

TACB awarded largest EPA grant since 1970

Federal funding by the Environmental Protection Agency (EPA) to the Texas Air Control Board (TACB) for fiscal year 1981 totals \$5,370,000, the largest grant since the TACB began receiving EPA funds in 1970.

Representing approximately 37 percent of the Board's total budget, the grant was awarded for the express purpose of implementing national policies concerning air pollution control.

More than \$3 million of the 1981 EPA grant are one-time funds, most of which will be used for contractual services to accomplish a number of special studies or projects. The remainder of the grant will support continuing commitments between the TACB and EPA.

Because of ongoing demands on its time, the TACB staff must limit its activities, on many of the projects required to satisfy EPA grant conditions, to devising the work plans and managing contractors.

The grant application describes some 53 output objectives delineated through negotiation with EPA along with funds allocated to accomplish the stated goals. Each of these objectives or outputs is divided into various tasks to be completed within a certain period of time.

The various outputs are concerned with state implementation plan (SIP) development and planning, air quality monitoring, emissions inventory, permitting, inspections, enforcement, and other activities.

Since the 1977 Amendments to the Federal Clean Air Act were enacted, extensive action has been required by the TACB to implement major provisions of the Act while keeping pace with the State's economic growth, primarily in major urban areas and along the Gulf Coast.

Special studies and automation of data collection have become necessary to provide more timely and accurate information on which to base new control strategies for attaining and maintaining the national air quality standards for ozone, carbon monoxide, sulfur dioxide, nitrogen dioxide, particulate, and lead.

Data collection

Approximately \$2 million of the 1981 one-time funds have been earmarked for acquiring the data necessary to develop the 1982 SIP for Harris County where EPA has granted an extension until 1987 for attainment of the national ozone standard. Extensive ambient, source, and emissions data may be collected to supplement the data collected in 1980. The 1980 data will be used to calculate the needed reductions in hydrocarbons and to determine the control strategies necessary to achieve the reductions.

Collection of the special data already has begun with some supplemental monitoring to measure expected maximum concentrations of ozone at two locations in northwest

Harris County. EPA requested additional data downwind of Houston during the 1980 ozone season, and that data was collected from mid-August to Oct. 31, 1980.

The 1980 ozone season air quality and emissions inventory data will be analyzed using the city specific Empirical Kinetic Modeling Approach (EKMA) as required by EPA for determining emissions reductions needed for the 1982 SIP revisions for Harris County.

EKMA is a method of predicting afternoon hourly high ozone concentrations based on morning concentrations of volatile organic compounds (VOC) and nitrogen oxides.

Funds allocated to the output objective would be used to support emissions inventory data collection and to install on the TACB computer an operating version of the EKMA program.

More than \$1 million of the one-time grant funds have been allocated for collection of more extensive data for Harris County during calendar year 1981. Air quality, emissions, and meteorological data may be collected, Apr. 1 through Oct. 31, 1981, to support a photochemical dispersion model acceptable to EPA. Initiation of this monitoring effort depends on an EPA decision regarding the availability of funding.

Before the data collection begins, a contractor would be employed to evaluate the sensitivity of a photochemical

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Members of the Air Board's Budget and Finance Committee review staff recommendations on a contract to update the permits data base.

dispersion model to variations in the point, area, and mobile source emissions, particularly as they apply in the Harris County air shed. The contractor also would evaluate the sensitivity of the model output data to variations in the model input data (information collected in an emissions inventory).

Another contract tied to preparation of the 1982 SIP for Harris County will determine methods to obtain further reductions in VOC emissions not covered by existing TACB regulations. Emissions will be assessed to determine the significant categories of stationary sources in the county, alternative available emission control technologies applicable for each category, and the reductions that could be expected from each alternative and its cost.

PSD delegation

Two output commitments are concerned with the TACB requesting and implementing delegation of authority to review permits under the prevention of significant deterioration (PSD) rules.

The TACB Executive Director, Nov. 10, formally requested that the Agency be delegated PSD authority under the following conditions:

- The TACB would not be responsible for completing the review of applications currently pending in the EPA Region VI office.
- PSD permits reviewed by EPA

would be issued in a few days.

- The TACB's Texas Episodic Model Version 8 and the Texas Climatological Model Version 2 would be included as recommended models in EPA's Guideline on Air Quality Models.

Delegation of PSD permitting has been allocated both continuing and one-time funding. Additional one-time funding is allocated to updating the TACB permit data base with pertinent data from all TACB permits issued since Aug. 7, 1977, and all permits issued to major sources between Jan. 6, 1975 and Aug. 7, 1977. (The data will include allowable and actual emission rates when the latter are known. Confidential data will not be entered in the data base.)

The permits data base will be used for dispersion modeling to determine the PSD consumption of increment, which is much easier to track when the necessary data is in a machine-readable format.

Aerosol study

A contract already has been let for one of several respirable particle studies to determine quantitatively the sources of particulate in nonattainment areas. Environmental Research and Technology, a consulting firm, will design a study to characterize aerosol air contaminants in Houston and El

Paso to obtain an accurate understanding of: chemical and physical characteristics of particulates, their origin, and the contribution by source types to the ambient particulate levels.

These studies will contribute to another output objective designed to develop early data indicating ambient levels of inhalable particulate (IP) for use in evaluating control strategies for IP. The one-time funds will be used to purchase IP monitors once EPA has approved the equipment.

Implementing existing control strategies for total suspended particulate (TSP) in nonattainment areas is the objective of another grant allocation of one-time funds. The cooperation of local governments will be sought and assistance provided in applying controls to area and line sources in affected areas to attain the primary TSP standard by December, 1982. Efforts made by local governments will be monitored to track progress.

Odor regulation

Another special study will involve field testing the butanol-referencing method as a possible measurement alternative to the TACB's current nuisance approach to regulating odors. The method (commonly used in the perfume industry) involves human judges smelling various dilutions of butanol until, in their opinion, the strength level of the ambient odor approximates the strength of the diluted butanol.

For some time, the staff has been looking for a procedure to lend objectivity in the measurement and quantification of ambient odor intensities. The butanol-referencing method was recommended by a special technical committee, headed by Dr. John M. Sweeten of Texas A&M University, which studied procedures and equipment for odor detection.

Several output objectives combine continuing and one-time funding. Two of the projects are concerned with the development and implementation of the National Air Monitoring Stations (NAMS) network in the nation's urban areas and a monitoring study on acid

rain.

For the NAMS network, the overall goal is to complete the site selection process and establish the network. A project to examine the existence and effect of acid rain in areas of the State likely to be affected by coal-fired utilities or other major sources of sulfur dioxides also is planned.

The EPA recently approved the TACB's portion of the NAMS network designed to provide consistent air monitoring information that can be analyzed to determine trends nationwide. The one-time funding for this project will be used to redeploy more than half of the TACB's continuous air monitoring stations (CAMS) to approved sites.

The one-time funds in the acid rain project will be used to purchase two continuous wet deposition and dust fall monitors that meet specifications for the National Atmospheric Deposition Project (NADP).

Deployment of the two monitors to sites in the Tyler/Longview area and

in Austin is projected for the fall of 1981. Once equipment and procedures have been clearly defined by the EPA, the TACB would like to tie into the national network to monitor acid rain.

Two other projects are to be financed by continuing and one-time funding.

Control plans for four specified processes and pollutants will be prepared, applying only to existing sources in the categories for which performance standards for new sources have been developed by the EPA.

EPA has published guidelines for sulfuric acid mist from sulfuric acid plants, total reduced sulfur from Kraft pulp mills, and fluoride emissions from phosphate fertilizer plants and from primary aluminum plants.

A plan also will be developed to conduct a program to involve the public in transportation-related air quality issues and in development of the 1982 SIP revisions for Harris County.

The public participation program

would inform the public on the potential for improving air quality through various transportation control measures and testing emissions from light-duty vehicles in Harris County relative to the 1982 SIP for the county.

Additional one-time funding may be used to develop a public information program for Texas, with special emphasis in Harris County, to enhance the effectiveness of the Federal Motor Vehicle Program.

Both the public participation and public information programs will depend on TACB time and resources available and on what action the Legislature takes concerning a mandatory vehicle emissions testing program in Harris County.

The TACB submitted a report to the Legislature, Dec. 1, on the results of the pilot vehicle emissions testing program conducted in Harris County, March–August, 1980. One-time funding from EPA assisted with completion of the report, which was required by the Legislature.

Using Pollutant Standard Index

Air quality reported daily in urban areas



The microcomputer-based acquisition system in the automated CAMS network will provide real-time data for reporting the Pollutant Standards Index.

One of the more visible output objectives of the 1981 federal grant to the Texas Air Control Board (TACB) calls for reporting ambient air quality to the public daily in major urban areas of the State.

Continuing funds are allocated for coordinating, reviewing, maintaining records, and supplying data to local air pollution control programs in support of the reporting.

Daily reporting of air quality also is included in the 1981 grant requirements for the six federally funded local air control agencies—Dallas, Fort Worth, Houston, San Antonio, El Paso, and Galveston.

The 1977 Amendments to the Federal Clean Air Act mandated daily reporting based on a uniform air quality index. To provide such an index, the Environmental Protection Agency (EPA) developed the Pollutant Stan-

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dards Index (PSI) for carbon monoxide, sulfur dioxide, ozone, particulate, and nitrogen dioxide. In 1980, the EPA required states to use the PSI for daily reports.

The PSI converts the pollutant concentrations measured in the ambient air to a number on a scale of 0 to 500. Words describing potential health effects are designated for each interval, ranging from "good" to "hazardous."

Primary responsibility for implementing the PSI was given to the states; however, local air pollution control programs could be designated lead reporting agencies if they desired.

Shortly after the EPA promulgated the reporting requirements, the six federally funded local agencies and the Corpus Christi-Nueces County Health Department agreed to be designated reporting agencies for their areas.

The PSI originally was to be implemented in two phases. Cities with populations greater than 500,000 were to begin reporting by January 1, 1981, and cities with populations greater than 200,000 by January 1, 1983.

In Texas, implementation of the PSI has proceeded well ahead of schedule. Dallas, Fort Worth, Houston, and San Antonio, the cities with populations of more than 500,000, initiated the use of the PSI early in 1980, and Dallas and Houston for several years have issued "alerts" on days that ozone concentrations exceed .2 parts per million.

Limited reporting began several years ago in El Paso and during 1980 in Austin, both cities of more than 200,000 population. The TACB is the reporting agency for Austin.

Data needed to implement fully the PSI reporting in several areas will be available when the TACB's continuous air monitoring stations (CAMS) in those areas are automated. The projected completion date for CAMS automation affecting all PSI reporting areas is December, 1981.

CAMS automation was initiated to provide real-time data availability. A microcomputer-based data acquisition system will allow telephone access to all data and status information at a CAMS on demand. Computer processing of data will be performed on a more timely basis for routine reporting uses, and data will be available instantaneously for use in the PSI.

The Corpus Christi-Nueces County Health Department will begin reporting as soon as automated CAMS data is available.

Galveston County, although it has no large urban centers and is not required to be a reporting area, also plans to begin reporting when automated data is available because of industrial concentrations in the County.


Austin and Galveston County will rely on TACB CAMS for all PSI data; other reporting areas will use the data for specific pollutants not monitored by their local monitoring stations.

TACB ACTIVITIES

	1980
ENFORCEMENT	
Investigations	8,493
Notice of Violations	1,132
Complaints	1,995
Administrative Enforcement	
Conferences	35

LEGAL	
Hearings Held	6
Lawsuits	16
Board Orders	11
Judgments	4

PERMITS	
Construction:	
Applications Received	650
Permits Issued	350
Operating Permits Issued	602



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