inventory System (MoEIS) to allow for collection of air toxics data that will ultimately be utilized to support future air toxics analysis in St. Louis. This document is included for your review. This change is being funded by \$10,000 from this grant. This funding will allow the department to make the necessary coding changes to the MoEIS system using information technology personnel from the Missouri Office of Administration.

Further tasks under development include: the development of the actual AQMP for the St. Louis area including inclusion of ancillary planning efforts (climate change, smart

growth, etc.), the evaluation of the national toxics emissions inventory for the St. Louis area, the “new” models (emission and photochemical) for use with toxic as well as criteria pollutants are also being updated for use on the new computer system purchased this quarter.

The specific details for each important grant task are outlined below in Table 1.

Table 1 - Schedule of Major Project Tasks

|       | Task Name                                    | Task Description  | Outputs Expected  | Start Date | End Date | Complete                            | Comments   |
|-------|--|---|---|------------|----------|-------------------------------------|--|
| 3     | Conceptual Model                             | Development of AQMP document that provides the conceptual model for the project including discussion of individual pollutant formation planning activities/outreach, and policy issues                      | Submit conceptual model to USEPA  | 5/08       | 9/08     | Yes, submitted in January 2009      | The conceptual model is complete and was submitted to EPA  |
| 3B1   | Draft Quality Assurance Project Plan (QAPP)  | Development and submittal of draft QAPP for creation and implementation of the St. Louis AQMP   | Submittal of draft QAPP for the project to USEPA  | 10/08      | 1/09     | Draft, yes. Final, work in progress | Draft QAPP was submitted on February 6, 2009. Comments received March 23, 2009   |
| 4.1   | Air Toxics Inventory                         | Obtain and process for use air toxics inventory information from Missouri/Illinois sources along with EPA National Toxics Inventory database for point, area, and mobile sources as a template for AQMP use | Template to develop air toxics inventory for use in photochemical modeling and inventory analyses | 7/08       | 10/09    | N/A                                 | This work is ongoing and staff has obtained the information to begin evaluation of the inventory data for the St. Louis area |
| 4.1.1 | Emission Model Construct Transfer/Training * | EPA-OAQPS has developed an emission modeling construct to process air toxics inventory information that is critical for use in this project; transfer of this construct from OAQPS with support for use     | Transfer of information from EPA-OAQPS and trained technical staff (with guidance from EPA)       | 7-8/08     | 1-3/09   | N/A                                 | Waiting on OAQPS to provide scripts and background files used for the Detroit study.   |

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|       | Task Name  | Task Description   | Outputs Expected  | Start Date | End Date | Complete | Comments  |
|-------|--|--|---|------------|----------|----------|---|
| 4.1.2 | Upgrade Missouri Inventory System for Air Toxics** | Change in coding necessary to support air toxics inventory improvement for stationary sources in Missouri's current Emission Inventory System (MoEIS); will require contract (\$10,000); output will be a modified system that will track VOC, HAPs, and PM emission units independently instead of VOC/HAP and PM/HAP as currently done | Improved inventory system for ease of facility entry of emission information, improved quality assurance of plant-provided toxic data, and data analyses/storage capability | 10/08      | 10/09    | N/A      | Initial scoping for this contract is complete and is included.  |
| 4.2   | Photochemical Modeling Transfer/Training **        | EPA-OAQPS has developed (is developing) an air quality (photochemical) model to evaluate ozone, PM, and air toxics using the same model/inputs; transfer of this model to allow for a comprehensive evaluation of all relevant pollutants in StL   | Transfer of information from EPA-OAQPS and trained technical staff (with EPA guidance)  | 10/08      | 4-6/09   | N/A      | Same as 4.1.1   |
| 5     | Creation of AQMP*                                  | Development of the plan entails considerable public outreach, incorporation of technical information, policy discussions between the relevant agencies and stakeholders, and ultimately decisions about what are air quality priorities in St. Louis   | The AQMP submitted to USEPA   | 12/07      | 12/09    | N/A      | The AQMP development is proceeding. On-going conference calls have been helpful in identifying policy issue for management. |

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|           | Task Name   | Task Description  | Outputs Expected   | Start Date | End Date | Complete | Comments   |
|-----------|---|---|--|------------|----------|----------|--|
| 5.1       | Public Outreach/<br>Education*  | Meetings with local community to begin the education process about AQMPs; meetings with AQMP team, stakeholders and internal management to discuss technical policy issues related to the AQMP; formal public comments/hearing on the plan  | Meeting summaries; documented revisions to the AQMP; Missouri Air Conservation Commission adoption of the AQMP | 12/07      | 12/09    | N/A      | Three meetings of the Air Quality Advisory Committee in St. Louis were held and the AQMP is an on-going topic with discussion regarding progress and upcoming developments |
| 6.1.<br>1 | Development of Request for Proposal (RFP) for Air Quality Modeling Contract** | After the “new” modeling constructs have been transferred, an RFP will be created for assistance in the development of the emission inventory and modeling databases for the AQMP process; the contract will be for \$100,000 (this amount will not fund the whole effort; assistance only) | Completed RFP for modeling assistance  | 12/08      | 3-5/09   | N/A      | Based on difficulties with the construct transfers and a focus on developing the actual AQMP, the RFP will not be necessary until later this fall (October).               |

## Narrative Discussion

There are two known issues that may cause minor delays in the project. The first, discussed previously, is the lack of information currently available from OAQPS regarding the specific methodology utilized in the Detroit study. The department has still not received any documentation regarding the Detroit study and is going to rely on EPA Region VII to facilitate this transfer of information and scripts to allow for the department to proceed. The previous issue regarding funding of computer equipment has been addressed. The next crucial issue is a meaningful discussion between the management of Missouri and Illinois along with EPA (OAQPS, Regions V/VII). This will facilitate the policy discussion mentioned previously. Also, it will provide both states and EPA the opportunity to commit staff resources to the project over the next few months to finish the December 2009 deliverable. This staff commitment is crucial to the on-going success of the project. Further, a time frame should be established to have draft AQMP complete for internal and external review (likely October 2009).

## Next Quarter Activities

Further development of the AQMP including a planned meeting between management of the EPA Regional Offices, the department, and the Illinois EPA to discuss the policy-related issues found while developing the conceptual model and future goals of the AQMP is planned in June 2009. The transfer of modeling files from OAQPS is still necessary and will continue to be a priority for the technical staff to begin a scoping evaluation of the data sets. Until this happens, the completion of the modeling contract RFP can not occur due to information necessary from the modeling to help with the RFP development. Air Quality Advisory Committee meetings and further training of staff on the analysis tools for the project will continue.

## Financial Report

205 staff hours were expended for the AQMP project during the 1<sup>st</sup> quarter 2009.

The following items were billed to the grant.

|                  |         |
|------------------|---------|
| Personal Service | \$4,660 |
| Fringe           | \$1,999 |
| Indirect         | \$1,038 |

This leads to a total expenditure of \$7,697 during the 1<sup>st</sup> quarter 2009.

Also, the total expenditure for the department's new computer system (not funded by the grant) was:

|                   |           |
|-------------------|-----------|
| Hardware          | \$351,657 |
| Software/OS       | \$ 31,677 |
| Total Expenditure | \$383,334 |

## SCOPING DOCUMENT FOR MoEIS Changes

### Improving the Way MoEIS Handles Hazardous Air Pollutant (HAP) Emissions

1. Allow for reporting of all HAP emissions independent of whether compound is VOC or PM

Currently, MoEIS is set up so that companies only report their itemized list of HAPs on the HAP worksheet and HAP emissions included in VOC or PM emissions do not show up in the process-level emissions or the facility-wide HAP totals. This makes it difficult for Air Program staff to extract and quality assure HAP emissions information. This project would involve programming changes in MoEIS so that all HAP emissions would be reported as HAPs at the process level, all HAPs would be summarized at the facility level (i.e., a true HAP emissions total would appear on the Emissions Summary Screen and Site EIQ Tracking Summary Screen in MoEIS admin), and HAPs classified as VOC or PM would automatically be deducted from the total chargeable emissions for fee calculation purposes. We'll provide a table that classifies all HAPs as VOC, PM, or neither.

2. Simplify the HAP worksheet

Many companies are confused by the HAP worksheet, which makes it difficult for them to submit good data. Also, currently the HAP worksheet is set up for mass balance-type calculations and it isn't clear where to include HAP emission factor calculations. This project would simplify the worksheet and perhaps expand it to include HAP emission factor calculations.

3. Create HAP summary reports

Managers and staff in the Air Program would benefit from an automatic reporting function in MoEIS. This project would add functionality that would allow users to specify parameters (emission year, county-plant ID, MACT category, pollutants, etc.) which would be used to generate summary reports or more detailed Excel or delimited text files for modeling purposes.