

**The Fall line Air Quality Study (FAQS)
Summary of Year to Date Accomplishments and
FY01-FY02 Budget Justification**

Year to Date Accomplishments

The Fall line Air Quality Study (FAQS) was kicked off at a Stakeholders Meeting on March 2, 2000. At this meeting and two subsequent meetings of the Coordinating Council¹ on May 9 and June 1, the science team presented its plan for implementing Phase I of the study. The primary goal of Phase I was to plan and implement a pilot air quality monitoring study for the FAQS cities of Macon, Augusta, and Columbus. The purpose of the pilot study is to gain understanding about the fundamental characteristics of air pollution in each metropolitan area that will enable researchers to design an effective comprehensive study (to be implemented in Phases II and III). A secondary purpose of the pilot study is to provide state and local officials with a preliminary air quality assessment that will enable them immediately to begin planning and implementing measures to mitigate the occurrences of poor air quality.

The pilot study was centered around the deployment of the Southern Center for the Integrated Study of Secondary Air Pollutants (SCISSAP) Mobile Air Quality Research Station - a 41' long semi-trailer housing ~\$1.5 million worth of state-of-the-art air quality and meteorological monitoring instrumentation. The science team began monitoring for ozone, precursors to ozone, particulate matter, and meteorology in the Macon area (Sandy Beach Park) on June 11 and concluded monitoring there on June 21. Similar deployments were made to Augusta (Fort Gordon, June 26 - July 9) and Columbus (North Water Works Resources, July 16 - July 26). Preliminary data from the pilot study were presented at the August 31 meeting of the Coordinating Council. A full assessment will be provided at the FAQS Science and Policy workshops scheduled for October 19-20, 2000.

During the pilot study, the science team also set up one additional permanent monitoring station in each metropolitan area that complements the existing EPD monitoring network. Each monitoring station (Sandy Beach Park in the Macon area, Lakeside High School in the Augusta area, and Oxbow Meadows Environmental Learning Center in the Columbus area) is equipped with EPA approved ozone and fine particulate matter monitors. Local personnel in each community were trained to operate and maintain the equipment. These monitors will continue to operate indefinitely providing additional information about the long-term characteristics of ozone and particulate pollution in each metropolitan area, and the spatial distribution of pollutants (relative to the EPD monitors) across the region.

Finally, all members of the FAQS community were actively involved in the process of education and outreach. In addition to the Stakeholder and Coordinating Council Meetings, three open house tours were held at the site of the Mobile Air Quality Research Station: June 15 in Macon, July 6 in Augusta, and July 20 in Columbus. State and local government officials, representatives from many industries, military and other DoD personnel, the media, and the general public attended these open house tours. The media in particular have focused on the FAQS throughout its campaign and have provided significant coverage of each event. To foster communication, an

¹ The Coordinating Council has oversight authority for the study and consists of representatives from EPD, GRТА, DoD, and two representatives from each of the Macon, Augusta, and Columbus metropolitan areas.

email listserv (tricity@list.gatech.edu) and website (<http://www.cure.gatech.edu/FAQS/inthenews/Default.asp>) have also been created.

The full scope of the FAQs is shown in Table 1 with activities initiated or completed as of September 20, 2000 denoted by a checkmark. Also shown in Table 1 are the anticipated Clean Air Regulations that are likely to affect the FAQs cities over the next seven years. It should be noted that the FAQs is on schedule to be completed prior to the first anticipated Federal requirement.

FY01-FY02 Budget Justification

To date, the General Assembly has appropriated a total of \$750,000 for the FAQs: \$375,000 in the FY00² Supplemental Budget (used to fully fund Phase I of the study), and another \$375,000 in the FY01 General Budget (which will partially fund Phase II of the study).

As Table 2 shows, the total cost of Phase II is \$1,125,000. Thus, with the \$375,000 from the FY01 General Budget, Phase II requires an additional \$750,000 in FY01 to reach full funding.

Table 2 also shows that the total cost of Phase III is \$1,015,000 in FY02. This total includes \$15,000 requested by EPD for the FAQs science team to train EPD personnel.

Phases II and III are the key elements of the FAQs. Unlike Phase I in which limited funds enabled enhanced diagnostic monitoring for only brief periods (11 days in each city), the plan in Phases II and III is to instrument and operate in each city enhanced monitoring for the whole smog season (May - September). In order to develop robust control strategies that are effective across the full range of meteorological conditions that occur in each area, it is important to observe the multiple meteorological scenarios presented across the whole smog season.

The bulk of the emissions inventory and air quality modeling work is also scheduled for Phases II and III. With validation of these elements provided by the data collected from the enhanced monitoring work, the emissions inventories and air quality modeling results are the primary products of the study that will be of relevance to the State and Federal regulatory process that will begin shortly after the conclusion of the FAQs.

Thus, entering the next supplemental (FY01) and general budget cycle (FY02), full funding of the FAQs will require a total of \$1,765,000.

The EPD has tentatively indicated that it will seek \$750,000 in its budget request for the next supplemental and general budget cycle for the FAQs, thus leaving a shortfall of \$1,015,000.

² The State of Georgia operates on a fiscal year that begins July 1 and concludes on June 30 of the following year.

Table 1. FAQS and Federal Clean Air Implementation Schedule of Activities

<u>The Fall line Air Quality Study (FAQS) Year to Date Accomplishments</u>	<u>Anticipated Clean Air Regulations affecting Augusta, Macon, and Columbus</u>
<p>Phase I (May 1 - December 31, 2000)</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Develop Preliminary Assessment <input checked="" type="checkbox"/> Prepare Pilot Field Study Design <input checked="" type="checkbox"/> Initiate, Conduct and Complete Pilot Field Study <input checked="" type="checkbox"/> Begin Development of Base Year Emission Inventories <input checked="" type="checkbox"/> Commence Training and Other Technology Transfer <input checked="" type="checkbox"/> Perform Outreach and Education <input type="checkbox"/> Perform Post-Field Study Analysis <input type="checkbox"/> Submit First Six-month Progress Report 	<p>June 21, 2000</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> US H.R. passes Collins rider to HR 4635 <p>June 30, 2000</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Governor Barnes recommends non-attainment areas in EPA letter <p>July 5, 2000</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> EPA reinstates 1-hour O₃ standard <p>November 7, 2000</p> <ul style="list-style-type: none"> <input type="checkbox"/> Supreme Court to hear arguments on new EPA O₃ and PM standards (<i>Browner vs. American Trucking Assns</i>) <p>December 2000</p> <ul style="list-style-type: none"> <input type="checkbox"/> Earliest date EPA would designate 8-hour O₃ non-attainment areas (pending Collins rule; also enforcement not likely to begin until after Supreme Court ruling)
<p>Phase II (January 1 - June 30, 2001)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Design Inceptive Field Study <input type="checkbox"/> Initiate and Conduct Inceptive Field Study <input type="checkbox"/> Commence Meteorological Modeling <input type="checkbox"/> Complete Development of Baseline Emission Inventories <input type="checkbox"/> Submit Second Six-month Progress Report 	<p>February 2001</p> <ul style="list-style-type: none"> <input type="checkbox"/> Earliest date Supreme Court would rule on new EPA O₃ and PM standards (<i>Browner vs. American Trucking Assns</i>) <p>** Remainder of schedule assumes Court upholds standards and EPA moves forward with previously proposed implementation schedule **</p>
<p>Phase III (July 1, 2001 - June 30, 2002)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Complete Inceptive Field Study <input type="checkbox"/> Perform Post-Field Study Analysis <input type="checkbox"/> Develop and Evaluate Different Future Year Scenarios <input type="checkbox"/> Design, Initiate, Conduct, and Complete a Corroborative Field Study <input type="checkbox"/> Establish Permanent Stations for Monitoring Long-Term Trends <input type="checkbox"/> Submit Third and Fourth Six-month Progress Reports 	<p>Spring / Summer / Fall 2001</p> <ul style="list-style-type: none"> <input type="checkbox"/> EPA issues Guidance and Implementation Schedule for O₃ attainment demonstrations (PM_{2.5} guidance and schedule not likely until after first 3-year data collection period is complete) <p>December 2001</p> <ul style="list-style-type: none"> <input type="checkbox"/> EPD completes first 3-year PM_{2.5} data collection period necessary for making nonattainment designations

<p>Phase IV (July 1 - December 31, 2002)</p> <ul style="list-style-type: none"><input type="checkbox"/> Complete Corroborative Field Study<input type="checkbox"/> Develop Final Recommendations<input type="checkbox"/> Technology Transfer of All Emission Inventories and Models	<p>May 1, 2003</p> <ul style="list-style-type: none"><input type="checkbox"/> All Regional NOx SIP controls implemented (mostly to affect motor fuels (gas and diesel) and electric power generation). Note: Transportation Conformity and New Source Review also apply. <p>July 2003</p> <ul style="list-style-type: none"><input type="checkbox"/> State Implementation Plan (SIP) submitted to EPA for areas where Regional NOx SIP controls are not determined to be sufficient (can include local and regional controls and must include Transportation Conformity and New Source Review) <p>May 1, 2005</p> <ul style="list-style-type: none"><input type="checkbox"/> All SIP controls implemented (can include local and regional controls) <p>December 31, 2005</p> <ul style="list-style-type: none"><input type="checkbox"/> Attainment Date (if Regional NOx SIP controls are sufficient) <p>December 31, 2007</p> <ul style="list-style-type: none"><input type="checkbox"/> Attainment Date (if Regional NOx SIP controls were not sufficient)
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Table 2. Fall line Air Quality Study Budget³

<u>Project Category</u>	<u>Contract Cost</u>
Phase I (May 1 - December 31, 2000)	
Preliminary Assessment	\$25,000 (Twenty-five Thousand)
Preliminary Inventory Development	\$100,000 (One Hundred Thousand)
Pilot Field Study	\$200,000 (Two Hundred Thousand)
Training and Outreach	\$25,000 (Twenty-five Thousand)
Program Administration	\$25,000 (Twenty-five Thousand)
Phase I Total	\$375,000 (Three Hundred, Seventy-five Thousand)
Phase II (January 1 - June 30, 2001)	
Air Quality Model Setup	\$100,000 (One Hundred Thousand)
Model Development and Validation	\$250,000 (Two Hundred, Fifty Thousand)
Inceptive Field Study	\$500,000 (Five Hundred Thousand)
Completion of Emissions Inventory	\$200,000 (Two Hundred Thousand)
Training and Outreach	\$40,000 (Forty Thousand)
Program Administration	\$35,000 (Thirty-five Thousand)
Phase II Total	\$1,125,000 (One Million, One Hundred Twenty-five Thousand)
Phase III (July 1, 2001 - June 30, 2002)	
Scenario Development and Simulation	\$300,000 (Three Hundred Thousand)
Permanent Monitoring Network	\$200,000 (Two Hundred Thousand)
Training and Outreach	\$30,000 (Fifteen Thousand)
Corroborative Field Study	\$250,000 (Two Hundred Fifty Thousand)
Analysis	\$200,000 (Two Hundred Thousand)
Program Administration	\$35,000 (Thirty-five Thousand)
Phase III Total	\$1,015,000 (One Million, Fifteen Thousand)
Phase IV (July 1 - December 31, 2002)	
Technology Transfer	\$150,000 (One Hundred Fifty Thousand)
Recommendations and Action Plan Development	\$325,000 (Three Hundred Twenty-five Thousand)
Final Report	\$25,000 (Twenty-five Thousand)
Phase IV Total	\$500,000 (Five Hundred Thousand)
Project Total	\$3,015,000 (Three Million, Fifteen Thousand)

³ As outlined in the contract by and between the Environmental Protection Division, Department of Natural Resources, State of Georgia and the School of Earth and Atmospheric Sciences, Georgia Institute of Technology (#773-090108); 1 May 2000.