# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

# QUALITY MANAGEMENT PLAN

**Revision 11**

## January 2006

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## TABLE OF CONTENTS

## AGENCY GOALS AND PHILOSOPHY

Conservation of the state's environment through the prudent stewardship of its natural resources is a priority goal of the State of Texas. In fulfilling this goal, the Texas Commission on Environmental Quality (TCEQ) will act in accordance with the highest standards of ethics, accountability, efficiency, and responsiveness to the people of Texas. The agency will communicate openly with everyone: the people of Texas who rely on the agency to protect the environment and their health; the regulated community; elected officials; and the media. Since our people are our most valued asset, all employees will have an equal opportunity to excel in an environment that fosters open communications and employee involvement.

Protecting public health and the environment and ensuring effective management of our natural resources is a public trust. The TCEQ will approach these activities with a sense of purpose and responsibility and will provide a level of service that exceeds the expectations of our customers. The public and regulated community alike can be assured of a balanced and sensible approach to regulation.

To accomplish our mission, we will:

- base decisions on the law, common sense, good science, and fiscal responsibility;
- ensure that regulations are necessary, effective, and current;
- apply regulations clearly and consistently;
- ensure consistent, just, and timely enforcement when environmental laws are violated;
- ensure meaningful public participation in the decision-making process;
- promote and foster voluntary compliance with environmental laws and provide flexibility in achieving environmental goals; and
- hire, develop, and retain a high-quality, diverse workforce.

At a minimum, staff is responsible for ensuring that work products are scientifically valid, legally defensible, and of known and acceptable quality. Ultimately, we will be judged by how well these products and our programs meet the expectations and needs of our customers.

## INTRODUCTION

Quality assurance (QA) may be defined as:

> an integrated system of management activities involving planning, implementation, assessment, reporting, and quality improvement to ensure that a process, item, or service is of the type and quality needed and expected by the customer.
>
> ANSI/ASQC E4-1994, p. 23

This Quality Management Plan (QMP) describes the quality system implemented by the Texas Commission on Environmental Quality for activities related to the collection, analysis, and use of environmental data. The QMP is intended to document how the system is structured and implemented and to provide a consistent framework for continuing improvement.

The QMP is updated annually. Recipients of the QMP are responsible for keeping their copies available and up–to–date. Copies are issued to those staff whose work is directly related to the collection, analysis, and use of environmental data by TCEQ. The current version of the QMP is available electronically on the TCEQ Quality Assurance Section website at http://www.tceq.state.tx.us/compliance/compliance_support/qa/quality.html .

The QMP contains 10 sections organized to parallel federal guidelines and national standards for quality assurance:

- Management and Organization
- Quality System Components
- Personnel Qualification and Training
- Procurement of Items and Services
- Documents and Records
- Computer Hardware and Software
- Planning
- Implementation of Work Processes
- Assessment and Response
- Quality Improvement

For additional information concerning this Quality Management Plan or other aspects of the TCEQ's quality system, please contact:

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## LIST OF ACRONYMS

| | |
|---|---|
| AMM | Analytical Method Modification |
| ANSI | American National Standards Institute |
| AQPI | Air Quality Planning and Implementation |
| ASQ | American Society for Quality (formerly American Society for Quality Control, or ASQC) |
| AWRL | Ambient Water Reporting Limit |
| BOP | Biennial Operating Plan |
| CAMS | Continuous Ambient Monitoring Station |
| CATMN | Community Air Toxics Monitoring Network |
| CBBEP | Coastal Bend Bays and Estuaries Program |
| CERCLA | Comprehensive Environmental Response, Compensation and Liability Act |
| CEO | Chief Engineer's Office |
| CFR | Code of Federal Regulations |
| CMMI | Capability Maturity Model Integration |
| CWA | Clean Water Act |
| CWQMN | Continuous Water Quality Monitoring Network |
| DQO | Data Quality Objective |
| EPA | U.S. Environmental Protection Agency |
| EPA-AIRS | EPA Aerometric Information Retrieval System |
| EPA-QA/G-# | EPA Quality Assurance Guidance Document |
| EPA-QA/R-# | EPA Quality Assurance Requirements Document |
| FCAA | Federal Clean Air Act |
| FIFRA | Federal Insecticide, Fungicide and Rodenticide Act |
| FJD | Functional Job Description |
| GAP | Guide for Administrative Procedures Manual |
| GBEP | Galveston Bay Estuary Program |
| GIS | Geographic Information System |
| GPS | Global Positioning System |
| HRSD | Human Resources and Staff Development |
| IEEE | International Electrical and Electronics Engineers |
| IR | Information Resources |
| IRD | Information Resources Division |
| IRM | Information Resource Manager |
| ISD | Instructional System Design |
| IT | Information Technology |
| ITSC | Information Technology Steering Committee |
| ITWG | Information Technology Work Group |
| JAD | Joint Application Development |
| LAN | Local-Area Network |
| LUST | Leaking Underground Storage Tank |

(List of Acronyms, continued)

| | |
|---|---|
| MAL | Minimum Analytical Level |
| MQ | Minimum Qualifications |
| MSW | Municipal Solid Waste |
| MTE | Measurement and Testing Equipment |
| NAAQS | National Ambient Air Quality Standard |
| NAMS | National Air Monitoring Station |
| NATTS | National Air Toxics Trends Sites |
| NEI | National Emissions Inventory |
| NELAC | National Environmental Laboratory Accreditation Conference |
| NELAP | National Environmental Laboratory Accreditation Program |
| NORM | Naturally Occurring Radioactive Material |
| NPS | Nonpoint Source |
| OAS | Office of Administrative Services |
| OCE | Office of Compliance and Enforcement |
| OLS | Office of Legal Services |
| OPPs | Operating Policies and Procedures |
| OPRR | Office of Permitting, Remediation and Registration |
| PAMS | Photochemical Assessment Monitoring Station |
| PA/SI | Preliminary Assessment/Site Investigation |
| $PM_{2.5}$ | Particulate Matter 2.5 Ambient Air Monitoring Network |
| PMBOK | Project Management Body of Knowledge |
| PPG | Performance Partnership Grant |
| PST | Petroleum Storage Tank |
| PWSS | Public Water System Supervision |
| QA | Quality Assurance |
| QAPP | Quality Assurance Project Plan |
| QC | Quality Control |
| QMP | Quality Management Plan |
| QSA | Quality System Audit |
| RCRA | Resource Conservation and Recovery Act |
| SAP | Sampling and Analysis Plan |
| SDWA | Safe Drinking Water Act |
| SLAMS | State and Local Air Monitoring Station |
| SIP | State Implementation Plan |
| SOP | Standard Operating Procedure |
| SWQM | Surface Water Quality Monitoring |
| TCEQ | Texas Commission on Environmental Quality |
| TERP | Texas Emission Reduction Plan |
| TMDL | Total Maximum Daily Load |

(List of Acronyms, continued)

| | |
|---|---|
| TSA | Technical Systems Audit |
| TRACS | TCEQ Regulatory Activities and Compliance System |
| UIC | Underground Injection Control |
| VOC | Volatile Organic Compound |
| WQA | Water Quality Assessment |

# 1. MANAGEMENT AND ORGANIZATION

Quality in environmental programs contributes to public health and safety, economic development, efficient use of public monies, technical credibility, and a recognition of excellence. The achievement of quality in environmental programs is the responsibility of each employee of the TCEQ.

This plan is intended to meet all applicable regulatory requirements concerning quality assurance. The TCEQ programs governed by this plan are listed in appendix A. Activities governed by this QMP include, in part, environmental data operations, characterization of environmental processes and conditions, design and construction of engineered environmental systems, environmental monitoring, and laboratory analyses, accreditation, and certification. Agency organizations and staff and external contractors are bound by all or part of the requirements delineated in this QMP, as appropriate.

## TCEQ ORGANIZATION AND MISSION

The TCEQ is a regulatory agency of the State of Texas. Regulatory decisions are made by a three-member, quasi-judicial commission appointed by the Governor, with the advice and consent of the Texas Senate. Day-to-day operation of the TCEQ is delegated to an appointed Executive Director.

The TCEQ is organized into offices. With the exception of the Executive Director's office, offices are managed by Deputy Directors. Offices are composed of one or more divisions managed by Division Directors. Divisions are composed of one or more sections, and sections may be further divided into teams. Sections and teams are managed by Section Managers and Team Leaders, respectively. The TCEQ has assigned authority for environmental grants, programs, and projects to grant, program, and project managers, respectively, and has designated lead quality assurance staff for each environmental program.

## RESPONSIBILITIES AND AUTHORITIES

The mission of the TCEQ and its component offices and divisions is described in appendix B. Descriptions of personnel responsibilities are located in appendix C. Lead organizations, quality assurance staff, grant managers, and program managers are listed in appendix D. Organization charts are located in appendix E.

## QUALITY ASSURANCE ORGANIZATION

The TCEQ uses a semi-decentralized quality assurance program, relying on one organization to coordinate development and implementation of the agency-wide program and certain program quality systems, and on offices, divisions, and individual programs to implement other quality assurance programs. The Compliance Support Division, within the Office of Compliance and Enforcement, serves as the quality assurance coordinating division for the TCEQ.

The Compliance Support Division is organizationally independent of operational programs and activities within TCEQ and has sufficient access and authority to coordinate development and implementation of the agency quality assurance program. The division's quality assurance staff have access to all work areas and sufficient authority and organizational freedom to identify, initiate, recommend, and provide solutions to quality problems and to verify the implementation of solutions to problems. The manager of the Quality Assurance Section within the division serves as the agency Quality Assurance Manager.

Deputy and Division Directors have designated lead quality assurance staff for each of the programs governed by this plan. (See appendix D.) These staff also have access to related work areas and sufficient authority and organizational freedom to identify, initiate, recommend, and provide solutions to quality problems and to verify the implementation of solutions to problems.

## COMMUNICATION AND IMPLEMENTATION

Management ensures the agency quality system is understood and effectively implemented through program and project planning activities, the implementation of organizational and project-specific management controls, employee training programs, and ongoing assessment and quality improvement activities. These activities, programs, and controls are described in this QMP as indicated below:

- Program/project planning activities and organizational and project-specific management controls: Sections 2, 4, 5, 6, 7, 8 and appendices A, C, D, F and G
- Employee training: Sections 2 and 3
- Assessment and response: Section 9
- Quality improvement: Section 10

## ANNUAL REPORTS

The Compliance Support Division provides management with annual reports concerning the effectiveness of the quality system and the adequacy of resources for achieving quality. Agency management considers these assessments and other factors in determining response actions.

## RESOURCES

Office and executive management will ensure that resources are adequate (i. e., meet customer needs and expectations) to achieve and maintain quality in environmental programs. Resource allocations for quality assurance and quality control activities, including resources allocated to quality assurance programs and personnel, are determined on an annual basis at the agency, office, division, and section level and are adjusted as necessary to achieve programmatic objectives.

# 2. QUALITY SYSTEM COMPONENTS

The TCEQ has implemented a quality system designed to ensure that environmental programs produce the type and quality of results needed and expected, i.e., all environmental data generated and processed will be scientifically valid; of known precision and bias, acceptable completeness, representativeness, and comparability; and legally defensible. The system has been implemented for all programs listed in appendix A.

The agency quality system includes the organizational arrangements, documents, and processes described in this Quality Management Plan. This plan documents the approach used to assure the quality of work conducted by TCEQ, lines of reporting and communication, and coordination mechanisms.

The quality system includes both organizational and project controls. Organizational controls refer to activities that support common functions or functions that encompass several projects and programs. Project controls are specific to work programs and activities.

Environmental programs are administered and performed by qualified personnel using appropriate technologies and techniques. Qualifications of personnel are documented and both individual and program performance are regularly assessed. Personnel receive training in the responsibilities and duties and associated program elements, codes, standards, and procedures of the quality system. The training may include formal instruction, seminars, on-the-job training, participation in technical conferences, and other activities determined to be appropriate. Training needs and the achievement of training objectives are documented.

Management personnel maintain frequent contact with and are continually involved in monitoring elements of the quality system for which they are responsible. This contact and involvement are accomplished through meetings, reports, and contacts with technical, administrative, and other management personnel.

## QUALITY SYSTEM COMPONENTS

The TCEQ quality system includes components that establish requirements and specifications for environmental programs and projects, planning and implementation tools, and assessment and response activities.

Requirements and specifications are established in state and federal statutes, TCEQ rules (Title 30 Texas Administrative Code), other applicable rules (e.g., Title 25 Texas Administrative Code, regarding laboratory accreditation and certification), and state and federal requirements documents. Appendix A contains a list of applicable quality requirements documents TCEQ uses. Other requirements and specifications may be contained in Performance Partnership Agreements, grant work plans, and contracts.

Work activities for the environmental programs listed in appendix A are planned using the data quality objectives or comparable process and documented in quality assurance project plans (QAPPs). Appendix G contains procedures governing the development, approval, implementation, and maintenance of QAPPs.

The environmental programs listed in appendix A are implemented according to specifications and instructions contained in grants and contractual agreements, this Quality Management Plan, and quality assurance project plans, using standard operating procedures. Section 5 describes procedures governing the development and use of quality-related documents and records. Section 8 describes how TCEQ ensures work is performed according to approved plans.

Assessments for environmental programs provide information that is used in planning and implementing environmental programs and projects, for accrediting and certifying laboratories, and in improving the quality systems. Agency Operating Policy and Procedure (OPP) 18.9.1 specifies procedures for planning assessment programs, including planning considerations, types of assessments, and approval processes. Agency OPP 18.9.2 sets forth procedures for conducting quality assurance assessments. (See also Sections 9 and 10.)

# 3. PERSONNEL QUALIFICATION AND TRAINING

TCEQ personnel performing work on environmental programs shall be qualified to perform assigned work. Initial and ongoing personnel qualifications shall be determined, training needs shall be identified, access to appropriate training opportunities shall be provided, and the acquisition of needed knowledge and skills shall be verified.

## FUNCTIONAL JOB DESCRIPTIONS

Agency management staff prepare Functional Job Descriptions (FJDs) for each TCEQ position. Each FJD includes a job description statement; a list of job functions and the percentage of time devoted to each function; physical and environmental demands and hazards; and cognitive, communication, and other job-related demands. The Human Resources and Staff Development (HRSD) Division maintains the FJDs. (See Agency OPP Chapters 7.00 and 10.00.)

## MINIMUM QUALIFICATIONS

The agency establishes minimum qualifications (MQs) through the collaborative efforts of program, management and HRSD staff. Each agency job specification includes the MQs, which establish educational requirements, work experience, knowledge, skills, abilities and certifications required; career ladder time-in-grade requirements; and other requirements specific to individual job classifications. (See Agency OPP Chapters 7.00 and 10.00.)

Career ladders have been developed for 24 TCEQ job classifications. HRSD maintains the career ladder structures, and divisions maintain documentation of individual employee progress on the ladders. Chapter 10 of the Agency OPP manual includes procedures for career ladders.

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## EMPLOYEE TRAINING NEEDS

Training needs are determined annually on an individual basis by supervisors in consultation with employees. Training determinations are based on statutory requirements, management directives, career ladder requirements, SOPs, quality assurance project plans, and annual employee performance evaluations. TCEQ procedures and requirements regarding employee training are located in Chapter 16 of the Agency OPP manual.

Supervisors document training needs in a Career Enhancement Feedback and Plan for each employee, as part of the performance management system (Agency OPP 10.02). The Career Enhancement Feedback and Plan identifies training and developmental needs to enhance or improve an employee's current performance and to enhance career opportunities for the employee. Training may include courses from core curricula and/or technical, quality assurance, operational, staff development and management development categories. Additional training needs may be specified in quality assurance project plans.

## TRAINING PROGRAMS

The HRSD Training Unit determines training plans, training programs, and courses to be offered by the TCEQ, based on formal training needs assessments of agency, office, division, program, and job requirements, as well as training needs surveys.

Training staff design programs using industry-standard Instructional Systems Design (ISD) methods and document job-specific training needs assessments and course descriptions. Training specialists within HRSD identify qualified training vendors on a course-by-course basis on the basis of resumes, interviews, proposals, and demonstrated competence. Training specialists use written evaluations to assess course content and instructor effectiveness.

Employees and supervisors determine whether training programs and courses offered outside of the TCEQ by educational institutions, professional associations, and other providers are useful for enhancing job performance or professional development. These programs and courses may include such activities as instructional courses, seminars, professional meetings, and workshops. Training specialists provide consultation and assistance as needed in assessing these programs and courses.

## TRAINING RECORDS

The HRSD maintains records of job-related training. Program divisions, sections, or supervisors also maintain individual training information for their staff members.

## QUALITY ASSURANCE TRAINING

With the assistance of the HRSD, the Quality Assurance Manager is developing training and certification programs for the Quality Assurance Manager, quality assurance specialists, laboratory inspectors, and quality assurance auditors. The results of this work will be used to revise current training requirements and determine the need for additional training programs.

Functional descriptions of essential job duties and listings of the knowledge and skills needed to accomplish these duties have been developed for the Quality Assurance Manager, quality assurance specialist, and laboratory inspector positions. Follow-up work will focus on identifying potential training topics and developing training programs. Until these training programs are implemented, quality assurance training currently consists of the following courses offered by EPA Region 6 and TCEQ:

1. Orientation to Quality Assurance Management,
2. Data Quality Objectives Workshop,
3. QMP/QAPP Seminar,
4. Quality System Audit Workshop,
5. Technical Systems Audit Workshop,
6. Management Systems Review Workshop, and
7. Project Management Training.

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# 4. PROCUREMENT OF ITEMS AND SERVICES

The procurement of items and services will be controlled and documented to ensure conformance with specified requirements, i.e., that contracted and subcontracted activities produce results of acceptable quality. Requirements and specifications will be included or referenced in procurement documents. The acceptability of purchased items and services will be verified and documented.

## AUTHORITY AND PROCEDURES

Statutory requirements concerning procurement are contained in Texas Government Code, Chapters 656, 771, 783, 791, 2155, 2156, 2157, 2158 and 2161; Title 10, Subtitles B, D and F.

Procurement procedures are documented in Chapter 2.00 of the Agency OPP Manual. Additional procedures governing grants and contracts are documented in the Agency GAP Manual. These documents describe assignments of authority and procedures for planning and approving procurements, determining specifications and requirements to be included in procurement documents, selecting vendors, awarding procurements, and accepting purchased items and services. (See TCEQ Guide for Administrative Procedures Manual, Chapters 2, 3A, 3B, 3C, and 3D.)

## PROCUREMENT DOCUMENTS

All procurements are defined in writing in one or more procurement documents (e.g., purchase orders, invitations for bid, requests for proposals, procurement contracts, etc.). These documents specify tasks and products and technical, quality, administrative, and other requirements. All procurements are approved prior to issuance. (Note: Approval requirements vary depending on the nature and cost of the item or service being purchased. See TCEQ Contracts Policies and Procedures Manual.)

## TECHNICAL REQUIREMENTS

Technical requirements are determined by program managers, or designees, and documented in procurement documents. Purchases of information technology products and services are also reviewed and approved by Information Resources Division staff.

## QUALITY ASSURANCE REQUIREMENTS

Quality assurance requirements are determined by program managers, or designees, with the assistance of lead quality assurance staff, and documented in procurement documents. These documents include or reference appropriate design bases, certifications, and other requirements

necessary to assure adequate quality and, to the extent necessary, require suppliers and subcontractors to have quality assurance programs consistent with the TCEQ program.

Procurement documents may include pre- and post-award source inspections, supplier audits, readiness reviews, evaluations of objective evidence of quality furnished by the supplier, acceptance testing, and other requirements determined by Division Directors, or designees, to be appropriate.

## CHANGES TO PROCUREMENT DOCUMENTS

Changes to procurement documents generally receive the same reviews and approvals as original procurement documents. Contract changes are approved based upon the type of change (i.e., scope of work change, increase/decrease in contract amount, extension or renewal of contract end date).

## SOLICITATION RESPONSES AND SUPPLIER SELECTIONS

Responses to solicitations are reviewed by Division Directors, or designees, using written score or evaluation sheets. These sheets specify technical, quality, and other criteria used to evaluate the adequacy of responses to solicitations, to qualify potential suppliers, and to select vendors.

## ACCEPTANCE OF ITEMS AND SERVICES

Items and services affecting quality received from suppliers are evaluated upon delivery against acceptance criteria (i.e., task and product specifications and technical, quality, administrative, and other requirements) contained in procurement documents. Program managers, or designees, determine whether acceptance criteria have been met and whether items and services are adequate and appropriate for use.

Items and services that do not meet acceptance criteria are not accepted for use. Corrective actions are initiated in accordance with state statutes, contract provisions, and TCEQ procurement procedures. Corrective actions may range from repair or replacement of defective deliverables to re-award of procurements.

# 5. DOCUMENTS AND RECORDS

Documents that specify requirements and instructions affecting the quality of environmental programs shall be adequate for the intended purpose and shall be controlled. Quality assurance records will be produced, controlled, and maintained so as to reflect the achievement of the required quality for completed work and to fulfill statutory, regulatory, and contractual requirements.

Requirements concerning documents and records are contained in the following:

- Texas Government Code chapters 441 and 552, and sections 325.017 and 2051.021;
- Texas Penal Code section 37.10; and
- TCEQ Operating Policy and Procedure 13.02

(See also Texas State Library, *State Records Management Laws*, State Agency Bulletin Number Four.)

## QUALITY ASSURANCE DOCUMENTS

Documents that specify quality-related requirements and instructions include:

- TCEQ Quality Management Plan (QMP),
- quality assurance project plans (QAPPs),
- sampling and analysis plans (SAPs)
- data management plans,
- (administrative) OPPs,
- quality manuals,
- (technical) SOPs, including organization/program-specific quality assurance procedures, and
- program guidance documents.

QMPs and QAPPs are prepared, reviewed, approved, distributed, maintained, and revised according to procedures described in appendices F and G, respectively. SAPs are prepared, reviewed, and approved according to the same procedures as QAPPs.

TCEQ OPPs are developed, revised, and deleted in accordance with Agency OPP 1.00 and Chapter 1 of the Guide to Administrative Procedures (GAP) manual. Agency OPP 1.00 also contains procedures for both interim and expedited OPPs.

The TCEQ has not adopted written agency procedures governing the review and approval of SOPs (including quality assurance procedures). Generally, SOPs are proposed, reviewed, and approved by staff and managers of relevant areas of the agency (e.g., surface water quality monitoring). As requested or necessary, agency quality assurance staff may participate in the review and approval process. Revisions to SOPs are made as necessary and reviewed in the same manner as new SOPs. New SOPs and revisions to existing SOPs are uniquely identified. Each new SOP (and revision of an existing SOP) is approved, prior to issuance, by the Division Director, or designee(s), and

division or agency QA staff where appropriate. SOPs will conform to *Guidance for the Preparation of Standard Operating Procedures (SOPs) for Quality-Related Documents* (EPA QA/G-6) and will address or include the following, as appropriate:

- purpose;
- scope and applicability;
- personnel qualifications/training;
- definitions;
- procedure(s);
- safety;
- records;
- references; and
- tables, diagrams, flowcharts and forms.

The Quality Assurance Manager will coordinate development of agency-wide quality assurance procedures. These procedures will be issued as a chapter in the GAP manual. At a minimum, the Quality Assurance Manager will develop and maintain procedures for:

- review, approval, distribution, revision, and control of agency-wide quality assurance procedures;
- review, approval, distribution, revision, and control of agency QMPs;
- review, approval, distribution, revision, and control of QAPPs; and
- training and certification of the Quality Assurance Manager, quality assurance specialists, and quality system auditors.

Division Directors shall determine and document assignments of authority and procedures concerning the development, distribution, and maintenance of SOPs for their respective programs.

## QUALITY ASSURANCE RECORDS

Quality assurance records are items that furnish objective evidence of the quality of items or activities that have been verified and authenticated as technically complete and correct. Quality assurance records may include photographs, drawings, forms, reports, and electronically recorded data.

### Official State Records

Assignments of authority and procedures concerning the identification, verification, authentication, handling, retention, and disposition of (documents and) records needed to safeguard the legal and financial rights of the State of Texas and any person directly affected by activities of the TCEQ are contained in Agency OPP 13.02. Records produced by TCEQ and maintained as official records of the State of Texas are documented in the agency Records Retention Schedule. Division Directors, or designees, determine what records are needed to reflect the achievement of required quality for completed work and to fulfill any statutory, regulatory, or contractual requirements for environmental programs.

The Quality Assurance Manager, or designees, shall maintain quality assurance records relating to the agency quality system and ensure that these records are identified in the Records Retention Schedule. Program managers, or designees, shall maintain quality assurance records relating to their respective programs and ensure that these records are identified in the Records Retention Schedule. Project managers, or designees, shall maintain quality assurance records relating to their respective projects and ensure that these records are identified in the Records Retention Schedule. These individuals shall specify the location of and procedures for identifying, verifying, authenticating, handling, retaining, and disposing of these records and shall also maintain an up-to-date listing of all types of quality assurance records relating to their respective areas of responsibility.

Documentation identifying environmental activities subject to quality system requirements is maintained by the Federal Grants Management Team of the Budget and Planning Division and by program management. Cognizant federal officials (e.g., EPA Region 6 Project Officers) communicate requirements directly to the Federal Grants Management Team and to agency program management through use of grant documents.

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# 6. COMPUTER HARDWARE AND SOFTWARE

Computer hardware, software, and hardware/software configurations used to calculate or develop data for environmental programs shall be controlled so as to ensure that data are of acceptable precision and accuracy.

## ADOPTION OF AND CHANGES TO INFORMATION TECHNOLOGY STANDARDS

Information technology standards, and changes to the standards, are adopted by the Information Technology Work Group (ITWG). The ITWG has chartered the Technical Architecture Committee to evaluate proposed standards and advise the ITWG concerning IT standards and architecture.

## HARDWARE

### Workstations

The Infrastructure Management Section in the IRD maintains standards for this class of systems. The standards specify the minimum configuration with sufficient performance to run the agency's standard software and operate on the local-area networks (LANs). Systems smaller than the minimum standard are routinely replaced.

Specifications for new systems are documented in standards maintained by the Infrastructure Management Section. The specifications are sufficiently detailed to ensure that all delivered systems will successfully run all agency-standard software and will work on the local-area networks without modification. The Infrastructure Management Section tests examples of each configuration before large orders are placed. All such systems are purchased by the IRD following the same specifications, and are set up and installed by contractors under the direct supervision of the Infrastructure Management Project Manager.

The Infrastructure Section Manager must approve all deviations from standard workstation configurations. Before deviations will be approved, IR staff must verify that (1) there is a business need for a system with special characteristics, (2) the proposed systems will meet the special need, and (3) the proposed systems can be supported using available resources.

### Technical Workstations, Servers, and Network Components

The Infrastructure Management Section develops specifications for these components to meet the service requirements of the applications to be supported, and conform to the interface standards in place in the agency's environment.

**Exceptions**

Exceptions to hardware standards must be approved by the ITWG. Exceptions will be approved only if the business need justifies any additional risk or resource requirements.

**SOFTWARE**

**Software Developed by TCEQ**

Software development projects use forms and methods developed by the Systems Engineering Process Group and approved by the ITWG. The methods follow current best industry practice derived from the Capability Maturity Model Integration (CMMI) and the Project Management Body of Knowledge (PMBOK), and state standards prescribed by the Texas Project Delivery Framework.

**Purchased Major Applications**

Projects to purchase major applications also follow the appropriate software development industry standard methodologies suitable to the scale of the projects.

**System Software and Tools**.

Requirements for systems software are identified by the Infrastructure Management Section. Requirements for software development and application tools are defined by the Software Development and Maintenance Section, and by other software development units elsewhere in the agency. Tools must conform to the architecture defined by the technical Architecture Committee, and specific software titles must be approved by the Standard Software Committee.

**Desktop Software**

To minimize support requirements and reduce costs through site licenses, a standard suite of office software and some other standard programs is specified by the ITWG, through its Standard Software Subcommittee. The software is configured and installed by the Infrastructure Management Section.

**DATA AND INFORMATION**

The responsibility for data quality lies with the program organization, regardless of whether the information is produced from or collected by computers. During software development, the requirements for data quality are captured by the requirements-gathering process like any other requirements, and the inspection and testing procedures ensure that the software delivered meets those requirements.

The Geographic Information System (GIS) Team in the Software Development and Maintenance Section implements Department of Information Resources/Texas Geographic Information Council quality standards for GIS data (including positional data gathered using the Global Positioning System) through three levels of map certifications based on the accuracy of the data represented on the map. In addition, all positional data is accompanied by codes giving the method by which it was gathered and from which its accuracy may be inferred.

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# 7. PLANNING

Environmental programs shall be planned in accordance with state and federal laws and rules, agency policies and procedures, and contractual requirements.

## REQUIREMENTS

Organizational and programmatic requirements concerning environmental programs are defined in statutes enacted by the Texas Legislature and Congress, rules promulgated by TCEQ and federal agencies, and agency policies and procedures (negotiated specifications that support and/or enable business processes). These documents determine goals, establish stakeholder and customer relationships, and define needs and expectations for environmental programs implemented by TCEQ.

## SPECIFICATIONS

Environmental programs and projects are planned through the development of the agency strategic plan, organizational business plans and budgets, Performance Partnership Agreements, grant work plans, QAPPs (and sampling and analysis plans), assessment plans, and contracts executed by TCEQ and external organizations. These documents translate requirements and expectations into measurable specifications, commitments, and performance criteria.

## CAPITAL, COST AND SCHEDULE CONSTRAINTS

Capital outlay, cost and schedule constraints are taken into consideration during the development of the TCEQ strategic plan, the biennial operating plan, the biennial budget request to the Texas Legislature, and negotiations for federal assistance agreements. Funds and capital outlay for environmental programs are appropriated on a biennial basis by the Texas Legislature and allocated annually by TCEQ management during preparation of the agency operating budget.

## PROJECT PLANNING

Projects involving the generation, acquisition, and use of environmental data shall be planned through the development of QAPPs (and/or sampling and analysis plans). These documents shall be developed by project managers, quality assurance staff, technical staff, management, and contractors using a systematic planning process, such as the data quality objectives process, as defined in *Guidance for the Data Quality Objectives Process*, EPA QA/G-4, or comparable alternative.

Planning activities (e.g., planning meetings) are intended to:

- Ensure that data collected are of the type and quality appropriate to their intended use, and therefore support decision-making, by defining the project objective(s);
- Generate the sampling design (e.g., what, when, where, and how to collect samples);
- Determine what and if any existing data could be used to support decision-making; and
- Optimize the data collection effort by promoting communication and gathering input from all involved parties.

QAPPs shall conform to requirements contained in *EPA Requirements for Quality Assurance Project Plans*, EPA QA/R-5.

# 8. IMPLEMENTATION OF WORK PROCESSES

Environmental programs shall be performed so as to ensure that customer needs and requirements are met and products and results are produced in a timely manner. Environmental programs conducted by or on behalf of the TCEQ shall be implemented in accordance with approved plans. Exceptions, deviations, and changes to these documents shall be approved and documented prior to implementation.

The TCEQ ensures environmental work is performed according to plan through the following:

- implementation of a formal quality assurance program;
- program and project planning;
- staff development and training; and
- ongoing oversight of performance.

The quality system implemented by TCEQ is described in sections 1 and 2 and elsewhere in this QMP. Program and project planning inputs, processes, and results are described in sections 5 (quality assurance documents) and 7 (customer requirements, specifications, cost and schedule constraints, and project planning) of the QMP. Staff development and training activities are described in section 3 of the QMP. Assessment and response (oversight) programs implemented by TCEQ are described in sections 9 and 10 of the QMP.

## IMPLEMENTATION SCHEDULE

Agency QMPs and project QAPPs are revised annually or as necessary according to schedules contained in appendices F and G, respectively. New QAPPs and annual QAPP updates are prepared and approved according to the timetable contained in appendix G. The Quality Assurance Manager shall monitor the status of QAPPs and shall report to the lead Deputy Director (appendix D) within 15 days any environmental data operations that do not have current, approved QAPPs.

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# 9. ASSESSMENT AND RESPONSE

An assessment and response program designed to measure the effectiveness of the agency quality system shall be developed and implemented. Assessment results will be reported to appropriate management, supervisory, and other personnel for review and action as necessary. Follow-up actions will be taken where appropriate.

Environmental grant, program, and project managers maintain regular contact with participating organizations and staff as well as customers. Environmental work activities are reported to division, office, and executive management on a monthly basis. The results of these work activities are measured by TCEQ and external organizations against specifications contained in approved plans on a semi-annual and annual basis through reports prepared by these individuals and others.

The TCEQ has also implemented formal assessment programs for the environmental programs listed in appendix A.

## ASSESSMENTS

Assessments may be used to determine or assist in determining:

- adequacy - whether an item or activity meets requirements;
- compliance - whether an item or activity is being implemented as specified;
- readiness - whether the status of an item or activity warrants start-up or continued use of a facility, process, or activity;
- effectiveness - whether an item or activity achieves desired results; and
- verification - whether corrective action has been planned, initiated, or completed.

The TCEQ has defined eight types of assessments: audits, including readiness reviews, quality system audits, and technical systems audits; peer and technical reviews; data quality assessments; and surveillances and inspections.

## ASSESSMENT PLANNING

Quality assurance assessments are planned and documented in accordance with TCEQ OPP 18.9.1. Appendix C of this document outlines responsibilities for planning assessments.

## ASSESSMENT CONDUCT

Quality assurance assessments are conducted in accordance with OPP 18.9.2. Appendix C of this document outlines responsibilities for scheduling and conducting assessments.

## QUALIFICATION OF ENVIRONMENTAL DATA

Environmental data acquired by the programs listed in appendix A shall be qualified for use. This includes data acquired under QAPPs or equivalent planning documents, as well as those data that were developed outside an approved QAPP or quality assurance program.

Data and data validation procedures shall be documented in the appropriate QAPP. The procedures shall document the decision process and factors used in arriving at the choice of the particular qualification method. This process shall include the correct application of statistical methods as appropriate during the assessment process. The decision to qualify the data for their intended use shall be based on reconciliation with the performance measures for the project defined by the data quality requirements. Any limitations on data use shall be identified quantitatively to the extent practicable and fully documented.

## PEER REVIEW OF PROJECT REPORTS

Reports containing environmental data or reporting the results of environmental data operations shall be independently reviewed and approved prior to publication and formal distribution. The reports and method(s) of review, approval, and distribution shall be identified in the appropriate QAPP.

Environmental data included in any report are subject to later revisions following publication and formal distribution. This is an unavoidable artifact of the continuous data quality assurance process. TCEQ staff will make every effort to maximize confidence in reports containing environmental data.

## EPA ASSESSMENTS

EPA-sponsored programs are subject to review at any time. Formal assessment of performance under EPA assistance agreements occurs as part of a comprehensive review and evaluation of TCEQ programs. The process is governed by EPA's Policy on Oversight of Delegated Programs, which states evaluations should focus on overall program performance, rather than individual actions and should be based on objective measures and standards agreed to in advance. This policy provides a framework within which EPA and TCEQ can clarify performance expectations and solve problems through a system of negotiation according to a predictable but flexible set of national guidelines. The policy describes the components of assistance agreements and how they are to be negotiated, lays out EPA's expectations for the review and evaluation of assistance agreements and escalation of significant findings, and describes how EPA will respond to the findings. The latter includes rewarding strong performance, applying corrective action to solve problems, escalating significant conflicts to top management, and, in cases of persistent performance problems, imposing sanctions.

# 10. QUALITY IMPROVEMENT

Quality system deficiencies shall be prevented wherever possible. Identified deficiencies shall be documented and corrected in a timely manner. Corrective actions will be verified to ensure timely and effective implementation. Efforts will be made to improve quality systems continually.

Systems, documents, and tools described in preceding sections summarize the approach taken by TCEQ to plan, organize, implement, monitor, and assess quality systems for environmental programs. All personnel working on environmental programs are encouraged to identify, plan, implement, and evaluate quality improvement activities for their areas of responsibility. Personnel should prevent quality problems wherever possible and report opportunities for improvement as well as quality problems as they are identified.

## CORRECTIVE ACTIONS

TCEQ has not adopted written agency procedures governing corrective actions. The following paragraphs describe existing agency practice and standards.

### Identification of Deficiencies and Nonconformances

Deficiencies and nonconformances shall be reported by TCEQ personnel in writing to supervisory personnel. Supervisory personnel shall ensure reports of deficiencies and nonconformances are forwarded to the appropriate project manager and lead quality assurance staff. Lead quality assurance staff shall notify affected Division Directors, Section Managers, grant and program managers, and the Quality Assurance manager of significant conditions.

### Planning and Implementing Corrective Actions

With the concurrence of affected lead quality assurance staff, project managers or designees shall determine and document the following with regard to deficiencies and nonconformances:

- root cause(s);
- programmatic impact;
- required corrective action(s), including action(s) needed to prevent recurrence;
- means by which corrective action completion will be documented and verified;
- timetable(s); and
- individuals responsible.

These actions will be applied to each deficiency.

The project manager shall forward copies of corrective action plans to supervisory and lead quality assurance staff involved in implementing or monitoring corrective actions. Lead quality assurance staff shall forward copies of corrective action plans concerning significant conditions to affected Division Directors, Section Managers, grant and program managers, and the Quality Assurance Manager.

Supervisory staff shall ensure corrective action plans are effectively implemented in a timely manner.

Lead quality assurance staff (appendix D) shall monitor the implementation of corrective action plans and shall advise the appropriate project and program manager if the plans are not implemented in a timely manner. In the case of significant conditions, lead quality assurance staff shall also advise the appropriate Section Manager and Division Director and the Quality Assurance Manager if corrective action plans are not implemented in a timely manner.

Lead quality assurance staff shall advise the project manager, and, in the case of significant conditions, shall also advise the appropriate Section Manager, Division Director, program manager, and Quality Assurance Manager when corrective action plans are completed.

**Trend Analysis and Annual Reporting**

At least annually, lead quality assurance staff (appendix D) shall review quality-related deficiencies, nonconformances, and programmatic improvements and advise the affected program manager, lead Division Director, and Quality Assurance Manager of any significant trends.

At least annually, the Quality Assurance Manager shall review quality-related deficiencies, nonconformances, and programmatic improvements and advise the Executive Director of any significant trends affecting the agency quality assurance program. Annually, the Quality Assurance Manager shall also provide the Executive Director and EPA Region 6 Quality Assurance Officer with a report describing the status of the quality assurance program.

## STOP WORK ORDERS AND WORK SUSPENSIONS

The Executive Director and Deputy Directors, or designees, are authorized to stop work as necessary to safeguard programmatic objectives, worker safety, public health, and environmental protection.

The Executive Director or his designees may refuse to accept data and analyses from laboratories to ensure compliance with programmatic requirements and specifications. The Commission may suspend or revoke the accreditation or certification of a laboratory which no longer satisfies requirements for accreditation/certification.

## OUTREACH AND ASSISTANCE

The Quality Assurance Manager will maintain a close liaison with lead quality assurance staff and will meet at least annually with EPA and TCEQ offices concerning quality assurance matters. Lead quality assurance staff will provide technical assistance to regulated entities as time and resources permit and to the public when requested.

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# APPENDIX A
# APPLICABLE PROGRAMS AND REGULATORY REQUIREMENTS AND GUIDANCE DOCUMENTS

## APPLICABLE PROGRAMS

The TCEQ has implemented a formal quality assurance program for environmental operations related to the federally-funded programs described below.

**Air Quality** - Federal Clean Air Act, Sections 103(b) and 105

- Aircraft-Based Monitoring Program
- Community Air Toxics Monitoring Network (CATMN)
- National Air Monitoring Station/State and Local Air Monitoring Station (NAMS/SLAMS) Network and U.S./Mexico Border Support Activities for Air Monitoring in Texas
- National Air Toxics Trends Stations (NATTS)
- National Emissions Inventory (NEI)
- Pantex Nuclear Weapons Facility Ambient Air Monitoring
- Particulate Matter 2.5 ($PM_{2.5}$) Ambient Air Monitoring Network
- Photochemical Assessment Monitoring Station (PAMS) Network
- Section 103(b)(3) Whole Air Monitoring

**Water Quality** - Clean Water Act, Sections 106, 319 and 320

- Coastal Bend Bays and Estuaries Program (CBBEP)
- Continuous Water Quality Monitoring Program (CWQMN)
- Galveston Bay Estuary Program (GBEP)
- Groundwater Assessment
- Nonpoint Source Pollution Control (NPS)
- Surface Water Quality Monitoring (SWQM)
- Total Maximum Daily Load Program (TMDL)
- Water Quality Assessment (WQA)

**Waste -** Resource Conservation and Recovery Act (RCRA), Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)**,** Safe Drinking Water Act (SDWA)

- Leaking Underground Storage Tanks (LUST)
- RCRA
- Superfund (CERCLA) and Superfund - Brownfields
- Underground Injection Control (UIC)

**Public Drinking Water** - Safe Drinking Water Act

- Public Water System Supervision

**Other Programs**

- Analytical Method Modification Program
- Field Operations
- Laboratory Accreditation, Certification, and Inspection

The following paragraphs describe the scope of TCEQ quality assurance programs in greater detail:

**Air Quality**

Aircraft-Based Monitoring

Aircraft-based ambient air monitoring conducted by a contracted entity is currently funded as a state initiative through TCEQ to complement the ground-based monitoring conducted for the NAMS/SLAMS program as performed by the TCEQ and various local programs subcontracted to the TCEQ. EPA will provide additional funding through the Performance Partnership Grant (PPG). Visibility degradation, the constituents and mechanics of ozone formation and emission inventory verification are the primary concerns of interest for this effort.

Community Air Toxics Monitoring Network (CATMN)

This monitoring effort, funded by the state of Texas, primarily involves collecting samples of volatile organic compounds and related meteorological information for designated sites. This program was the agency's response to public concern about airborne toxic pollutants, tougher pollution controls imposed by the 1990 FCAA, and a mandate for community toxics monitoring from the Texas Legislature. The primary goal of the CATMN program is to determine community exposure to toxic organic compounds and their potential to cause long-term health effects. The CATMN currently consists of 42 monitoring sites in 16 counties across Texas.

National Air Monitoring Station/State and Local Air Monitoring Station (NAMS/SLAMS) Network and U.S./Mexico Border Support Activities for Air Monitoring in Texas

This program includes NAMS/SLAMS and the federally-funded portions of Border monitoring conducted by the TCEQ. It covers the collection of criteria pollutants, polynuclear aromatic hydrocarbons, haze and surface meteorological parameters at Continuous Ambient

Monitoring Stations (CAMS), including those which are designated as part of the Photochemical Assessment Monitoring Station (PAMS) network. Also covered in this program are the NAMS/SLAMS activities conducted by local air monitoring agencies in Dallas, El Paso, Fort Worth, Galveston County, and Houston.

National Air Toxics Trends Stations (NATTS)

This network, developed by EPA, is designed to provide air quality data for assessment of potential long-term public exposure to concentrations of targeted compounds (usually near industrial sites) and to evaluate the measured concentrations for potential health effects. 24-hour, time-integrated samples are collected every sixth day and analyzed for particulate matter and metals. Meteorological parameters are continuously monitored for wind speed average, wind speed resultant, wind direction resultant, and temperature. The data are stored in the IPS MeteoStar system and later uploaded to the EPA Aerometric Information Retrieval System (EPA-AIRS).

National Emissions Inventory (NEI)

The National Emissions Inventory (NEI) is the current official electronic repository for emissions inventory data submitted to EPA as required by the federal Consolidated Emissions Reporting Rule. The NEI stores emissions data for every county in the state on all components of the inventory: Industrial Point sources, Area sources, Onroad Mobile sources, Nonroad Mobile sources, and biogenic sources. Automated reporting to the NEI occur every three years with the submittal of the Periodic Emissions Inventories. Emissions data submitted to the NEI is available on an EPA public web site.

Pantex Nuclear Weapons Facility Ambient Air Monitoring

This program involves air quality monitoring in the vicinity of the Pantex facility. The TCEQ conducts this monitoring under contract with the U.S. Department of Energy through the Texas Governor's Office.

Particulate Matter 2.5 ($PM_{2.5}$) Ambient Air Monitoring Network

Activities for this program support the statewide monitoring of particulate matter less than 2.5 microns. The primary goal of the program is to compare the $PM_{2.5}$ concentrations collected, as mass, to the annual and 24-hour National Ambient Air Quality Standard (NAAQS). The network consists of sequential and continuous monitors deployed statewide, operating continuously or on either a daily, every-third-day, or every-sixth-day schedule.

Photochemical Assessment Monitoring Station (PAMS) Network

The PAMS network in Texas was established in accordance with the 1990 Clean Air Act Amendments and subsequent revisions to Title 40 Code of Federal Regulations (CFR) 58. The legislation and regulations required states to begin monitoring emissions of oxides of nitrogen ($NO_x$) and volatile organic compounds (VOCs) in ozone ($O_3$) nonattainment areas classified as serious, severe, or extreme. The network currently consists of 19 sites used for enhanced monitoring of $O_3$, $NO_x$, VOCs, upper air, and meteorology.

Section 103(b)(3) Whole Air Monitoring

The Section 103(b)(3) air program is an EPA-required whole air monitoring project designed to produce information regarding the chemistry of the air in Texas.

**Water Quality**

Coastal Bend Bays and Estuaries Program; Galveston Bay Estuary Program

Both the Coastal Bend Bays and Estuaries Program (CBBEP) and the Galveston Bay Estuary Program (GBEP) are continuations of programs initiated under the National Estuary Program established by Section 320 of the Clean Water Act. The management conferences of these programs, comprising state and federal agencies, local governments, scientists, and citizen organizations, developed Comprehensive Conservation and Management Plans designed to guide the protection and restoration of the Galveston Bay and Coastal Bend Bays (Corpus Christi and adjacent areas) coastal watersheds.

The programs are charged with overseeing implementation of the Plans, which includes continuing efforts to monitor and improve water and sediment quality, as well as efforts to protect and restore wetlands. The programs also conduct outreach and education activities to increase awareness, communicate improvements, and advocate conservation.

In October, 1999, the CBBEP was outsourced to a local non-profit agency by the same name. Under an agreement with EPA and the non-profit organization, TCEQ was to be initially responsible, during a two-year transition period, for the EPA contract and for oversight of the work performed and quality assurance for the program, while the non-profit organization performed the work. As of fiscal year 2002, TCEQ was no longer responsible for the EPA contract, instead maintaining its own contractual agreement with the non-profit organization for the operation of CBBEP.

Continuous Water Quality Monitoring Network

The Continuous Water Quality Monitoring Network (CWQMN) provides near-real-time water quality data for selected high priority water bodies. CWQMN sites are located throughout the state. These sites are programmed to collect water quality data on a prescribed schedule and to transmit that data to TCEQ where it is validated, stored, and displayed on web pages available to agency personnel and the public. Most CWQMN sites measure temperature, dissolved oxygen, pH, and conductivity. Other CWQMN site-specific parameters collected may include turbidity, chlorophyll, ammonia, nitrate, and/or total reactive phosphorus. CWQMN monitoring results may be used by TCEQ to characterize existing conditions, evaluate spatial and temporal trends, determine water quality standards compliance, identify emerging problems, and evaluate the effectiveness of water quality control programs.

Groundwater Assessment

Staff in this program are responsible for crafting the Texas Groundwater Protection Strategy and administering the interagency Texas Groundwater Protection Committee. These activities include program coordination, monitoring coordination, water quality assessment, special projects and public participation and outreach. Staff prepare the annual Groundwater Monitoring and Contamination Report and support and coordinate the interagency development and implementation of the state's Generic State Pesticide Management Plan and Pesticide-Specific Management Plans. Staff also administer the state's Priority Groundwater Management Area Program, provide limited oversight of groundwater conservation districts relating to the adoption and implementation of management plans, process and review landowner petitions for groundwater conservation district creation, and provide reports and legislative support for groundwater management and groundwater conservation district activities.

Nonpoint Source Pollution Control (NPS)

This program is responsible for managing urban and non-agricultural/silvicultural nonpoint sources of pollution in the state. In accordance with Section 319 (h) of the Clean Water Act, the NPS program is designed to implement preventive measures and watershed restoration action strategies as identified in the State of Texas Nonpoint Source Pollution Assessment Report and Management Program. The NPS program is also active in the Total Maximum Daily Load (TMDL) development process and provides oversight of grants for data collection, outreach activities, and development of watershed action plans.

Surface Water Quality Monitoring (SWQM)

The Surface Water Quality Monitoring program provides for an integrated evaluation of physical, chemical, and biological characteristics of aquatic systems in relation to human health concerns, ecological conditions, and designated uses. The program coordinates the collection of routine surface water quality data from more than1000 sites statewide, including the collection of physicochemical, biological, and hydrological data at varying frequencies. Basic components of the SWQM program include a routine monitoring network, intensive surveys, and special studies. Water quality data obtained through these components are stored in the SWQM portion of the TCEQ Regulatory Activities and Compliance System (TRACS) database. The monitoring results may be used by TCEQ to characterize existing conditions, evaluate spatial and temporal trends, determine water quality standards compliance, identify emerging problems, and evaluate the effectiveness of water quality control programs.

Total Maximum Daily Load Program (TMDL)

The TMDL Program works to improve water quality in impaired or threatened water bodies in Texas by establishing loading limits for pollutants of concern identified on the Clean Water Act Section 303(d) List. Projects managed by the program address impairment verification and assessment, data collection, modeling, public participation, and TMDL and Implementation Plan development. The TMDL Program contracts with other state agencies, river authorities, universities and private entities to lead the projects.

Water Quality Assessment (WQA)

The Water Quality Assessment Program is responsible for the development and implementation of the Texas Surface Water Quality Standards in accordance with the federal Clean Water Act and Texas Water Code. Projects managed by the program address developing the water quality standards, including determination of statewide and site-specific designated uses and criteria for the protection of human health and the environment, use attainability studies, implementation procedures for the water quality standards, and other special studies related to water quality standards implementation and development. Studies addressing water quality standards development can include sampling of water chemistry, aquatic biota, and hydrologic conditions.

**Waste**

Leaking Underground Storage Tanks (LUST)

This program directs or conducts oversight for the investigation and remediation of sites where releases of petroleum products from underground storage tanks have occurred. Activities include conducting site contamination assessments, remedial action feasibility

studies, and environmental and human health assessments; development of remedial action procedures; executing remedial actions; and documentation of effectiveness of remediation.

Resource Conservation and Recovery Act (RCRA)

RCRA program responsibilities include: the promotion of activities that reduce or eliminate industrial and hazardous or radioactive waste generation; ensuring that remaining waste is properly identified, managed, and safely disposed; expediting the closure and cleanup of contaminated sites; collecting and reporting data on hazardous waste generation, receipt, treatment, storage, and disposal; reviewing permit applications and writing permits; conducting audits of generator self-assigned waste classifications; and conducting compliance monitoring and enforcement activities.

Superfund

The Superfund program is responsible for ensuring assessment, investigation and remediation of sites posing an unacceptable risk to public health and safety or the environment. For sites named by EPA to the National Priorities List, TCEQ staff either assists EPA or takes the lead in project management of remedial investigations, feasibility studies, remedial design, remedial action, and operations and maintenance phases of overall remediation. For other sites, staff identify potentially responsible parties and monitor cleanup activities; if responsible parties cannot be identified, staff oversee and direct cleanup activities.

Superfund - Brownfields

The Brownfields program is responsible for working in partnership with stakeholders and with the USEPA and other federal, state, and local redevelopment agencies to facilitate cleanup, transferability, and revitalization of former industrial properties that are dormant or underutilized due to liability associated with real or perceived contamination. The cleanup, transferability, and revitalization of these brownfields is accomplished through the development of regulatory, tax, and technical assistance tools. The Brownfields program also is available to provide local governments and non-profit organizations with technical advice, education, and project partnering for brownfields redevelopment projects.

Underground Injection Control (UIC)

The UIC program is responsible for implementing state and federal mandates providing for the protection of underground sources of drinking water from pollution by injection wells. The major uses of injection wells include waste disposal, production of minerals, and remediation of ground water contaminants. Program responsibilities include: reviewing permit applications and writing permits; overseeing phases of well construction, testing, remedial work, and closure; overseeing restoration of natural resources; conducting

compliance monitoring and participating in enforcement processes; maintaining inspection and compliance data; and collecting and reporting data as required by federal regulations.

**Public Drinking Water**

Public Water System Supervision

This program conducts or oversees drinking water quality and operations monitoring for public water systems. Activities include bacteriological and chemical monitoring, reviews of monitoring data to determine compliance with drinking water standards, vulnerability assessments of drinking water sources to chemical and microbiological contaminants, counterterrorism activities, and data management and reporting.

**Other Programs**

Analytical Method Modification Program (AMM)

This program is designed to offer laboratories a process to obtain TCEQ and EPA (if necessary) approval for modifying methods and adjusting reporting limits. This approval is required for modifying procedures pertaining to analyses for programs mandated under the Clean Water Act or Clean Air Act. TCEQ Regulatory Guide RG-380, *The Analytical Method Modification Program – How to Apply*, provides procedures for requesting method modifications.

Field Operations

Field Operations' activities are conducted through 16 regional offices throughout the state and a central office at TCEQ headquarters. Field Operations' responsibilities include: ambient monitoring for local and statewide air quality, drinking water, and surface water; conducting site visits for compliance determination and inspection at all permitted and registered air, water, and waste facilities in Texas; conducting investigations at permitted and non-permitted facilities and operations based upon citizen complaints; developing enforcement actions for most types of air, water, and waste violations identified during inspections and/or complaint investigations; overseeing and ensuring compliance with water rights and allocating limited water resources in certain areas of the state when drought conditions exist; approving pollution abatement plans to protect underground water supplies; responding to emergency spills; and providing education and technical assistance to the community.

Laboratory Accreditation, Certification and Inspection

The agency has adopted rules and begun developing a laboratory accreditation program to provide formal recognition of environmental laboratories meeting standards established by

the National Environmental Laboratory Accreditation Conference (NELAC). Initial implementation of the program will be complete when the program receives accrediting authority from the National Environmental Laboratory Accreditation Program (NELAP). The laboratory certification program provides formal certification to laboratories providing compliance data relating to the Safe Drinking Water Act. Certification of drinking water laboratories is required.

The laboratory inspection program performs quality assurance audits at laboratories providing environmental data directly and indirectly to the agency. The program performs annual audits at TCEQ's laboratories in Houston and Austin and at laboratories under contract to provide analytical services directly to programs at TCEQ. The program also audits laboratories supporting other TCEQ programs (e.g., Surface Water Quality Monitoring Program) or providing environmental data to regulated entities.

## APPLICABLE REGULATORY REQUIREMENTS AND GUIDANCE DOCUMENTS

Subject to any interpretations, limitations, and exceptions described elsewhere in this document, the TCEQ is committed to developing, implementing, and maintaining a quality system that meets the standards, requirements, and guidelines contained in the documents listed below:

American Society for Quality Control (renamed American Society for Quality), *Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs*, ANSI/ASQ E4-1994, (January, 1995).

U.S. Environmental Protection Agency, *EPA Requirements for Quality Management Plans*, EPA QA/R-2, (latest version).

U.S. Environmental Protection Agency, *EPA Requirements for Quality Assurance Project Plans*, EPA QA/R-5, (latest version).

_____, *Guidance for the Data Quality Objectives Process*, EPA QA/G-4, (latest version).

_____, *Guidance for Quality Assurance Project Plans*, EPA QA/G-5, (latest version).

_____, *Guidance for the Preparation of Standard Operating Procedures (SOPs)*, EPA QA/G-6, (latest version)

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# APPENDIX B
# AGENCY, OFFICE, AND DIVISION MISSIONS

## TCEQ MISSION

The Texas Commission on Environmental Quality strives to protect our state's human and natural resources consistent with sustainable economic development. Our goal is clean air, clean water, and the safe management of waste.

## OFFICE AND DIVISION MISSIONS

### Executive Director's Office

The mission of the Executive Director's Office is to plan and direct day-to-day operations of the TCEQ; conduct agency and information strategic planning; oversee agency budget operations and the development of appropriation requests; coordinate communications with the Texas Legislature and Congress; and assist small businesses and border communities in meeting regulatory requirements.

The Executive Director's Office includes the following areas:

- Executive Director;
- Chief Financial Officer;
- Budget and Planning;
- Intergovernmental Relations;
- Small Business and Environmental Assistance; and
- Agency Communications.

The mission of the Executive Director is to plan and direct day-to-day operations of the TCEQ, including the development and implementation of the agency quality system.

The mission of the Budget and Planning Division is to prepare and monitor annual operating budgets and biennial appropriations requests; to provide strategic planning; and to coordinate applications for and expenditures of federal grants.

The mission of the Chief Financial Officer is to provide overall financial management, including systems development and appropriation requests.

The mission of the Intergovernmental Relations Division is to serve as liaison between the TCEQ and the Texas Legislature and Congress, and to provide oversight for the agency's Border Affairs program. Intergovernmental Relations personnel provide information to elected officials concerning agency activities and to TCEQ personnel concerning relevant legislative actions. The Border Affairs program focuses on alleviating environmental challenges affecting the Texas-Mexico border region through:

information development and dissemination; professional and organizational development; technology cooperation and exchange; and policy development.

The mission of the Small Business and Environmental Assistance Division is to help its customers prevent pollution, conserve resources, and achieve compliance. This division works to educate customers in Texas and along both sides of the Texas section of the U.S.-Mexico border through providing on-site technical assistance, seminars, workshops, trade fairs, and toll-free hot lines. The division also promotes recycling and composting through market development and technical assistance, and provides educational information and recycling and disposal opportunities. Customers of this division include small businesses, industrial facilities, local governments, federal and state facilities, agricultural producers, schools, colleges and universities, and individuals.

The mission of the Agency Communications Division is to coordinate communications between TCEQ and the public.

**Office of Administrative Services**

The mission of the Office of Administrative Services (OAS) is to provide exceptional support of the agency's mission through operational efficiencies and service excellence. These services include: information resources; human resource and staff development; document management; procurements and contracts; facility management; and financial administration.

The Office of Administrative Services includes the following divisions:

- Financial Administration;
- Information Resources;
- Human Resources and Staff Development; and
- Support Services

The mission of the Financial Administration Division is to manage the agency's finances and Historically Underutilized Business participation, ensuring the integrity of the accounting records, and maintaining adequate internal controls to safeguard the agency's financial assets and to ensure the compliance of our fiduciary responsibility to the people of Texas.

Through a collaborative partnership with its customers, the Information Resources Division is responsible for the effective delivery of information technology services which enable the agency to perform its stated mission and goals.

The mission of the Human Resources and Staff Development Division is to provide quality products and services to enable the agency to recruit, hire, develop, and retain a diverse and competent workforce.

The mission of the Support Services Division is to provide quality customer service in the delivery of procurement and contracting activities, business and administrative support, fleet, supplies, mail operations, asset management, telecommunications, facility liaison, safety and copying services. These support services shall be provided in a proactive, responsive, cost effective and service oriented manner, paralleling and supporting the agency's goals and objectives.

**Chief Engineer's Office**

The mission of the Chief Engineer's Office (CEO) is to advise the executive director and the deputy directors regarding uniform compliance with engineering standards; application of scientific principles; and to foster efficient, thorough and consistent implementation of regulations with the overall agency goal of functional excellence specifically regarding executive-level technical and policy matters.

The Chief Engineer's Office has three major functions: strategic environmental planning and analysis, assessment of air and water quality, and toxicological support for a broad range of agency activities by assessing the risk of adverse health effects in the general public from exposure to environmental pollutants.

The following divisions and programs are included:

- Air Quality Planning and Implementation Division (AQPI)
- Water Programs
- Toxicology Section

The mission of the Air Quality Planning and Implementation Division is to develop and update the emissions inventory for all stationary, mobile, and area sources of air contaminants. Staff also provide information about the Toxics Release Inventory Program. The division provides complex computer modeling and data analysis in support of pollution control strategies such as the Texas Emission Reduction Plan (TERP) that awards grants to eligible owners of diesel-powered vehicles or equipment. The division designs, administers, monitors, and evaluates the vehicle inspection and maintenance programs and provides information and advice on voluntary mobile source emission reduction strategies. The division develops State Implementation Plans (SIPs) and is also managing the Texas Air Quality Study to develop improved understanding of ozone formation in Texas.

Water Programs oversees the development and implementation of water policy and regulations and provides support for the Texas Groundwater Protection Committee. The division directly manages the Total Maximum Daily Load Program, Galveston Bay Estuary Program and contracts with a non-profit organization to run the Coastal Bend Bays and Estuaries Program.

The Toxicology Section provides toxicological support for a broad range of agency activities by assessing the risk of adverse health effects in the general public from exposure to environmental pollutants.

**Office of Compliance and Enforcement**

The Office of Compliance and Enforcement (OCE) is dedicated to protecting human health and the environment by ensuring compliance with state and federal regulations. The office seeks to promote voluntary compliance through a comprehensive program of regional inspections, laboratory inspections, accreditation and certification, technical assistance, environmental monitoring, training and outreach. When enforcement is necessary, however, the office will take swift action that is fair, sensible, and responsive to the needs of the citizens of Texas.

The Office of Compliance and Enforcement consists of the following divisions:

- Compliance Support;
- Enforcement;
- Field Operations; and
- Monitoring Operations.

The mission of the Compliance Support Division is to promote compliance with state and federal requirements by assuring the competency of licensed environmental professionals; inspecting, accrediting and certifying laboratories; and coordinating the agency's quality assurance program.

The Enforcement Division of the TCEQ is dedicated to protecting human health and the environment by taking swift action to enforce state and federal regulations. The division is committed to a fair and sensible approach to enforcement that is responsive to the needs of the citizens of Texas.

The mission of the Field Operations Division is to implement agency programs through investigation, technical assistance, outreach and education, and environmental monitoring.

The mission of the Monitoring Operations Division is to measure, evaluate, and report the levels, causes, and trends of threats to air and surface water quality in Texas in support of the strategic plan of the TCEQ, and to provide assistance to other divisions of the agency in air and water quality-related matters.

**Office of Legal Services**

The Office of Legal Services (OLS) provides legal counsel and support to the Executive Director, the program areas, and, in conjunction with the Office of General Counsel and Office of Public Interest Counsel, the Commissioners. The Office of Legal Services provides legal counsel and support to ensure that Commission decisions and procedures follow the law, that regulations are developed consistent with statutory authority and intent and applied clearly and consistently, and that swift and just enforcement occurs when environmental laws are violated.

The Office of Legal Services consists of the following divisions:

- General Law;
- Environmental Law; and
- Litigation.

The General Law Division primarily supports the Office of Administrative Services and provides legal counsel on issues related to personnel and employment law, contracts, public information processing and distribution, and records retention. This division also provides support services for the agency rulemaking functions including management and coordination of the rules process, editing of rule documents to meet agency standards and *Texas Register* requirements, filing of rules with the Office of the Chief Clerk for commission agendas, submission of rules to the *Texas Register* for publication, and conducting public hearings. The division also maintains web pages that provide information on rulemaking activities for the public.

The Environmental Law Division primarily supports the Office of Permitting, Remediation and Registration. This division provides legal counsel to the agency in all areas of permitting and rulemaking, and represents the Executive Director in contested permitting matters in accordance with state law and agency rules regarding participation in hearings. The division's functions also include legal support related to federal program delegation, interpretation of environmental statutes and rules, and support for the Office of the Attorney General in state and federal court litigation.

The Litigation Division provides legal representation and support primarily to the Office of Compliance and Enforcement. The division negotiates Agreed Enforcement Orders, litigates enforcement actions, manages delinquent fee and penalty actions, coordinates the Supplemental Environmental Projects and Environmental Audits program, and provides support to the remediation program. The division also oversees the investigation and prosecution of environmental crimes.

**Office of Permitting, Remediation and Registration**

The mission of the Office of Permitting, Remediation and Registration (OPRR) is to protect human health, environmental quality, and natural resources by: 1) preventing or minimizing contaminants through the permitting process; 2) reducing the release of pollutants and contaminants through expediting the remediation or closure and cleanup of contaminated sites; 3) ensuring waste is properly managed and disposed of or recycled; 4) ensuring safe, adequate, and affordable drinking water, promoting conservation and efficient use of the state's limited water supply; 5) ensuring proper and safe discharge of pollutants into waters of the state consistent with sustainable economic development; and 6) administering applicable statutes and rules in a fair and impartial manner.

The Office of Permitting, Remediation and Registration is composed of the following divisions:

- Air Permits;
- Permitting and Remediation Support;
- Remediation;
- Waste Permits;
- Water Quality; and
- Water Supply.

The mission of the Air Permits Division is to protect the state's air resources through development and implementation of the New Source Review and Federal Operating Permit programs. It is the goal of the Air Permits Division to provide excellent customer service through state-of-the-art communication infrastructure, permitting flexibility, expedient permit review, maintenance of high-level technical capabilities, and the use of sound engineering judgement and common sense.

The mission of the Permitting and Remediation Support Division is to promote not only accurate and timely data, but data which can be accessed quickly, easily, and used in big picture evaluations. To this end, the Division is responsible for managing the activities associated with the registration and reporting requirements of various agency programs (e.g.,industrial waste, hazardous waste, petroleum storage tanks, dry cleaners, medical waste transportation or mobile on-site treatment, sludge transportation (grease trap, grit trap, wastewater treatment plant, water supply treatment plant, septic tank and chemical toilet sludge), used oil, and scrap tire reports), as well as promoting and supporting the electronic submission and management of data across all divisions within OPRR. This division is also responsible for the agency's Central Registry application which captures basic information (e.g., names, locations, permit numbers, etc) from programs across the agency on the industries and occupations the agency regulates.

The Remediation Division oversees the investigation and remediation of waste and pollutants released into the environment. Programs address issues involving petroleum storage tanks, municipal hazardous waste, industrial solid waste, voluntary cleanups, state Brownfields initiatives, dry cleaners, and Superfund. The Remediation Division also reviews and approves reimbursements for corrective action expenses at petroleum storage tank sites.

The mission of the Waste Permits Division is to thoroughly and efficiently administer the Solid Waste and Radioactive Material Disposal programs. The Solid Waste program contains RCRA, UIC, Industrial Nonhazardous and Municipal Solid Waste components. The programs are implemented through permitting of industrial nonhazardous and hazardous waste storage, processing, and disposal; licensing of radioactive material waste disposal; and permitting of municipal solid waste facilities. The Waste Division also has responsibility for permitting in-situ mining of uranium and other minerals and authorization of miscellaneous uses of underground injection.

The mission of the Water Quality Division is to protect water quality through the development and implementation of water quality standards; issue permits protective of human health and the environment; and achieve functional excellence. It is the goal of the Water Quality Division to process permits in an accurate and timely manner; respond early and accurately to meet internal and external assignments; communicate accurate, clear, and concise information between internal staff and to external customers; and retain, train, develop and reward quality staff.

The mission of the Water Supply Division is to provide a system of regulation, oversight, and supervision which ensures the efficient administration of surface water use consistent with conservation strategies; groundwater quality planning and assessments and support for the Texas Groundwater Protection Committee; the delivery of safe and adequate drinking water; the provision of dependable utility service at fair levels of compensation; and the development and maintenance of technically and economically feasible water, sewer, and drainage infrastructure.

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# APPENDIX C
# PERSONNEL RESPONSIBILITIES

## TCEQ PERSONNEL

All agency personnel are responsible for ensuring that items and services associated with environmental programs within their areas of responsibility meet the needs and expectations of the customer and for implementing elements of the agency quality system. Individuals responsible for establishing or executing elements of the quality system may delegate portions of the work but will retain responsibility for the accomplishment of such work. Managers, supervisors, and other personnel shall, as appropriate, review and respond to any deficiencies, nonconformances, findings, or significant conditions related to their areas of responsibility. All personnel are responsible for discharging their duties in accordance with applicable plans and procedures, and for disseminating information of the highest quality, utility and integrity consistent with the spirit and intent of agency goals, philosophy and regulations.

## EXECUTIVE DIRECTOR

The Executive Director is responsible for planning and managing TCEQ programs and operations, including the TCEQ quality system. The Executive Director reports to the Commission. The Deputy Executive Director assists the Executive Director in planning and executing agency operations. The Deputy Executive Director reports to the Executive Director.

## DEPUTY DIRECTORS

Deputy Directors are responsible for planning, monitoring, evaluating, and improving environmental programs performed by, and quality systems implemented through, their respective offices. Deputy Directors are also responsible for ensuring that environmental programs produce the type and quality of results expected. Deputy Directors report to the Executive Director.

## DIVISION DIRECTORS

Division Directors are responsible for planning, monitoring, executing, evaluating, and improving environmental programs performed by, and quality systems implemented through, their respective divisions. Division Directors ensure that environmental programs (and associated work activities) performed within their organizations produce the type and quality of results expected. Division Directors report to Deputy Directors.

## SECTION MANAGERS AND TEAM LEADERS

Section Managers and Team Leaders are responsible for planning, monitoring, executing, evaluating, and improving quality-related work performed by, and quality systems implemented through, their respective sections and teams. Section Managers and Team Leaders are also responsible for ensuring that environmental programs within their organizations produce the type and quality of results expected. Section Managers report to Division Directors. Team Leaders report to Section Managers.

### Quality Assurance Manager

The Quality Assurance Manager is responsible for coordinating development and implementation of the TCEQ quality assurance program. The Quality Assurance Manager shall:

- coordinate the development, review, approval, and implementation of the agency QMP and agency-wide quality assurance procedures;
- approve any exceptions to requirements contained in the agency QMP;
- maintain copies of approved QMPs;
- monitor the development and implementation of QMPs, QAPPs, and corrective actions resulting from quality system audits;
- develop training and certification programs for the Quality Assurance Manager, quality assurance specialists, laboratory inspectors, and quality assurance auditors;
- develop training programs concerning the development, review, and implementation of QMPs and QAPPs;
- conduct quality system audits and conduct or participate in other types of assessments as appropriate;
- maintain a close liaison with the quality assurance staff of federal oversight agencies;
- provide assistance in the area of quality assurance to agency management, project managers, quality assurance staff, regulated entities, and the public; and
- continuously encourage the development and awareness of quality assurance within the TCEQ.

The Quality Assurance Manager reports to the Compliance Support Division Director.

## QUALITY ASSURANCE SPECIALISTS

The quality assurance specialists who serve as the agency's lead quality assurance staff perform quality assurance and quality control tasks including, but not limited to, the following:

- participate in the development, approval, implementation, and maintenance of written quality assurance standards (e.g., QMPs, SOPs, QAPPs);
- assist grant, program, and project managers in developing and implementing quality systems;
- participate in the preparation of quality reports (e.g., annual reports);
- prepare and distribute annual assessment plans;

- determine conformance with program quality system requirements;
- determine the lead assessor for assessments;
- recommend to division directors and project managers, and through them to deputy directors, that work be stopped in order to safeguard programmatic objectives, worker safety, public health, or environmental protection;
- evaluate and concur with proposed corrective actions and the means by which corrective actions will be documented and verified;
- receive and maintain assessment records;
- monitor the implementation of corrective actions;
- identify positive and adverse trends in program quality systems;
- report on the status of corrective action programs;
- provide technical expertise and/or consultation on quality services;
- assess the effectiveness of program quality systems; and
- prepare and forward an annual quality assurance report to the Quality Assurance Manager.

The quality assurance specialist for laboratory inspections shall also determine whether deficiencies, nonconformances, or significant conditions warrant refusing to accept analytical data from laboratories or suspension or revocation of a laboratory's accreditation or certification.

Quality assurance specialists may also perform some or all of the following quality assurance and quality control tasks:

- coordinate the identification, disposition, and reporting to management of nonconforming items and activities;
- participate in data quality assessments;
- coordinate quality training; and
- serve as quality system representatives on special forums and committees.

Quality assurance specialists report to Division Directors, Section Managers, or Team Leaders. Where they report to Section Managers or Team Leaders, quality assurance specialists have access to Division Directors as necessary to identify quality-related problems and ensure timely and effective corrective action.

**PROGRAM MANAGERS**

Program managers are authorized to manage ongoing environmental programs and are accountable for the successful completion of program-related tasks and objectives. Program managers perform the following tasks:

- maintain a thorough knowledge of program work activities, commitments, deliverables, and time frames;

- develop necessary lines of communication and good working relationships between the lead division staff and personnel of other divisions and organizations participating in a program;
- select project managers;
- monitor the effectiveness of the program quality system;
- provide feedback to supervisory and administrative personnel as necessary regarding the performance of grant and project managers;
- advise supervisory personnel when program timetables, tasks, and coordination procedures are not being met;
- elevate problems and issues requiring resolution to the lead Division Director, or designee(s), for disposition, when appropriate; and
- execute contracts and intergovernmental agreements.

The Executive Director, Deputy Directors, Division Directors, and the Quality Assurance Manager have delegated authority to develop and implement program-related quality systems, including development and maintenance of QAPPs to program managers. These systems shall be developed with the concurrence and assistance of lead quality assurance staff. (See appendix D.)

Program managers are responsible for ensuring that environmental activities within their areas of responsibility are performed in accordance with applicable plans and procedures, work performance is measured against specifications, and appropriate management oversight and inspection is accomplished. Program managers are also responsible for improving systems relating to specific programs as well as ensuring deficient items and services are evaluated and controlled (i.e., inadvertent use or adverse impact on other items and services is prevented), root cause(s) of deficiencies and nonconformances are determined, and corrective actions are planned, implemented, and verified in a timely manner.

Program managers are selected by Deputy Directors, Division Directors, or Section Managers. Appendix D contains a list of current TCEQ program managers.

**GRANT MANAGERS**

Grant managers manage federally-funded grants to their conclusion and are accountable for the successful completion of grant-related tasks and objectives. Grant managers perform the following tasks:

- maintain a thorough knowledge of work activities, commitments, deliverables, and time frames associated with grants;
- develop necessary lines of communication and good working relationships between the lead division staff and personnel of other divisions and organizations participating in a grant;
- ensure the lead division administrative services coordinator or grant budget coordinator, and the TCEQ federal funds coordinator are informed of changes, revisions, or additions to the project;

- provide a list of expectations to grant coordinators that identify actions for successful completion of a grant;
- monitor the effectiveness of the grant quality system;
- provide feedback to supervisory and administrative personnel as necessary regarding the performance of grant coordinators;
- advise supervisory personnel when grant timetables, tasks, and coordination procedures are not being met;
- elevate problems and issues requiring resolution to the lead Division Director, or designee(s), for disposition, when appropriate;
- monitor the conduct of their grant and reconcile their grant budget with the operating budget and various grant financial reports;
- prepare, or assist in preparing, contracts and intergovernmental agreements;
- ensure contractors understand their commitment to meet deadlines and schedule commitments; and
- enforce corrective action measures to ensure contractors meet deadlines and scheduled commitments and, for federally-funded grants, inform the federal project officer and federal funds coordinator of problems and issues relating to corrective actions when necessary.

The Executive Director, Deputy Directors, Division Directors, and the Quality Assurance Manager have delegated authority to develop and implement grant-related quality systems. These systems shall be developed with the concurrence and assistance of lead quality assurance staff.

Grant managers are responsible for ensuring that environmental activities within their areas of responsibility are performed in accordance with applicable plans and procedures, work performance is measured against specifications, and appropriate management oversight and inspection is accomplished. Grant managers are also responsible for improving systems relating to specific grants and projects as well as evaluating and controlling deficient items and activities (i.e., preventing inadvertent use or adverse impact on other items and services), determining root cause(s) of deficiencies and nonconformances, planning and implementing corrective actions, and verifying the effective and timely implementation of corrective actions.

Grant managers are selected by lead Division Directors, or their designees. Appendix D contains a current list of grant managers.

**PROJECT MANAGERS**

Project managers are authorized to manage environmental projects, including work performed by contractors, to their conclusion and are accountable for the successful completion of project-related tasks and objectives. Project managers perform the following tasks:

- maintain a thorough knowledge of work activities, commitments, deliverables, and time frames associated with projects;

- develop necessary lines of communication and good working relationships between the lead division staff and personnel of other divisions and organizations participating in a project;
- ensure the lead division administrative services coordinator or grant budget coordinator, and the TCEQ federal funds coordinator are informed of changes, revisions, or additions to the project;
- negotiate a list of expectations with the grant manager to ensure a clear understanding of the factors that may affect performance;
- monitor the effectiveness of the project quality system;
- elevate problems and issues requiring resolution to the lead Division Director, or designee(s), for disposition, when appropriate;
- assist in preparing contracts and intergovernmental agreements;
- ensure project contractors understand their commitment to meet deadlines and schedule commitments; and
- enforce corrective action measures to ensure contractors meet deadlines and scheduled commitments.

The Executive Director, Deputy Directors, Division Directors, and the Quality Assurance Manager have delegated authority to develop and implement project-related quality systems, including development and maintenance of QAPPs, to project managers. These systems shall be developed with the concurrence and assistance of lead and project quality assurance staff.

Project managers are responsible for ensuring that environmental activities within their areas of responsibility are performed in accordance with applicable plans and procedures, work performance is measured against specifications, and appropriate management oversight and inspection is accomplished. Project managers are also responsible for improving systems relating to specific projects as well as evaluating and controlling deficient items and activities (i.e., preventing inadvertent use or adverse impact on other items and services), determining root cause(s) of deficiencies and nonconformances, planning and implementing corrective actions, and verifying the effective and timely implementation of corrective actions.

Project managers are selected by program managers, or their designees.

## ASSESSMENT TEAM LEADERS AND ASSESSORS

With the assistance and concurrence of lead quality assurance staff and project or program managers, lead assessors shall determine the members of assessment teams. Assessment teams may consist of a single (lead) assessor or a lead assessor, other assessors, technical experts, and/or observers. Project managers and lead quality assurance staff (appendix D) are, by virtue of their appointment to these positions, deemed to be qualified to conduct assessments. Other personnel determined by project managers, lead quality assurance staff, Division Directors, Section Managers, or their designees, may be authorized to conduct assessments.

With the concurrence of lead quality assurance staff, lead assessors shall:

- prepare and distribute assessment checklists;
- advise affected lead quality assurance staff, Division Directors, and project managers of significant conditions;
- forward written copies of assessment reports to manager(s), the project manager, and the lead quality assurance staff of organizations affected by an assessment; and
- determine whether to accept proposed corrective actions.

Lead assessors shall also:

- brief team members on their roles and responsibilities;
- direct assessment preparations;
- provide written notification to organizations to be assessed (announced assessments);
- direct entrance and exit meetings;
- direct the preparation of assessment reports;
- forward assessment records to lead quality assurance staff;
- advise lead quality assurance staff and suspend assessments when assessment objectives cannot be achieved; and
- recommend follow-up assessments.

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# APPENDIX D
# LEAD OFFICES/DIVISIONS, QUALITY ASSURANCE STAFF, PROGRAM MANAGERS, and GRANT MANAGERS

## LEAD OFFICES/DIVISIONS

| Program | Lead Office/Division |
|---|---|
| Agency Quality Assurance Program | OCE/Compliance Support |
| Air Quality Assessment | CEO/Air Quality Planning & Implementation |
| Air Quality Monitoring | OCE/Monitoring Operations |
| Analytical Method Modification Program | OCE/Compliance Support |
| Coastal Bend Bays and Estuaries Program | CEO/Water Programs |
| Continuous Water Quality Monitoring Network | OCE/Monitoring Operations |
| Field Operations | OCE/Field Operations |
| Galveston Bay Estuary Program | CEO/Water Programs |
| Groundwater Assessment | OPRR/Water Supply |
| Laboratory Accreditation | OCE/Compliance Support |
| Laboratory Certification | OCE/Compliance Support |
| Laboratory Inspections | OCE/Compliance Support |
| LUST | OPRR/Remediation |
| Nonpoint Source Pollution Control | OCE/Monitoring Operations |
| Public Water System Supervision | OPRR/Water Supply |
| RCRA | OPRR/Waste Permits |
| Superfund | OPRR/Remediation |
| Surface Water Quality Monitoring | OCE/Monitoring Operations |
| Total Maximum Daily Load Program | CEO/Water Programs |

**(Lead Offices/Divisions, cont.)**

| | |
|---|---|
| UIC | OPRR/Waste Permits |
| Water Quality Assessment | OPRR/Water Quality |

## LEAD QUALITY ASSURANCE STAFF

| Program | Lead Quality Assurance Staff |
|---|---|
| Agency Quality Assurance Program | Stephen Stubbs |
| Air Quality Assessment | Bertie Fernando |
| Aircraft-Based Monitoring | Josefina Calvo |
| Air Quality Monitoring | |
| Community Air Toxics | Rachael Townsend |
| NAMS/SLAMS/Border | Josefina Calvo |
| NATTS | Rachael Townsend |
| PAMS | Rachael Townsend |
| Pantex | Josefina Calvo |
| $PM_{2.5}$ | Josefina Calvo |
| Section 103(b)(3) Whole Air Monitoring | Rachael Townsend |
| Analytical Method Modification Program | Kyle Girten |
| Coastal Bend Bays and Estuaries Program | Sharon Coleman |
| Continuous Water Quality Monitoring Network | Sharon Coleman |
| Field Operations | Robert Burrell |
| Galveston Bay Estuary Program | Angela Henderson |
| Groundwater Assessment | Cary Betz |
| Laboratory Accreditation/Certification | Josefina Calvo |
| Laboratory Inspections | J. Steven Gibson |
| LUST | Steven Childress |
| Nonpoint Source Pollution Control | Kyle Girten |
| Public Water System Supervision | Gary Regner |
| RCRA | Sheila Meyers |
| Superfund Engineering and Investigations | Steven Childress |
| Superfund PA/SI | Lloyd Johnson |
| Surface Water Quality Monitoring | Sharon Coleman, acting |
| Total Maximum Daily Load Program | Kyle Girten |
| UIC | Sheila Meyers |
| Water Quality Assessment | Sharon Coleman, acting |

**PROGRAM MANAGERS**

| Program | Manager |
|---|---|
| Agency Quality Assurance Program | Stephen Stubbs |
| Air Quality Assessment | Candice Garrett |
| Aircraft-Based Monitoring | Doug Boyer |
| NEI | Charlie Rubick |
| Air Quality Monitoring | |
| Community Air Toxics | Patricia De La Cruz |
| NAMS/SLAMS | Kristin Bourdon |
| NATTS | Patricia De La Cruz |
| PAMS | Kristin Bourdon |
| Pantex | Scott Mgebroff |
| $PM_{2.5}$ Network | Kristin Bourdon |
| Section 103(b)(3) Air Program | Patricia De La Cruz |
| U.S./New Mexico Border | Scott Mgebroff |
| Analytical Method Modification Program | Stephen Stubbs |
| Coastal Bend Bays and Estuaries Program | Thomas Weber |
| Continuous Water Quality Monitoring Network | Patrick Roques |
| Field Operations | Steve Ligon |
| Galveston Bay Estuary Program | Helen Drummond |
| Groundwater Assessment | Steve Musick |
| Laboratory Accreditation/Certification | Stephen Stubbs |
| LUST - RCRA, Subtitle 1 | Alan Batcheller |
| Nonpoint Source Pollution Control | Laurie Curra |
| Public Water System Supervision | Eugene Henderson |
| RCRA | |
| Corrective Action | Ata-ur-Rahman |
| Enforcement | Richard Clarke |
| Field Operations | Patricia Fontenot |
| Modeling | Dom Ruggeri |
| Permitting | Katherine Nelson |
| Registration & Reporting | Dorca Zaragosa-Stone |
| Toxicology | Michael Honeycutt |
| Superfund | |
| Core | David Hastings |
| Brownfields | Mike Frew |
| Engineering and Investigations | Jay Carsten |
| PA/SI | Kelly Cook |
| Surface Water Quality Monitoring | Patrick Roques |
| Total Maximum Daily Load Program | Faith Hambleton |
| UIC | Ben Knape |
| Water Quality Assessment | Mark Fisher |

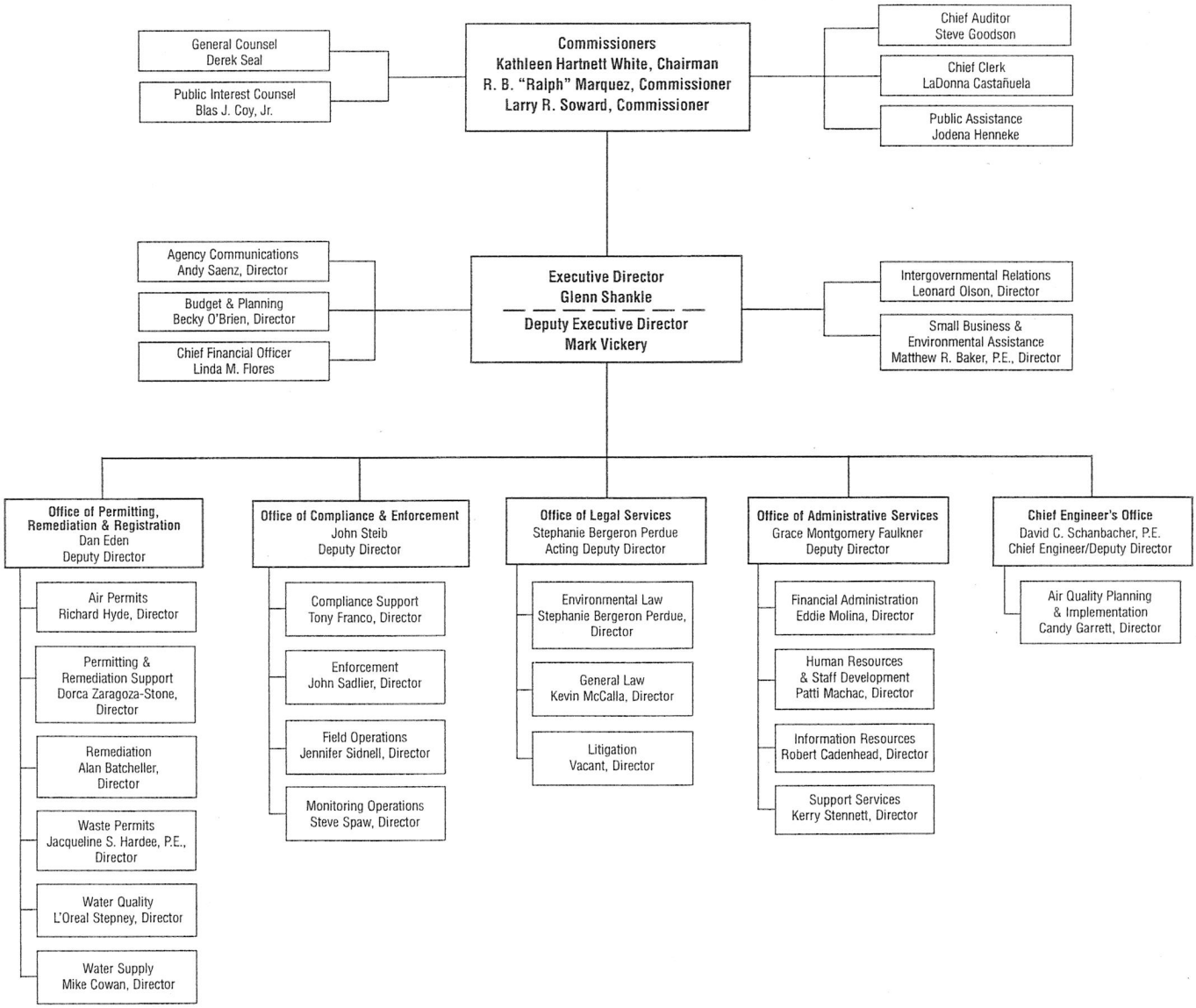
## GRANT MANAGERS

| Program | Grant Manager |
|---|---|
| Air Quality Assessment | Leigh Ann Brunson |
| Aircraft-Based Monitoring | Ken Rozacky |
| Air Quality Monitoring | |
| Community Air Toxics | Scott Mgebroff |
| NAMS/SLAMS | Scott Mgebroff |
| NATTS | Patricia De La Cruz |
| PAMS | Scott Mgebroff |
| Pantex | Scott Mgebroff |
| $PM_{2.5}$ Network | Scott Mgebroff |
| Section 103(b)(3) Air Program | Patricia De La Cruz |
| U.S./New Mexico Border | Scott Mgebroff |
| Coastal Bend Bays and Estuaries Program | Frank Fuller |
| CWA Section 106 Water Pollution Control Grant (Groundwater) | Steve Musick |
| CWA Section 106 Water Pollution Control Grant (Categorical/Supplemental) | Gail Rothe |
| CWA Section 106 Water Pollution Control Grant (PPG-Surface Water) | Suzanne Vargas |
| FIFRA Groundwater | Steve Musick |
| Galveston Bay Estuary Program | Helen Drummond |
| LUST - RCRA, Subtitle 1 | Michael Bame |
| Nonpoint Source Pollution Control | Laurie Curra |
| Public Water System Supervision | Eugene Henderson |
| RCRA | Brenda Foster |
| Superfund | |
| Core | Randy Arnett |
| Brownfields | Mike Frew |
| Engineering and Investigations | David Hastings |
| PA/SI | Kelly Cook |
| UIC | Ben Knape |

Note: The TCEQ Federal Funds Coordinator is John Janak, Manager, Federal Grants Management Team, Budget and Planning Division.

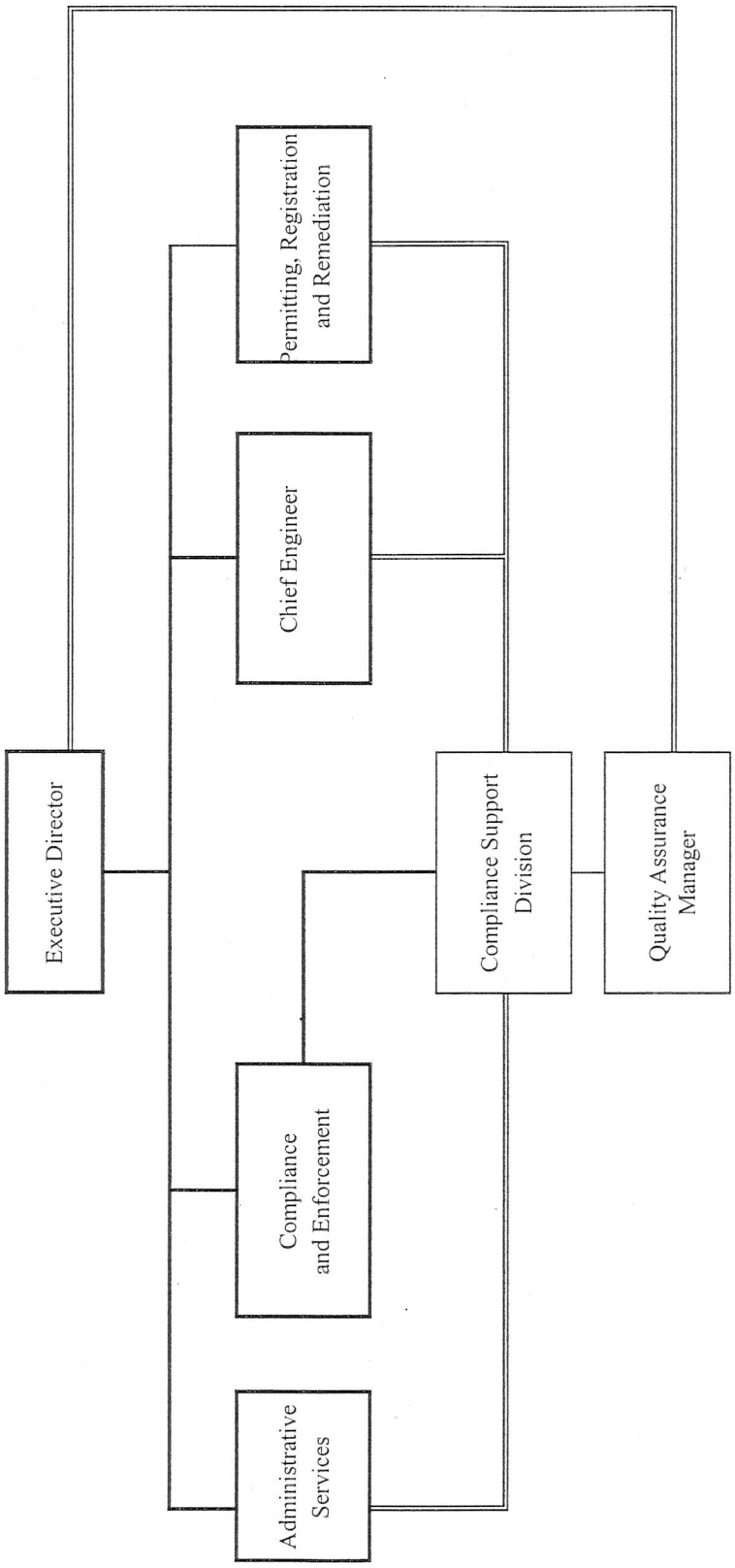
# APPENDIX E
# ORGANIZATION CHARTS

## TCEQ ORGANIZATION
January 2006



# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

## Quality Assurance Organization



# APPENDIX F
# PREPARATION, REVIEW, APPROVAL, AND DISTRIBUTION OF QUALITY MANAGEMENT PLANS

Quality management plans shall be prepared as necessary to address environmental programs (as defined in *EPA Requirements for Quality Management Plans*, EPA QA/R-2) listed in appendix A.

## PREPARATION

QMPs shall be developed in accordance with quality assurance requirements contained or referenced in this QMP and shall clearly state any interpretations, limitations, or exceptions to those requirements. The Quality Assurance Manager shall coordinate preparation of the agency QMP.

TCEQ QMPs shall be prepared with the involvement and assistance of program and quality assurance staff from all participating organizations. All participating organizations, including EPA, shall be afforded an opportunity to review and comment on the agency QMP prior to its approval and implementation. Unless other arrangements have been agreed upon, reviewers should be given a minimum of 30 days in which to review QMPs. Review comments, responses to comments, and revisions shall be documented and provided to reviewers.

## APPROVAL

TCEQ QMPs shall be approved prior to implementation. Approval of the agency QMP shall be documented by the signatures of the Executive Director, Deputy Directors, and the Quality Assurance Manager as well as the EPA Region 6 Quality Assurance Manager.

## TCEQ CONTRACTORS

Contractors shall be bound by requirements delineated in the TCEQ QMP to the extent these requirements pertain to the goals and objectives of their work.

## DISTRIBUTION OF QMPs

The Quality Assurance Manager shall distribute copies of the approved agency QMP to the Executive Director, Deputy Directors, participating divisions, and lead quality assurance staff as well as EPA Region 6. Lead quality assurance staff (appendix D) shall distribute copies of the agency QMP to TCEQ personnel and contractors whose work requires knowledge of and adherence to requirements and specifications contained in the document.

## MAINTENANCE OF QMPs

The Quality Assurance Manager shall ensure the agency QMP is current and up-to-date.

## QMP REVISIONS

The agency QMP shall be reissued annually or revised and reissued within 120 days of significant changes. If the QMP accurately reflects agency goals and policies, the annual reissuance may be done by a certification that the plan is current, to include a copy of new, signed approval pages.

## EXPEDITED CHANGES

Expedited changes to QMPs may be approved to reflect changes in organization, mission, and key personnel, address deficiencies and nonconformances, improve operational efficiency, or accommodate unique and unusual circumstances. Expedited changes to QMPs are effective upon approval by the TCEQ Quality Assurance Manager and the EPA Region 6 Quality Assurance Manager.

# APPENDIX G
# PREPARATION, REVIEW, APPROVAL, AND DISTRIBUTION OF QUALITY ASSURANCE PROJECT PLANS

Quality Assurance Project Plans shall be prepared for projects involving environmental work (as defined in *EPA Requirements for Quality Assurance Project Plans*, EPA QA/R-5) governed by this QMP. The QAPP requirements will be applied to all agency environmental programs that acquire, generate, or compile data on behalf of or funded by EPA.

QAPPs document how environmental data operations are organized, planned, implemented, and assessed. They also define in detail how specific quality assurance and quality control activities will be applied. None of the environmental work governed by this QMP may be initiated until an approved QAPP is distributed to project personnel.

## QAPP PREPARATION AND REVIEW

QAPPs shall be prepared in accordance with requirements contained in EPA QA/R-5. Unless otherwise directed by the lead Deputy or Division Directors, project managers shall, with the assistance of the lead quality assurance staff, coordinate the preparation of QAPPs.

QAPPs shall be prepared with the involvement and assistance of program and quality assurance staff from all participating organizations, using a systematic planning process, such as the data quality objectives process (*Guidance for the Data Quality Objectives Process*, EPA QA/G-4) or comparable alternative. All participating organizations, including EPA, shall be afforded an opportunity to review and comment on proposed QAPPs prior to their approval and implementation. Unless other arrangements have been agreed upon, reviewers should be given a minimum of 30 days in which to review QAPPs. Review comments, responses to comments, and revisions shall be documented and provided to reviewers.

## APPROVAL

QAPPs shall be approved prior to the initiation of environmental work activities. At a minimum, QAPP approvals shall be documented by the signatures specified in table 1. Deputy and Division Directors, Section and Grant Managers, and the Quality Assurance Manager may delegate QAPP approval authority. The lead Division Director, section, grant, program, and project managers, participating quality assurance specialists, or Quality Assurance Manager may require additional approval signatures.

**Table 1**
**QAPP Approval Requirements**

| | Exec Dir | Dep Dir | Grant Mgr | Div Dirs | Sec Mgrs | Pgm Mgr | Pjt Mgr | QA Specs | QA Mgr | EPA |
|---|---|---|---|---|---|---|---|---|---|---|
| Air Quality Assessment | | | • | o | • | • | • | • | • | • |
| Air Quality Monitoring | | | • | • | • | • | • | • | • | □ |
| Coastal Bend Bays and Estuaries Program | | | • | o | • | • | • | • | • | • |
| CWA Section 106 Water Pollution Control | | | | | | | | | | |
| PPG- Groundwater | | | • | • | • | • | • | • | • | • |
| PPG- Surface Water | | | • | o | • | • | • | • | • | • |
| Categorical (Supplemental) Grant | | | o | o | • | • | • | • | • | • |
| Field Operations | | | | • | • | • | | • | • | • |
| FIFRA PPG-Groundwater | | | • | • | • | • | • | • | • | • |
| Galveston Bay Estuary Program | | | • | o | • | • | • | • | • | □ |
| Leaking Underground Storage Tanks (LUST) | | | • | | • | | | • | • | • |
| Nonpoint Source Pollution Control | | | • | o | • | • | • | • | • | • |
| Public Water System Supervision | | | • | o | • | • | • | • | • | • |
| RCRA | | • | • | • | • | • | • | • | • | • |
| Superfund | | | | | | | | | | |
| Generic Investigation & Engineering | | | | | • | • | | • | • | • |
| Site-Specific Investigation & Engineering | | | | | | | • | • | | • |
| PA/SI | | | | | • | • | | • | • | • |
| Total Maximum Daily Load Program | | | o | o | • | • | • | • | • | • |
| UIC | | • | • | • | • | • | • | • | • | • |

• - approval signature(s) required
o - excluding Chief Engineer's Office and Compliance Support, Monitoring Operations and Remediation Divisions for certain QAPPs
□ - excluding QAPPs for local air quality monitoring programs and the Galveston Bay Estuary Program

Unless other arrangements have been approved, new QAPPs, including annual QAPP updates, shall be prepared and approved according to the following timetable:

| Activity | Timetable | Lead Office/Organization |
|---|---|---|
| (Submittal-TCEQ) | 105 days before sampling | (appendix D) |
| (Approval-TCEQ) | 60 days before sampling | |
| (Submission-EPA) | 60 days before sampling | |
| (EPA Comments/Approval) | 15 days before sampling | |

EPA Region 6 may delegate authority for QAPP approval to the TCEQ for certain programs. The TCEQ intends to seek from EPA authority to approve QAPPs on behalf of Region 6. In doing so, the TCEQ will ensure that EPA's role in the development of QAPPs is maintained and that a program's or organization's quality system is capable of achieving data of appropriate and sufficient quality. Written delegation requests are submitted jointly by the TCEQ QA Manager and the lead division director (or designee).

TCEQ project managers or their designees shall submit QAPPs to the EPA Region 6 Quality Assurance Manager. In the event the EPA Project Officer does not provide written approval of or comments describing deficiencies in a QAPP within 45 days, the TCEQ project manager or designee shall contact the EPA Region 6 Quality Assurance Manager and request assistance in determining the status of the QAPP.

## TCEQ CONTRACTORS

Environmental work conducted jointly by TCEQ and contractors or conducted solely by TCEQ contractors shall be planned and documented in QAPPs. QAPPs involving contractors shall be prepared, reviewed, and approved as described above. (Unless TCEQ has delegated authority and oversight of subcontractors, these requirements also apply to environmental work conducted by subcontractors.)

Contractors shall be bound by requirements delineated in QAPPs to the extent these requirements pertain to the goals and objectives of their work. Contractor commitment to requirements contained in QAPPs shall be documented. This documentation may take the form of QAPP approval or concurrence signatures or QAPP distribution receipt signatures.

Unless otherwise specified in written agreements between EPA and TCEQ, formal EPA approval of QAPPs (i.e., approval signatures) is not required for environmental work conducted solely by TCEQ contractors.

## DISTRIBUTION

Project managers, or designees, shall distribute copies of QAPPs to the individuals listed in section A3 (Distribution List) of the documents. At a minimum, distribution shall include participating organizations (offices, divisions, regional offices) within TCEQ, participating contractors, and EPA. TCEQ Division Directors and Regional Directors and contractor representatives shall ensure copies of QAPPs are made available to personnel performing environmental activities governed by these documents.

## MAINTENANCE

Lead quality assurance staff (appendix D) shall maintain an up-to-date list of all QAPPs applicable to their respective programs as well as approved copies of these documents. Unless a longer retention period is specified in a grant, record retention schedule, or other governing document, lead quality assurance staff, or designees, shall retain QAPPs for three years after the end of the project period.

## REVISIONS

Until environmental work is completed, QAPPs shall be revised as necessary and reissued annually on their anniversary date or revised and reissued within 120 days of significant changes, whichever is sooner. The last approved versions of QAPPs shall remain in effect until revised versions have been approved. If the entire QAPP is current, valid, and accurately reflects the project goals and the organization's policy, the annual reissuance may be done by a certification that the plan is current, to include a copy of new, signed approval pages for the QAPP.

## AMENDMENTS

Amendments to QAPPs may be approved to reflect changes in project organization, tasks, schedules, objectives, and methods, address deficiencies and nonconformances, improve operational efficiency, and accommodate unique or unanticipated circumstances. When changes are needed, the TCEQ project manager will, in conjunction with the lead quality assurance specialist, present the changes to the EPA Region 6 project officer. If the EPA project officer deems the changes to be substantive, the TCEQ project manager will submit a formal amendment for approval. If the EPA project officer deems the changes to be non-substantive, all individuals and organizations contained in the QAPP distribution list will be notified in writing of the changes being made. These changes will remain in effect until the next revision of the QAPP.

Amendments are effective immediately upon approval by the lead quality assurance staff person, the project manager or designees, and the EPA Region 6 project officer. Amendments to QAPPs and the reasons for the changes shall be documented. Changes to QAPPs shall be distributed to all individuals and organizations contained in the QAPP distribution list.

Amendments shall be reviewed, approved, and incorporated into a revised QAPP during the annual revision process or within 120 days of the initial approval in cases of significant changes.

# APPENDIX H
# GLOSSARY OF TERMS AND PHRASES

Accreditation - The process by which the commission evaluates and recognizes a laboratory as meeting standards for accreditation and commission rules.

Accuracy - The degree of agreement between a measured value and a "true" value, often expressed as percent recovery of a spiked sample. Accuracy includes a combination of random error (precision) and systematic error (bias) components that result from sampling and analytical components.

Activity - An all-inclusive term describing a specific set of operations or related tasks to be performed, either serially or in parallel (e.g., research and development, field sampling, analytical operations, equipment fabrication), that in total result in a product or service.

Ambient Water Reporting Limit (AWRL) - the specification at or below which ambient water data will be reported to the TCEQ. Ongoing ability to recover an analyte at the AWRL is demonstrated through analysis of a calibration or check standard at the AWRL.

Amendment - A change to a quality assurance document. Normally, an amendment to a quality assurance document is identified by a change number (e.g., EPA Order 5360 CHG 1 (1998)) but does not require reissuance of the original document.

Assessment - The evaluation process used to measure the performance or effectiveness of a system and its elements, including audit, performance evaluation, quality system audit, peer review, inspection, or surveillance.

Audit - A systematic and independent examination to determine whether activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve objectives.

Auditee - The organization being audited.

Auditor - A person qualified to perform audits.

Bias - The systematic or persistent distortion of a measurement process which causes errors in one direction (i.e., the expected sample measurement is different from the sample's true value.).

Business Plans - Annual office- and division-specific descriptions of organizational missions, philosophy, objectives, strategies, programs, partnerships, self-assessments, and key initiatives.

Calibration - Comparison of a measurement standard, instrument, or item with a standard or instrument of higher accuracy to detect and quantify inaccuracies and to report or eliminate those inaccuracies by adjustments.

Career Ladders - Documented descriptions of the education, knowledge, skills, abilities, certifications, and other requirements needed for entry into and advancement through occupational categories.

Chain of Custody - An unbroken trail of accountability that ensures the physical security of samples, data, and records.

Characteristic - Any property or attribute of a datum, item, process, or service that is distinct, describable, and/or measurable.

Certification - The recognition of a laboratory as having met the requirements in EPA's *Manual for the Certification of Laboratories Analyzing Drinking Water,* EPA 815-B-97-001, March 1997, and 25 TAC 73.25.

Comments - Statements made by auditors in an audit report to assist an auditee. Comments do not require corrective action or response from the auditee.

Computer Program - A sequence of instructions suitable for processing by a computer. Processing may include the use of an assembler, a compiler, an interpreter, or a translator to prepare the software for execution. Software may be stored on magnetic media and be referred to as "software" or may be stored permanently on computer chips and referred to as "firmware." Computer programs covered by this plan are those used for design analysis, data acquisition, data reduction, data storage (databases), operation or control, and database or control registers when used as the controlled source of quality information.

Conformance - An affirmative indication or judgment that a product or service has met the requirements of the relevant specifications, contract, or regulation; also, the state of meeting the requirements.

Contractor - Any organization or individual that contracts to furnish services or items or to perform work; a supplier in a contractual relationship. For the purposes of the TCEQ quality assurance program, the term also includes individuals and organizations that participate in environmental programs or projects but may not receive monetary compensation for goods and services they provide or work they perform.

Corrective Action - An action taken to eliminate the causes and effects of an existing nonconformance, deficiency, or other undesirable situation.

Customer - Any individual or organization for whom items or services are furnished or work is performed in response to requirements and expectations.

Data Quality Assessment - A process for performing statistical analysis to determine whether the quality of a data set is adequate for its intended use.

Data Quality Objectives (DQOs) - Qualitative and quantitative statements derived from the DQO process that clarify study, technical, and quality objectives; define the appropriate type of data; and specify tolerable levels of potential decision errors that will be used as the basis for establishing the quality and quantity of data needed to support decisions.

Data Quality Objectives Process - A systematic strategic planning tool based on the scientific method that identifies and defines the type, quality, and quantity of data needed to satisfy a specified use.

Deficiency - An unauthorized deviation from acceptable procedures or practices, or a defect in an item.

Design - Specifications, drawings, design criteria, and performance requirements as well as the result of deliberate planning, analysis, mathematical manipulations, and design processes.

Design Change - Any revision or alteration of the technical requirements defined by approved and issued design output documents and approved and issued changes thereto.

Design Review - A documented evaluation by a team, including personnel such as the responsible designers, the customer for the work or product being designed, and a quality assurance representative, but other than the original designers, to determine if a proposed design will meet the established design criteria and perform as expected when implemented.

Document - Written or pictorial information describing, defining, specifying, reporting, or certifying activities, requirements, procedures, or results.

Employee Performance Reviews and Development Plans - Formal, employee-specific assessments of performance requirements, achievements, and development needs.

Environmental Conditions - The description of a physical medium (e.g., air, water, soil, sediment) or biological system expressed in terms of its physical, chemical, radiological, or biological characteristics.

Environmental Data - Measurements or information that describe environmental processes or conditions or the performance of environmental technology.

Environmental Data Operations - Work performed to obtain, use, or report information pertaining to environmental processes and conditions.

Environmental Monitoring - The process of measuring or collecting environmental data.

Environmental Processes - Manufactured or natural processes that produce discharges to or that affect the ambient environment.

Environmental Programs - Any work or activities involving the environment, including characterization of environmental processes or conditions; environmental monitoring; environmental research and development; operation of environmental technologies; and laboratory operations on environmental samples. Environmental programs normally comprise one or more projects and may involve one or more grants.

Environmental Technology - Pollution control devices and systems, waste treatment processes and storage facilities, and site remediation technologies and their components that may be added to process discharges (e.g., emissions, effluents) or used in the ambient environment to remove pollutants or contaminants from or prevent them from entering the environment.

Expedited Change - A change in or amendment to a quality assurance document (e.g., QMP, QAPP) that is authorized through an abbreviated review and approval process.

Financial Assistance - The process by which funds are provided by one organization (usually government) to another organization for the purpose of performing work or furnishing services or items. Financial assistance mechanisms include grants, cooperative agreements, and government interagency agreements.

Finding - An assessment conclusion (positive or negative) that identifies a condition having a significant effect on an item or activity and is normally accompanied by specific examples of the observed condition.

Functional Job Description - Position-specific descriptions of job functions, duties, and abilities.

Graded Approach - The process of basing the level of application of managerial controls applied to an item or work according to the intended use of the results and the degree of confidence needed in the quality of the results.

Grant - An agreement between TCEQ and another entity concerning the production of environmental items; grant, cooperative agreement, contract.

Grant Manager - A functional title that refers to the individual authorized to manage a federally-funded grant to its conclusion and accountable for the successful completion of grant-related tasks and objectives.

Hazardous Waste - A solid waste identified or listed as a hazardous waste by the Administrator of the U.S. Environmental Protection Agency under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended.

Independent Assessment - An assessment performed by a qualified individual, group, or organization that is not a part of the organization directly performing and accountable for the work being assessed.

Inspection - An activity such as measuring, examining, testing, or gauging one or more characteristics of an entity and comparing the results with specified requirements in order to establish whether conformance is achieved for each characteristic.

Item - An all-inclusive term used in place of the following: appurtenance, facility, sample, assembly, component, equipment, material, module, part, product, structure, subassembly, subsystem, unit, documented concepts, or data.

Lead Quality Assurance Specialist - A functional title that refers to an individual authorized to coordinate development and implementation of the quality assurance program for a TCEQ organization or program.

Management - Those individuals directly responsible and accountable for planning, implementing, and assessing work.

Management System - A structured, non-technical system describing the policies, objectives, principles, organizational authority, responsibilities, accountability, and implementation plan of an organization for conducting work and producing items and services.

Measurement and Testing Equipment (MTE) - Tools, gauges, instruments, sampling devices, or systems used to calibrate, measure, test, or inspect in order to control or acquire data to verify conformance to specified requirements.

Method - A body of procedures or techniques for performing an activity (e.g., sampling, chemical analysis, quantification) systematically presented in the order in which they are to be executed.

Minimum Analytical Level (MAL) - The lowest concentration at which a particular substance can be quantitatively measured with a defined precision level, using approved analytical methods.

Mixed Waste - A combination of hazardous waste and low-level radioactive waste.

Nonconformance - A deficiency in characteristic, documentation, or procedure that renders the quality of an item or activity unacceptable or indeterminate; non-fulfillment of a specified requirement.

Objective Evidence - Any documented statement of fact, other information, or record, either quantitative or qualitative, pertaining to the quality of an item or activity, based on observations, measurements, or tests which can be verified.

Observation - A statement of fact that is supported by objective evidence and made during an audit.

Organization - A company, corporation, firm, enterprise, or institution, or part thereof that has its own functions and administration.

Organizational Structure - The responsibilities, authorities, and relationships, arranged in a pattern, through which an organization performs its functions.

Peer Review - A documented, critical review of work generally beyond the state of the art or characterized by the existence of potential uncertainty. The peer review is conducted by qualified individuals (or organizations) who are independent of those who performed the work but are equivalent in technical expertise (i.e., peers) to those who performed the original work. The peer review is conducted to ensure that activities are technically adequate, competently performed, properly documented, and satisfy established technical and quality requirements. The peer review is an in-depth assessment of the assumptions, methodology, acceptance criteria, and conclusions pertaining to specific work and of the documentation that supports them. Peer reviews provide an evaluation of a subject where quantitative methods of analysis or measures of success are unavailable or undefined, such as in research and development.

Performance Evaluation - A type of audit in which quantitative data generated in a measurement system are obtained independently and compared with routinely obtained data to evaluate the proficiency of an analyst or laboratory.

Precision - A measure of mutual agreement among individual measurements of the same property, usually under prescribed similar conditions, expressed generally in terms of the standard deviation.

Procedure - A specified way to perform an activity.

Process - A set of interrelated resources and activities which transforms inputs into outputs.

Program - See environmental programs.

Program Manager - A functional title that refers to the individual authorized to manage an ongoing environmental program and accountable for the successful completion of program-related tasks and objectives. Program managers may be Division Directors, Section Managers, or Team Leaders.

Project - An organized set of activities within a program.

Project Manager - A functional title that refers to the individual authorized to manage an environmental project, including work performed by contractors, to its conclusion and who is accountable for the successful completion of project-related tasks and objectives.

Quality - The totality of features and characteristics of a product or service that bear on its ability to meet the stated or implied needs and expectations of the user.

Quality Assurance (QA) - An integrated system of management activities involving planning, implementing, assessment, reporting, and quality improvement to ensure that a process, item, or service is of the type and quality needed and expected by the customer.

Quality Assurance Project Plan (QAPP) - A formal document describing in comprehensive detail the necessary quality assurance, quality control, and other technical activities that must be implemented to ensure that the results of the work performed will satisfy the stated performance criteria.

Quality Assurance Record - A document that furnishes objective evidence of the quality of items or activities and that has been verified and authenticated as technically complete and correct.

Quality Control (QC) - The overall system of technical activities that measures the attributes and performance of a process, item, or service against defined standards to verify that they meet the stated requirements established by the customer; operational techniques and activities that are used to fulfill requirements for quality.

Quality Improvement - A management program for improving the quality of operations.

Quality Management Plan (QMP) - A formal document or manual, usually prepared once for an organization, that describes the quality system in terms of organizational structure, functional responsibilities of management and staff, lines of authority, and required interfaces for those planning, implementing, and assessing all activities conducted.

Quality System - A structured and documented management system (1) describing the policies, objectives, principles, organizational authority, responsibilities, accountability, and implementation plan of an organization for ensuring quality in its work processes, products (items), and services and (2) providing the framework for planning, implementing, and assessing work performed by the organization and for carrying out required quality assurance and quality control.

Quality System Audit - A systematic and independent examination and evaluation to determine whether an organization's quality system complies with planned arrangements and whether these arrangements are implemented effectively and are suitable for achieving objectives.

Radioactive Material - A naturally occurring or artificially produced solid, liquid, or gas that emits radioactivity spontaneously.

Radioactive Substance - (1) By-product material, (2) naturally occurring radioactive material (NORM) waste, excluding oil and gas NORM waste; (3) radioactive material; (4) radioactive waste; (5) source material; (6) source of radiation; and (7) special nuclear material.

Readiness Review - A systematic, documented assessment of the readiness for the startup or continued uses of a facility, process or activity. A readiness review is usually conducted before proceeding beyond a project milestone and prior to initiating a major phase of work.

Remediation - The process of reducing the concentration of a contaminant (or contaminants) in air, water, or soil media to a level that poses an acceptable risk to human health.

Representativeness - A measure of the degree to which data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, a process condition, or an environmental condition.

Reproducibility - The precision, usually expressed as a standard deviation, that measures the variability among the results of measurements of the same sample at different laboratories.
Revision - A reissued quality assurance document (e.g., QMP, QAPP, etc.). A reissued document is usually identified by a revision, or version, number (e.g., TCEQ Quality Management Plan, Rev. 04) to distinguish it from a superceded and out-of-date document.

Root Cause - The underlying cause of an adverse condition which, when corrected, will prevent further recurrence of the condition.

Self-Assessment - Assessments of work conducted by individuals, groups, or organizations directly responsible for overseeing and/or performing the work.

Service - The result generated by activities at the interface between the supplier and the customer, and by the supplier's internal activities to meet customer needs.

Significant Condition - Any state, status, incident, or situation of an environmental process or condition, or environmental technology, in which the work being performed will be adversely affected sufficiently to require corrective action to satisfy quality objectives or specifications and safety requirements; a condition that, if uncorrected, could have a serious effect on safety, integrity, validity, or availability of environmental data, operations, or systems.

Software Life Cycle - The period of time that starts when a software product is conceived and ends when the software product is no longer available for routine use. The software life cycle typically includes a requirements phase, a design phase, an implementation phase, a test phase, an installation and check-out phase, an operation and maintenance phase, and sometimes a retirement phase.

Specification - A document stating requirements and which refers to or includes drawings or other relevant documents. Specifications should indicate the means and the criteria for determining conformance.

Standard Operating Procedure (SOP) - A written document that details the method for an operation, analysis, or action with thoroughly prescribed techniques and steps and that is officially approved for performing certain routine or repetitive tasks.

Supplier - Any individual or organization furnishing services or performing work according to an agreement between two parties, such as a contract or financial assistance agreement (i.e., vendor, seller, contractor, subcontractor, fabricator, or consultant).

Surveillance - Continual or frequent monitoring and verification of the status of an entity and the analysis of records to ensure that specific requirements are being fulfilled.

Technical Review - A documented critical review of work that has been performed within the state of the art. The review is accomplished by one or more qualified reviewers who are independent of those who performed the work but are collectively equivalent in technical expertise to those who performed the original work. The review is an in-depth analysis and evaluation of documents, activities, material,

data, or items that require technical certification or validation for applicability, correctness, adequacy, completeness, and assurance that established requirements are satisfied.

Technical Systems Audit (TSA) - A thorough, systematic, on-site qualitative audit of facilities, equipment, personnel, training procedures, record keeping, data validation, data management, and reporting aspects of a system.

TCEQ Strategic Plan - A long-range planning and assessment tool. All Texas agencies must revise their strategic plans every two years.

Traceability - The ability to trace the history, application, or location of an entity by means of recorded information. For calibrations, traceability relates measuring equipment to national or international standards, primary standards, basic physical constants or properties, or reference materials. For data collection, traceability relates calculations and data generated throughout the project back to the quality requirements for the project.

User - An organization, group, or individual that uses the results or products from environmental programs. A user may be a customer for whom the results or products were collected or created.

Validation - Confirmation by examination and provision of objective evidence that the requirements for a specific intended use are fulfilled. For design and development, validation concerns the process of examining a product or result to determine conformance to user needs.

Verification - Confirmation by examination and provision of objective evidence that specified requirements have been fulfilled. For design and development, verification concerns the process of examining a result of a given activity to determine conformance to the stated requirements for that activity.

Work - The process of performing a defined task or activity (e.g., research and development, field sampling, analytical operations, equipment fabrication).