

# **AIR QUALITY RESEARCH PROGRAM**

**Texas Commission on Environmental Quality  
Contract Number 582-15-50047  
Awarded to The University of Texas at Austin**

**Quarterly Report**

**July 29, 2015 through November 30, 2015**

**Submitted to**

**David Brymer  
Texas Commission on Environmental Quality  
12100 Park 35 Circle  
Austin, TX 78753**

**Prepared by**

**David T. Allen, Principal Investigator  
The University of Texas at Austin  
10100 Burnet Rd. MC R7100  
Austin, TX 78758**

**December 10, 2015**

## **Texas Air Quality Research Program**

### **Quarterly Report**

**July 29, 2015 – November 30, 2015**

#### **Overview**

The goals of the State of Texas Air Quality Research Program (AQRP) are:

- (i) to support scientific research related to Texas air quality, in the areas of emissions inventory development, atmospheric chemistry, meteorology and air quality modeling,
- (ii) to integrate AQRP research with the work of other organizations, and
- (iii) to communicate the results of AQRP research to air quality decision-makers and stakeholders.

On July 29, 2015, the Texas Commission on Environmental Quality (TCEQ) contracted with the University of Texas at Austin to administer the AQRP. Since that time, the AQRP has established the membership of the Independent Technical Advisory Committee (ITAC) and the Advisory Council. Also, in preparation for the issuance of a Request For Proposals (RFP), the AQRP developed a Strategic Research Plan, building on the research findings from the previous AQRP contract (582-10-94300) as described in the State of the Science Assessment for the 2014-2015 biennium. The Strategic Research Plan is currently under review by the TCEQ.

## Background

Section 387.010 of HB 1796 (81<sup>st</sup> Legislative Session), directs the Texas Commission on Environmental Quality (TCEQ, Commission) to establish the Texas Air Quality Research Program (AQRP).

Sec. 387.010. AIR QUALITY RESEARCH. (a) The commission shall contract with a nonprofit organization or institution of higher education to establish and administer a program to support research related to air quality.

(b) The board of directors of a nonprofit organization establishing and administering the research program related to air quality under this section may not have more than 11 members, must include two persons with relevant scientific expertise to be nominated by the commission, and may not include more than four county judges selected from counties in the Houston-Galveston-Brazoria and Dallas-Fort Worth nonattainment areas. The two persons with relevant scientific expertise to be nominated by the commission may be employees or officers of the commission, provided that they do not participate in funding decisions affecting the granting of funds by the commission to a nonprofit organization on whose board they serve.

(c) The commission shall provide oversight as appropriate for grants provided under the program established under this section.

(d) A nonprofit organization or institution of higher education shall submit to the commission for approval a budget for the disposition of funds granted under the program established under this section.

(e) A nonprofit organization or institution of higher education shall be reimbursed for costs incurred in establishing and administering the research program related to air quality under this section. Reimbursable administrative costs of a nonprofit organization or institution of higher education may not exceed 10 percent of the program budget.

(f) A nonprofit organization that receives grants from the commission under this section is subject to Chapters 551 and 552, Government Code.

The University of Texas at Austin was selected by the TCEQ to administer the program. A contract for the administration of the AQRP was established between the TCEQ and the University of Texas at Austin on July 29, 2015 for the 2016-2017 biennium. Consistent with the provisions in HB 1796, up to 10% of the available funding is to be used for program administration; the remainder (90%) of the available funding is to be used for research projects, individual project management activities, and meeting expenses associated with an Independent Technical Advisory Committee (ITAC).

## **Independent Technical Advisory Committee (ITAC)**

The AQRP funding is to be used primarily for research projects, and one of three groups responsible for selecting the projects is the Independent Technical Advisory Committee (ITAC). The ITAC is composed of between 9 and 15 individuals with scientific expertise relevant to the Program. The ITAC is charged with recommending technical approaches, establishing research priorities, and reviewing, commenting, and advising on all projects to ensure that the projects facilitate air quality improvement in Texas. Members of the ITAC consist of the TCEQ Project Director (or designee), representatives with air quality expertise from research institutions with extensive expertise in air quality research in Texas. The members of the ITAC are listed in Table 1. The members of the ITAC are drawn from Texas universities active in air quality research, national laboratories that have participated in air quality studies in Texas, and institutions that have expertise not available in Texas and that have participated in air quality studies in Texas.

The ITAC membership is intentionally drawn from air quality researchers who have experience in Texas; these researchers and their colleagues will likely have interest in responding to the requests for research proposals issued by the AQRP. This raises potential confidentiality and conflict of interest issues, and the contract between TCEQ and the University of Texas requires that the AQRP maintain and implement an appropriate written policy on conflict of interest. Specifically for the ITAC, all members are required to certify:

*Confidentiality:* As a member of ITAC I understand that I will have access to proposals submitted to the Air Quality Research Program. Subject to any legal requirements, I agree to keep the information in these proposals confidential until the selection process is completed and it is appropriate to release information to the public. I understand that there may be certain information that comes to me in my role as a member of ITAC that retains its confidential nature even after the process is concluded. I also understand that I will review said proposals and may have access to the reviews made by other ITAC members. I agree to keep these reviews and the identity of the reviewers confidential until such time as this information is released to the public. (NOTE: For the reviews and reviewers, this information may never be released.)

*Conflict of Interest:* As a member of ITAC, I agree that I will not evaluate, comment on, or vote on proposals in which I or my home institution is involved, including but not limited to, any financial interest, or in which I have another form of conflict of interest. I understand that ITAC members with conflicts of interest must leave the meeting room or the conference line when a proposal with which they have a conflict is discussed, voted on or otherwise being considered. I understand that I must recuse myself from participating in or attempting to influence at any time the ITAC's or the AQRP Council's consideration or decision concerning such proposals. I agree to bring any issues concerning a possible conflict of interest to the attention of the Director of the Air Quality Research Program or the TCEQ Project Director. If there is a question of interpretation regarding whether a conflict of interest exists, I agree that the decision regarding whether a conflict of interest exists will be made by the Director of the Air Quality Research Program or the TCEQ Project Director.

All members of the ITAC agreed to abide by these conflict of interest and confidentiality provisions prior to participating in the review of proposals.

Table 1. Members of the Independent Technical Advisory Committee

<b>Name</b>	<b>Title</b>	<b>Organization</b>
David Allen	Gertz Regents Professor in Chemical Engineering	The University of Texas at Austin
William Carter	Emeritus Research Chemist, Center for Environmental Research and Technology	University of California - Riverside
Don Collins	Professor and Director of the Center for Atmospheric Chemistry and the Environment	Texas A&M University
James Crawford	Research Scientist, Chemistry & Dynamics Science Directorate	NASA
Peter Daum	Head, Atmospheric Science Division	Brookhaven National Lab
Mark Estes	Senior Air Quality Scientist Air Modeling and Data Analysis Section	Texas Commission on Environmental Quality
Fred Fehsenfeld	Senior Scientist, Cooperative Institute for Research in Environmental Sciences	University of Colorado – Boulder (Retired)
Joost de Gouw	Research Physicist, Earth System Research Lab	NOAA
Robert Griffin	Associate Professor, Civil and Environmental Engineering	Rice University
Tho Ching (Thomas) Ho	Aldredge Endowed Chair, Regent’s Professor and Chair, Dan F. Smith Department of Chemical Engineering; Director, Texas Air Research Center	Lamar University
Bryan Lambeth	Meteorologist	TCEQ (Retired)
Golam Sarwar		EPA ORD
Christine Wiedinmyer	Scientist III, Atmospheric Chemistry Division	Nation Center for Atmospheric Research
Greg Yarwood	Principal	Ramboll Environ, Inc.

## TCEQ Relevancy Review

Once the ITAC has reviewed and ranked research project proposals according to technical merit, they are submitted to the TCEQ for a relevancy review. The TCEQ reviews proposals for relevancy to the State's air quality research needs. TCEQ approval is required for a project to receive funding from the Program.

## Advisory Council

The final group responsible for selecting AQRP research projects is the Advisory Council. The Council serves as a Board of Directors for the Program and consists of between 7 and 11 members, all residents of the State of Texas. Two Council members with relevant scientific expertise are nominated by the TCEQ. As defined in the AQRP contract, up to four members of the Council can be county judges from the Houston-Galveston-Brazoria (HGB) and Dallas-Fort Worth (DFW) non-attainment counties. Additional members should have a general background in air quality and business practices, and can include elected officials, business community representatives, environmental group representatives, and members of the general public. The Council's responsibilities are to attend meetings with TCEQ Management and the AQRP to understand the statewide project goals for the funding period, to select for funding the projects reviewed by the ITAC and ranked by the TCEQ, and to assist with the presentation of project final results at locations throughout the state.

Table 2. Members of the Advisory Council

<b>Name</b>	<b>Title</b>	<b>Organization</b>
Ramon Alvarez	Senior Scientist	Environmental Defense Fund
Daniel Baker	Senior Consultant in Air Quality	Shell Global Solutions
Omar Garcia	President & CEO	South Texas Energy & Economic Roundtable
Chris Klaus	Senior Program Manager	North Central Texas Council on Governments
Ralph Marquez	Proprietor	Environmental Strategies and Policy
Chris Rabideau	Environmental Scientist	Chevron
Cyrus Reed	Conservation Director	Sierra Club
Kim Herndon	Assistant Director Air Quality Division	Texas Commission on Environmental Quality
Keith Sheedy	Technical Advisor to the Deputy Director for the Office of Air	Texas Commission on Environmental Quality

## RESEARCH PROJECT CYCLE

The Research Program is implemented through a 9 step cycle. The steps in the cycle are described from project concept generation to final project evaluation for a single project cycle.

- 1.) The project cycle is initiated by developing (in year 1) or updating (in subsequent years) the strategic research priorities. The AQRP Director, in consultation with the ITAC, the Council and the TCEQ, develop research priorities; the research priorities are released along with a Request for Proposals.
- 2.) Project proposals relevant to the research priorities are solicited. The Request for Proposals can be found at <http://aqrp.ceer.utexas.edu/>.
- 3.) The Independent Technical Advisory Committee (ITAC) performs a scientific and technical evaluation of the proposals.
- 4.) The project proposals and ITAC recommendations are forwarded to the TCEQ. The TCEQ evaluates the project recommendations from the ITAC and comments on the relevancy of the projects to the State's air quality research needs.
- 5.) The recommendations from the ITAC and the TCEQ are presented to the Council and the Council selects the proposals to be funded. The Council also provides comments on the strategic research priorities.
- 6.) All Investigators are notified of the status of their proposals, either funded, not funded, or not funded at this time, but being held for possible reconsideration if funding becomes available.
- 7.) Funded projects are assigned an AQRP Project Manager at UT-Austin and a Project Liaison at TCEQ. The AQRP Project Manager is responsible for ensuring that project objectives are achieved in a timely manner and that effective communication is maintained among investigators involved in multi-institution projects. The AQRP Project Manager has responsibility for documenting progress toward project measures of success for each project. The AQRP Project Manager works with the researchers, and the TCEQ, to create an approved work plan for the project.

The AQRP Project Manager also works with the researchers, TCEQ and the Program's Quality Assurance officer to develop an approved Quality Assurance Project Plan (QAPP) for each project. The AQRP Project Manager reviews monthly, annual and final reports from the researchers and works with the researchers to address deficiencies.

- 8.) The AQRP Director and the AQRP Project Manager for each project describe progress on the project in the ITAC and Council meetings dedicated to on-going project review.
- 9.) The project findings are communicated through multiple mechanisms. Final reports are posted to the Program web site; research briefings are developed for the public and air quality decision makers; and a bi-annual research conference/data workshop is held.

Step 1 is in progress for the 2016-2017 biennium.

## FINANCIAL STATUS REPORT

Initial funding for fiscal year 2016 and 2017 was established at \$1,000,000 each, for a total award of \$2,000,000 for the FY 2016/2017 biennium. The funds were distributed across several different reporting categories as required under the contract with TCEQ. The reporting categories are:

Program Administration – limited to 10% of the overall funding (per Fiscal Year)

This category includes all staffing, materials and supplies, and equipment needed to administer the overall AQRP. It also includes the costs for the Council meetings.

### ITAC

These funds are to cover the costs, largely travel expenses, for the ITAC meetings.

Project Management – limited to 8.5% of the funds allocated for Research Projects

Each research project will be assigned a Project Manager to ensure that project objectives are achieved in a timely manner and that effective communication is maintained among investigators in multi-institution projects. These funds are to support the staffing and performance of project management.

Research Projects / Contractual

These are the funds available to support the research projects that are selected for funding.

As of the writing of this report, no expenses have been charged to the AQRP account.

### AQRP Budget

Budget Category	FY16	FY17	Total
Personnel/Salary	\$70,040.00	\$70,040.00	\$140,080.00
Fringe Benefits <sup>1</sup>	\$16,806.00	\$16,806.00	\$33,612.00
Travel	\$150.00	\$150.00	\$300.00
Supplies	\$6,000.00	\$6,000.00	\$12,000.00
Equipment	\$0.00	\$0.00	\$0.00
Contractual/Research Projects	\$815,000.00	\$815,000.00	\$1,630,000.00
Project Management	\$65,000.00	\$65,000.00	\$130,000.00
ITAC <sup>4</sup>	\$15,000.00	\$15,000.00	\$30,000.00
Other	\$5,000.00	\$5,000.00	\$10,000.00
Total Direct Costs	\$992,996.00	\$992,996.00	\$1,985,992.00
Authorized Indirect Costs <sup>2</sup>	\$7,004.00	\$7,004.00	\$14,008.00
Total Costs	\$1,000,000.00	\$1,000,000.00	\$2,000,000.00
Fringe Rate <sup>1</sup>	24%	24%	
Indirect Rate <sup>2</sup>	10% of Personnel/Salary	10% of Personnel/Salary	