Quality Management Plan

Revision 30

Texas Commission On Environmental Quality

TCEQ GI-645

Prepared by:
Air Monitoring Division
November 2024

Section 1: Title, Table of Contents, and List of Acronyms and Abbreviations

Project Title

Quality Management Plan, Revision 30

Organization

Texas Commission on Environmental Quality

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List of Acronyms and Abbreviations

Acronym	Definition
ADA	Americans with Disabilities Act
AEA	Atomic Energy Act
AGD	Air Grants Division
AMD	Air Monitoring Division
AMM	Analytical Method Modification
ANSI	American National Standards Institute
APD	Air Permits Division
AQD	Air Quality Division
ASQ	American Society for Quality
CAP	Corrective Action Plan
CATMN	Community Air Toxics Monitoring Network
CBBEP	Coastal Bend Bays and Estuaries Program
CCMP	Comprehensive Conservation and Management Plan
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act (also known as Superfund)
CID	Critical Infrastructure Division
CO	Carbon Monoxide
COGs	Councils of Governments
CPRG	Climate Pollution Reduction Grant
CRP	Clean Rivers Program
CWA	Clean Water Act
CWQMN	Continuous Water Quality Monitoring Network
DCS	Data Center Services
DIR	Texas Department of Information Resources
DMO	Data Management Officer
DQO	Data Quality Objective
EPA/U.S. EPA	United States Environmental Protection Agency

Acronym	Definition
EPA-QA/G-#	EPA Quality Assurance Guidance Document
EPA-QA/R-#	EPA Quality Assurance Requirements Document
FCAA	Federal Clean Air Act
FEM	Forum on Environmental Measurements (EPA)
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FJD	Functional Job Description
FLSA	Fair Labor Standards Act
FOG	Field Operations Group (EPA)
GAP	Guide for Administrative Procedures Manual
GBEP	Galveston Bay Estuary Program
GIS	Geographic Information Systems
GOC	PPG or Grant Office Coordinator
GPS	Global Positioning System
H_2S	Hydrogen Sulfide
HRSS	Human Resources and Staff Services
IGR	Intergovernmental Relations Division
IHW	Industrial and Hazardous Waste
IRD	Information Resources Division
IRM	Information Resources Manager
ISO/IEC	International Organization for Standardization/International Electrotechnical Commission
IT	Information Technology
ITSC	Information Technology Steering Committee
LMS	Learning Management System
LTSCC	Lead Testing in School and Child Care
LUST	Leaking Underground Storage Tank
MARLAP	Multi-Agency Radiological Laboratory Analytical Protocols
MCW	Marginal Conventional Wells

Acronym	Definition
MMT	Mobile Monitoring Team
MQ	Minimum Qualifications
MQO	Measurement Quality Objective
MSR	Management System Review
NAAQS	National Ambient Air Quality Standards
NEI	National Emissions Inventory
NEIEN	National Environmental Information Exchange Network
NELAC	National Environmental Laboratory Accreditation Conference
NELAP	National Environmental Laboratory Accreditation Program
NMOC	Non-Methane Organic Compounds
NORM	Naturally Occurring Radioactive Material
NO_2	Nitrogen Dioxide
NO_x	Oxides of Nitrogen
NPS	Nonpoint Source
NRC	Nuclear Regulatory Commission
O_3	Ozone
OA	Office of Air
OAS	Office of Administrative Services
OCE	Office of Compliance and Enforcement
OLS	Office of Legal Services
OOW	Office of Waste
OPP	Operating Policy and Procedure
OW	Office of Water
PAL	Project Asset Library
PAMS	Photochemical Assessment Monitoring Stations
PA/SI	Preliminary Assessment/Site Inspection
Pb	Lead
PDCA	Plan, Do, Check, Act

Acronym	Definition
$PM_{2.5}$	Particulate Matter of 2.5 micrometers or less in diameter
PM_{10}	Particulate Matter of 10 micrometers or less in diameter
PPA	Performance Partnership Agreement
PPG	Performance Partnership Grant
PST	Petroleum Storage Tank
PWSSP	Public Water System Supervision Program
QA	Quality Assurance
QAFAP	QA Field Activities Procedure (EPA)
QAM	Quality Assurance Manager
QAP	Quality Assurance Plan
QAPP	Quality Assurance Project Plan
QC	Quality Control
QMP	Quality Management Plan
QSA	Quality System Audit
RCRA	Resource Conservation and Recovery Act
RSWMP	Regional Solid Waste Management Plans
RESTORE	Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States Act
RM	Radioactive Materials
RMD	Radioactive Materials Division
SaaS	Software as a Service
SAP	Sampling and Analysis Plan
SDWA	Safe Drinking Water Act
SLAMS	State or Local Air Monitoring Stations
SMART	Strategic Mobile Air Reconnaissance Technology
SMART-RA	Strategic Mobile Air Reconnaissance Technology-Rapid Assessment
SO_2	Sulfur Dioxide
SIM	State Initiative Monitoring Network

Acronym	Definition
SIP	State Implementation Plan
SOP	Standard Operating Procedure
SWIFR	Solid Waste Infrastructure for Recycling
SWQM	Surface Water Quality Monitoring
SWQMIS	Surface Water Quality Monitoring Information System
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TERP	Texas Emissions Reduction Plan
TMDL	Total Maximum Daily Load
TNI	The NELAC Institute
TSA	Technical Systems Audit
TxMCW	Texas Voluntary Marginal Conventional Well Plugging Program
TX-RAMP	Texas Risk and Authorization Management Program
UIC	Underground Injection Control
U.S.	United States
USGS	United States Geological Survey
VOC	Volatile Organic Compounds
WIIN	Water Infrastructure Improvements for the Nation
WSD	Water Supply Division
WQA	Water Quality Assessment
WQS	Water Quality Standards

Section 2: QMP Approvals

Name and Title	Signature	Date
Christy Warren Regional Quality Assurance Manager U.S. Environmental Protection Agency Region 6	ELIZABETH WARREN Digitally signed by ELIZABETH WARREN Date: 2024.12.19 06:29:29 -06'00'	
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Section 3: Quality Statement

Quality assurance (QA) may be defined as:

> *Management of an integrated system of activities involving planning, implementation, documentation, assessment, reporting, and quality improvement to ensure that a process, item, or service is of the type and quality needed and expected by the organization.*
>
> Environmental Protection Agency (EPA/U.S. EPA) *Environmental Information Quality Procedure*, (*CIO 2105-P-01.4*), March 2024

Formal, documented QA programs are a prerequisite for federal funding of environmental data activities from EPA. *American Society for Quality (ASQ)/American National Standards Institute (ANSI) E4: 2014 (R:2019)* is a national consensus standard designed specifically for Quality Programs applied to environmental information and environmental technology programs. EPA assistance agreement recipients must implement or have implemented a quality system conforming to *ASQ/ANSI E4: 2014 (R:2019)*. State law also requires formal QA programs for certain environmental activities. In other cases, the importance and complexity of environmental operations warrant the implementation of formal QA programs.

This Quality Management Plan (QMP) documents and describes the organizational arrangements, processes, procedures, and requirements of Texas Commission on Environmental Quality's (TCEQ, or commission, or agency) QA program. This QMP is written in conformance with EPA's most current version of *QMP Standard (CIO-2105-S-01)*. The requirements described in EPA's QMP Standard are consistent with ASQ/ANSI E4: 2014 (R:2019). The QMP is updated annually by the QA Manager, or designee, with input from all programs governed by this plan, to ensure continuing suitability, adequacy, and effectiveness of the QMP. Approval of the QMP by all the agency's senior management reflects the agency's commitment to the principles and quality systems described in the document.

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 TCEQ employee. All personnel concerned with testing and calibration activities within the agency shall familiarize themselves with the quality documentation and implement the policies and procedures in their work.

This plan is intended to meet all applicable regulatory requirements concerning QA. TCEQ federally funded programs and certain state funded 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, laboratory analyses, and laboratory accreditation. Agency organizations and staff and external contractors are bound by all, or part of the requirements delineated in this QMP, as appropriate. Management and staff are committed to continually improving the effectiveness of the management system.

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 at:

Quality Assurance – Texas Commission on Environmental Quality – www.tceq.texas.gov

For additional information concerning this QMP or other aspects of TCEQ's quality system, please contact:

Quality Assurance Manager
Texas Commission on Environmental Quality
P.O. Box 13087, MC-165
Austin, Texas 78711-3087
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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, 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. 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 stakeholders. The public and regulated community alike can be assured of a balanced and sensible approach to regulation.

Mission Statement

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

To accomplish our mission, we will:

- base decisions on the law, common sense, sound 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 are responsible for ensuring that work products are of known and documented quality and are deemed acceptable for their intended use. Ultimately, we will be judged by how well these products and our programs meet the expectations and needs of our customers. The mission of TCEQ, and its component offices and divisions, is further described in Appendix B

Agency Goal for Quality Assurance

The agency's goal for Quality Assurance is to ensure that the environmental data generated and collected by or for TCEQ is of known quality. The quality of the data becomes known through thoroughly documenting processes and ensuring that those processes are followed.

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 6, 7, 8, 9, 13, 14, 15, and Appendices A, C, D, E and F;
- Employee training: Sections 6, 8, 11, and 12;
- Assessment and response: Section 15c; and
- Quality improvement: Sections 15d and 17.

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 QA and quality control activities, including resources allocated to QA 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.

Section 4: Organization Charts

Texas Commission on Environmental Quality

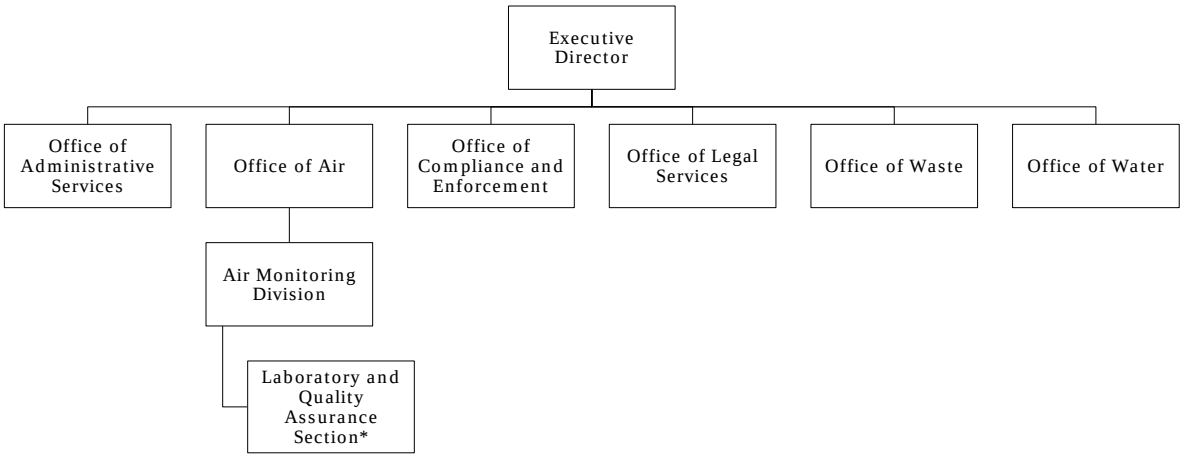
Agency Organization

January 2025

TCEQ's Organization is depicted on the Agency organizational chart located on the TCEQ website.

TCEQ Organization Information – Texas Commission on Environmental Quality – www.tceq.texas.gov

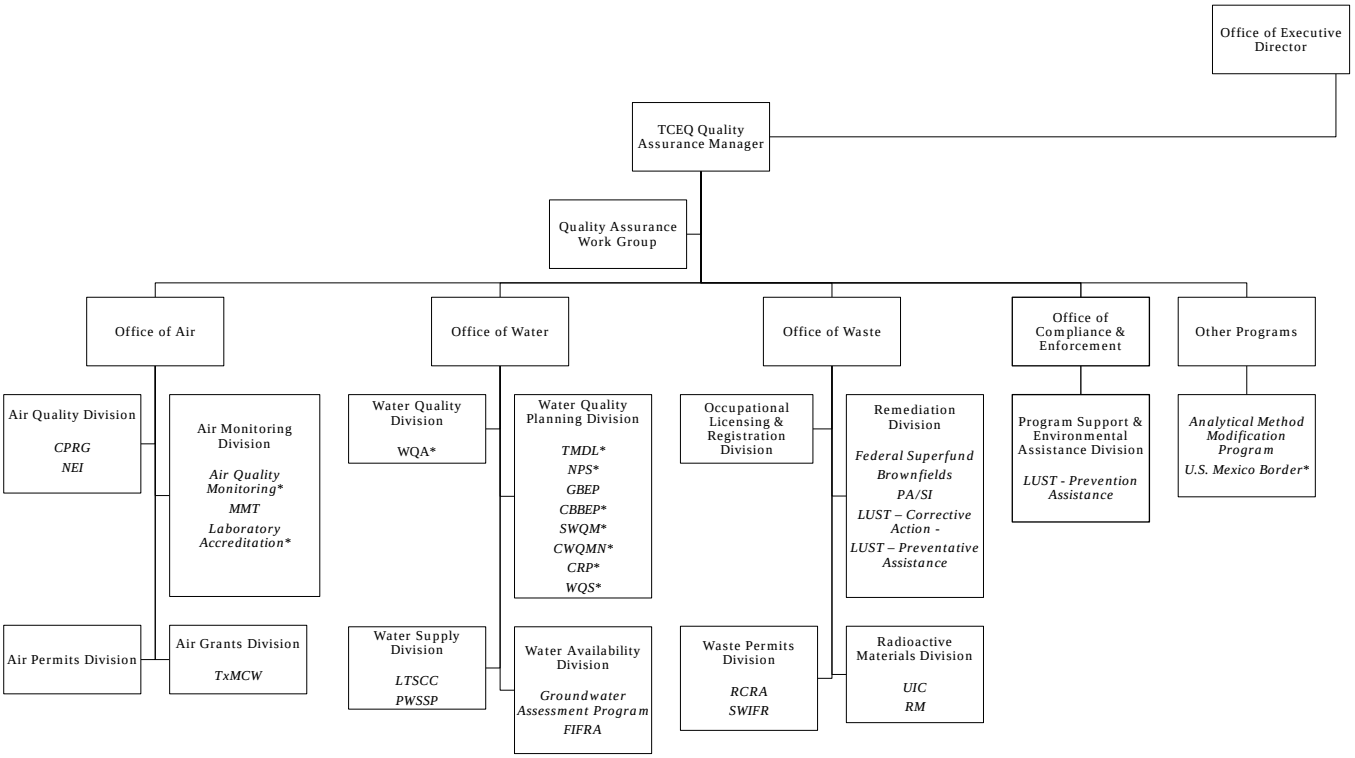
Texas Commission on Environmental Quality Management Organization



This organizational chart depicts TCEQ's management structure as described in Section 5 of the QMP.

Key:
* = Houses TCEQ QA Manager and TCEQ QA Work Group staff

Texas Commission on Environmental Quality Assurance Organization



This organizational chart depicts TCEQ's quality assurance organization structure as described in Section 5 of the QMP.

Key:

* = Lead Quality Assurance Specialist (Appendix D) resides in Quality Assurance Work Group

Section 5: Roles, Responsibilities, and Authorities

TCEQ Organization

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. The Executive Director, who is hired by the commissioners, is responsible for managing the agency's day-to-day operations.

TCEQ is organized into offices. Except for the Executive Director's Office, offices are managed by Directors. Offices are composed of one or more divisions managed by Deputy Directors, except for Regional Areas which are managed by Area Directors and are composed of Regional Offices managed by Regional Directors. (Note: Management functions cited in the QMP for Deputy Directors generally apply to Area Directors as well.) Divisions and Regional Offices are composed of one or more sections, and sections may be further divided into teams. Sections, teams, and work groups are managed by Section Managers, Team Leaders, and Work Leaders, respectively. TCEQ has assigned authority for environmental grants, programs, and projects to grant, program, and project managers, respectively, and has designated lead QA staff for each environmental program.

Responsibilities and Authorities

The mission of TCEQ and its component offices and divisions, is described in Appendix B. Descriptions of personnel responsibilities are in Appendix C. Lists of lead organizations, QA staff, program managers, and grant managers are in Appendix D.

Quality Assurance Organization

TCEQ uses a semi-decentralized QA program, relying on one organizational unit to coordinate development and implementation of the agency-wide program and certain program quality systems, and relying on offices, divisions, and individual programs to implement other QA programs.

TCEQ's QA program is organizationally independent of operational programs and activities within the agency and has sufficient access and authority to coordinate the development and implementation of the agency's quality system. Staff within the QA Work Group of the Air Monitoring Division have access to all work areas and sufficient authority and organizational freedom to identify, initiate, and facilitate solutions to quality problems and to verify the implementation of solutions to problems.

Directors and Deputy Directors have designated lead QA 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.

With delegation from TCEQ's executive management, the TCEQ QA Manager has responsibility for oversight of the agency's QA program and its operations. Issues and questions regarding the agency QA program and its operations may be raised by agency staff and agency management to the TCEQ QA Manager. If the issue or question involves resolving a dispute, Section 16 Dispute Resolution Process, describes the procedure.

Section 6: Technical Activities and Programs Supported by the QMP

The mission of TCEQ and its component offices and divisions, from the organization charts, is described in Appendix B.

TCEQ programs governed by this plan are listed in Appendix A.

Quality System Components

TCEQ has implemented a quality system designed to produce the type and quality of data needed and expected in environmental programs. Environmental data used in agency decisions will be of known and documented quality and will meet specific program- and project-level requirements. 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 QMP. This plan documents the system used to maintain the quality of work conducted by TCEQ, the lines of reporting and communication, and coordination mechanisms.

The quality system includes both organizational and project controls. The term “organizational controls” refers 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.

Components

TCEQ’s 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 (e.g., Title 30, Texas Administrative Code (TAC), Chapter 25, regarding laboratory accreditation and certification), other applicable state and federal rules, and state, federal, and international requirements documents. Appendix A contains a list of applicable quality requirements documents used by TCEQ. Other requirements and specifications may be contained in Performance Partnership Agreements (PPA), grant work plans, and contracts. Work activities for the environmental programs listed in Appendix A are planned using the U.S. Environmental Protection Agency’s (EPA) data quality objectives (DQO) process or a comparable systematic planning process and are documented in quality assurance project plans (QAPPs) or other types of QA documents. Appendix F contains procedures governing the development, approval, implementation, and maintenance of QAPPs.

Section 7: Conformance with Policies, Procedures, Standards, and Regulations

The environmental programs listed in Appendix A are implemented according to specifications and instructions contained in grant work plans and contractual agreements, this QMP, program or project QAPPs, sampling and analysis plans (SAPs), quality assurance plans (QAPs), and standard operating procedures (SOPs). Section 14 describes procedures governing the development and use of quality-related documents and records. Section 15b describes how TCEQ ensures work is performed according to approved plans.

Assessments of environmental programs provide the information used in planning and implementing environmental programs and projects, for accrediting laboratories, and in improving the quality systems. TCEQ Operating Policy and Procedure (OPP) 18.09.01 specifies procedures for planning assessment programs, including planning considerations, types of assessments, and approval processes. TCEQ OPP 18.09.02 sets forth procedures for conducting QA audits. (See also Sections 15c and 15d.)

Section 8: QA Field Activities

Specific QA field activities are described in grant work plans and contractual agreements, program or project QAPPs, SAPs, QAPs, and SOPs.

EPA Field Operations Group (FOG) Operational Guidelines for Field Activities

In 2013, EPA issued "Guidelines for Field Activities" to establish national consistency in field activities and further promote the collection of reliable and defensible environmental data. The guidelines are based on EPA quality-related requirements and provisions in *ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories.* The guidelines are designed to ensure EPA field staff, grantees, and grantee contractors and subcontractors have quality systems that include documentation of the following components:

1. Personnel and Training
2. Document Control
3. Records Management
4. Sampling and Environmental Data Management
5. Field Documentation
6. Field Equipment
7. Field Inspection and Investigations
8. Reports
9. Internal Audits
10. Corrective Action

Although the FOG guidelines serve as guidance and not requirements for TCEQ, elements of the guidelines are already represented in TCEQ QAPPs and other agency QA documents. The TCEQ QA Manager will refer to the guidelines in reviews of program- and project-specific QA documentation when warranted.

The guidelines are now incorporated into EPA's *QA Field Activities Procedure* (QAFAP) (*CIO 2105-P-02.1)* and can be found at:

Environmental Information Policy, Procedures and Standards | US EPA

Section 9: Computer Hardware and Software

Computer hardware, software, and networks used to manage data for environmental programs shall be controlled to ensure reliable stewardship of the data.

Adoption of and Changes to Information Technology Standards

Information technology (IT) standards, and changes to the standards, are approved by the Information Technology Steering Committee (ITSC) or the Information Resources Manager (IRM). Changes to agency standards can be initiated through the agency's IT governance structure and management structures to meet internal needs, legislative and regulatory mandates, and other oversight entity requirements. Information on IT governance and hardware and software management is provided in TCEQ OPPs 8.01 and 8.02 and on TCEQ's Sharenet.

Hardware

Workstations

The Customer Support Center in the Information Resources Division (IRD) maintains workstation standards. The standards specify the minimum configuration with sufficient performance to run the agency's standard software and operate on the local-area networks. Systems are regularly replaced in accordance with IRD's lifecycle refresh strategy.

The Customer Support Center tests examples of each configuration before large orders are placed. All such systems are purchased by IRD following the same specifications and are set up and installed by the Customer Support Center for consistency and supportability.

The IRD Deputy Director or IRM must approve all exceptions to standard workstation configurations. Before exceptions are approved, IRD 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.

Mobile Technology

iPhones and tablets are securely configured and managed by IRD and are assigned where there is a business need.

Servers Managed by TCEQ and Network Components

The Infrastructure Management Section in IRD develops specifications for servers and network devices to meet the service requirements of agency applications.

Servers Managed by Data Center Services Contractor

Standards for servers managed by the Data Center Services (DCS) contractor under a contract with the Texas Department of Information Resources (DIR) are set by the contractor and DIR. TCEQ accesses these services through an interagency contract with DIR.

Exceptions

Exceptions to hardware standards set by TCEQ must be approved by the IRD Deputy Director or

the IRM. Exceptions will be approved only if the business need justifies any additional risk or resource requirements.

Software

Software Developed by TCEQ

TCEQ software development and acquisition projects adhere to the agency's Process Asset Library (PAL), a centralized repository of processes, practices, tools, and templates. The PAL adheres to DIR's Project Delivery Framework, Project Management Institute's Project Management Body of Knowledge, and the Software Engineering Institute's standards and processes. Agency staff assigned to manage IT projects and develop software are required to follow the PAL. This ensures a consistent model by which IT projects are managed, and IT products are developed and acquired.

Purchased Major Applications

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

Software Development and Application Tools

Requirements for software development and application tools are defined by IRD. Tools must conform to the architecture defined by IRD and must be approved by the IRM.

Desktop Software

To minimize support requirements and reduce costs through site licenses, a standard suite of office software and some other standard programs are specified by the IRM. Most such software is configured and installed using automated tools.

Software as a Service

In the Texas 87th Legislative Session, Senate Bill 475 was passed requiring DIR to establish a state risk and authorization management program. Texas Risk and Authorization Management Program (TX-RAMP) was created to ensure certifications on cloud products and services per Texas Government Code Section 2054.0593. This requires Software as a Service (SaaS) outside of the DCS to be added to the DCS listing or TCEQ must request a temporary exemption from DIR.

Data and Information

The responsibility for data quality lies with the program, regardless of whether the information is produced from or collected by IT Systems. During software development, the requirements for data quality are captured, and the inspection and testing procedures ensure that the software delivered meets those requirements.

Staff throughout the agency implementing Geographic Information Systems (GIS) follow DIR and Texas Geographic Information Office quality standards for GIS data.

TCEQ has an Information Security Program in accordance with 1 TAC Chapter 202 to ensure the confidentiality, integrity, and availability of agency data and information.

TCEQ has an Accessibility Program in accordance with 1 TAC Chapters 206 and 213, ensuring the availability of electronic and information resources/information and communication technology to all staff and the public, regardless of ability or disability.

TCEQ has a Data Management Officer (DMO) in accordance with Senate Bill 475, 87th Legislative Session, which requires all state agencies with 150 or more full time employees to appoint a DMO. The Data Management Program and the DMO support the agency's strategic operations and planning by defining, communicating, and driving the implementation of enterprise-wide data governance and data management methodologies.

Change Management

Changes to hardware and software configurations are controlled by change management processes. For systems managed by the DCS provider, the service provider takes primary responsibility for change management with participation and approval of agency personnel. For systems managed by the agency, agency personnel take primary responsibility.

Change management processes, whether managed by the agency or by the service provider, include the following steps:

1. Identify all the components required for the change.
2. Develop a detailed technical plan for the change.
3. Develop a proposed schedule for the change, including arranging for required personnel.
4. Gain applicable change management approval.
5. Notify affected parties.
6. Implement the change at the scheduled time, following the technical plan.
7. Verify and record the outcome of the change implementation.

The technical plan for the change includes the following elements:

The actions the team will take to implement the change;

Test plans the team will execute to tell whether the change was successful, and all components are back in correct operation; and

Recovery processes to repair problems or back out of the change if one or more of the tests fail.

Integrity of systems during changes, including hardware, software, data, and communications systems, is the responsibility of one or more of the following: project team and sponsors, maintenance review teams, application change control boards, and program area IT representatives.

Section 10: Information Quality Guidelines

Per EPA's most current version of *QMP Standard (CIO-2105-S-01)*, Section 10 is only required for EPA organizations and is not applicable to this QMP.

Section 11: Organization Competence

TCEQ personnel shall be qualified to perform assigned work on environmental programs. 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, skills, and abilities shall be verified and documented.

Functional Job Descriptions

Agency management prepares Functional Job Descriptions (FJDs) for each TCEQ position. Each FJD includes a brief job description statement; a list of the essential 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 FJD assists with ensuring proper classification, adherence to the Fair Labor Standards Act (FLSA), and compliance with the Americans with Disabilities Act (ADA). The Human Resources and Staff Services (HRSS) Division reviews, approves, and maintains the FJDs. (See TCEQ OPP 10.01.)

Minimum Qualifications

The agency establishes minimum qualifications (MQs) through the collaborative efforts of program management and HRSS staff. The State Auditor's Office provides general qualification guidelines applicable to all state job classifications; which will be utilized in developing MQs. Each agency job specification includes the MQs, which establish educational requirements, work experience, and any required licenses; knowledge, skills, and abilities; career ladder time-in-grade requirements; and other requirements specific to individual job classifications. HRSS develops and maintains job specifications for non-career ladder and career ladder classification series. (See TCEQ OPPs 10.01 and 10.04.)

Demonstration of Competency

In 2013, EPA's Forum on Environmental Measurements (FEM) issued directive, *FEM 2012-02 Revision 1*, requiring organizations generating or using environmental measurement data under certain EPA-funded assistance agreements to submit documentation of their competency prior to performing new grant-funded work. The directive is effective for grants totaling more than $200,000 and issued or renewed on or after May 14, 2013. The goal of the directive is to ensure organizations (and their grantees/contractors) performing environmental data operations have effective quality management systems and the technical competence to generate valid environmental data.

Each TCEQ grant program will include a statement of competency in its grant work plan and in program/project QA documents. TCEQ will also demonstrate compliance with this directive through laboratory accreditation and documentation of field and other competencies in program and project QA documents. This demonstration may include, but is not limited to:

- Maintaining records of current organizational charts and position descriptions for pertinent TCEQ staff, contractors, and subcontractors, along with major responsibilities and qualifications (e.g., position descriptions, training certificates, degrees, active participation in QA associations as noted in TCEQ QA documents or contractor/ subcontractor files);
- Confirming through the annual QA report that the QMP and applicable QAPPs are being followed, and documenting the training TCEQ staff received for the year;
- Ensuring that training records are maintained in TCEQ files or in contractor and subcontractor files; and
- Maintaining reported results of internal and external audits and assessments of the

programs, including open and closed corrective/preventive actions.

The TCEQ QA Manager will ensure implementation of the directive through coordination with TCEQ's Budget and Planning Division, and with individual programs.

Section 12: Personnel Training

Training needs are determined annually on an agency-wide basis through a needs assessment process and on an individual basis by supervisors in consultation with employees. Training needs are based on a variety of factors, including data collected from the agency's workforce plan, succession plans, statutory requirements, management directives, career ladder requirements, SOPs, QAPPs, and employee development plans as part of an employee's appraisal. (See TCEQ OPP 16.01 and TCEQ Guide for Administrative Procedures (GAP) Manual, Section 4A.) The GAP Manual can be viewed by agency staff at:

Pages – Guide for Administrative Procedures (GAP) Manual

Supervisors document training needs during annual performance appraisals for each employee, as part of the performance management process. (See TCEQ OPP 10.02) Training may include courses from core curricula, basic technical skills, QA, operational, general work skills, employee development, and leadership and management development categories. Additional training needs may be specified in QAPPs.

Training Programs

The HRSS Learning and Development Section develops training curricula and offers courses based on needs assessments and input received from programs.

Training staff design curricula aligned with adult learning theory. They identify qualified training vendors for specific courses based on proposals and demonstrated competence. Written evaluations, observation, and participant feedback are used to assess course content and instructor effectiveness.

Employees and supervisors determine whether training programs and courses offered outside of 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

HRSS maintains records of agency core training through the agency's Learning Management System (LMS). Agency-hosted, job-related learning events and training records are also maintained in the LMS, if provided to the Training Team. The LMS data serves as the official data record for agency core training. Program divisions, sections, or supervisors may also maintain individual training information for their staff members.

Quality Assurance Training

QA training available to TCEQ staff includes, but is not limited to, the following courses offered by EPA Region 6 and TCEQ:

1. EPA Quality Project and Program Management (also titled "R6 QA Training for Non-EPA R6 Employees")
2. Project Management Training
3. Multi-Agency Radiological Laboratory Analytical Protocols (MARLAP)

Safety Training

All personnel who work with or adjacent to hazardous chemicals must know and follow the procedures outlined in the agency's Chemical Hygiene Plan as appropriate to their assignments. Personnel may also be required to receive other training (e.g., respirator fit testing). Regional and some central office field staff participate in regular safety meetings covering a variety of topics, including use of chemical reagents, hazard communication, emergency evacuation, and safety equipment checks.

Special hazards are associated with handling radioactive materials. As such, TCEQ strongly recommends contacting the Radioactive Materials Division (RMD) and/or the Critical Infrastructure Division's (CID) Radioactive Materials Compliance Program to assign a health physicist, or other trained staff, experienced in radiation measurement and protection for consultation prior to initiation of any activities at a site suspected of being contaminated with radioactive substances. In addition, radiation safety training is recommended for staff visiting or inspecting sites where possible radioactive materials exist. Training is provided by the U.S. Nuclear Regulatory Commission (NRC), EPA Region 6, the Texas Department of State Health Services, and/or TCEQ.

Section 13: 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 the Texas Government Code, Chapters 771, 783, 791, 2155, 2156, 2157, 2158, 2161, 2252, 2254, 2260, 2261, and 2262. Additional regulatory guidance is contained within 30 TAC Chapters 11 and 14.

Procurement procedures are documented in Chapters 2 and 3 of TCEQ's OPP Manual. Additional procedures governing grants and contracts are documented in TCEQ's 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 GAP Manual, Sections 2A, 2C, 2D, 2E, and 2M.)

Procurement Documents

All procurements are defined in writing in one or more procurement documents (e.g., purchase orders, invitations for bids, requests for proposals, procurement contracts). These documents specify tasks and product specifications and technical, quality, administrative, and other requirements. All procurements are approved prior to issuance. Approval requirements vary depending on the nature and cost of the item or service being purchased. (See TCEQ GAP Manual, Section 2M.)

Technical Requirements

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

Quality Assurance Requirements

QA requirements are determined by program managers, or designees, with the assistance of QA staff, legal staff, Procurement and Contracts staff, and others. When necessary, QA requirements are included in procurement documents. These documents include or reference general and specific terms and conditions, design requirements, and certifications as appropriate. The documents also include other requirements to assure adequate quality and, to the extent necessary, require suppliers, contractors, and subcontractors to have QA programs consistent with TCEQ's QA 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 Deputy 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, or extension or renewal of contract end date. (See GAP Manual, Section 2M.)

Solicitation Responses and Supplier Selections

Responses to solicitations are reviewed by Deputy 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 received from suppliers are evaluated upon delivery against acceptance criteria (i.e., task, product, technical specifications, 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 include repair or replacement of defective deliverables, termination of contract, or re-award of procurements.

Section 14: Document and Record Processes

Documents that specify requirements, procedures, and instructions affecting the quality of environmental programs shall be adequate for the intended purpose and shall be controlled. QA records will be produced, controlled, and maintained 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;
- Texas Penal Code Section 37.10; and
- TCEQ OPP 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 may include, but are not limited to, the following:

- TCEQ QMP;
- QAPPs;
- SAPs, QAPs, and Continuous Water Quality Monitoring Network (CWQMN) project plans;
- grant work plans;
- contracts and work orders;
- data management plans;
- administrative OPPs and SOPs;
- quality manuals;
- technical SOPs, including organization/program-specific QA procedures and checklists;
- program instructional documents; and
- program guidance documents.

QMPs and QAPPs are prepared, reviewed, approved, distributed, maintained, used, revised, tracked, and verified according to procedures described in Appendices E and F, respectively. SAPs and other project planning documents are prepared, reviewed, and approved according to program requirements.

TCEQ OPPs are developed, revised, and deleted in accordance with TCEQ OPP 1.01 and Chapter 1 of the GAP Manual. TCEQ OPP 1.01 also contains procedures for both interim and expedited OPPs.

Generally, SOPs are proposed, reviewed, and approved by staff and managers of relevant areas of the agency. Staff involved in execution of SOPs should be involved in SOP development and revision. SOPs for collection, analysis, and validation of environmental data developed in accordance with program requirements are reviewed during use and at other times, such as during the development of QAPPs or on regular program schedules. SOPs are to reflect current practices and must be produced in accordance with established document control procedures. The document control procedures must specify requirements for minimum SOP contents, unique SOP identification, records management, and approval authority. As requested or necessary, agency QA staff may participate in the review and approval process for SOPs

governing environmental data operations.

Revisions to SOPs are made as necessary and reviewed in the same manner as new SOPs or as specified in other procedures. New SOPs and revisions to existing SOPs must be uniquely identified. Each new SOP (and revision of an existing SOP) must be approved, prior to issuance, by the responsible Deputy Director, or designee(s), and division or agency QA staff where appropriate. SOPs will conform to *Guidance for Preparing Standard Operating Procedures (SOPs) for Quality- Related Documents* (EPA QA/G-6) as applicable. Laboratory-generated SOPs will conform to The NELAC Institute (TNI) Standard Volumes 1 and 2 (the latest version).

SOPs 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 QA Manager will coordinate development of agency-wide QA procedures. At a minimum, the QA Manager will develop and maintain procedures for:

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

Deputy Directors or their designees shall determine and document assignments of authority and procedures concerning the development, distribution, and maintenance of SOPs for their respective programs. Deputy Directors or their designees are responsible for ensuring and communicating that new SOPs are available to staff and for ensuring that obsolete SOPs are removed from all points of issue or use.

Quality Assurance Records

QA records are items that furnish objective evidence of the quality of items or of activities that have been verified and authenticated as technically complete and correct. QA records may include correspondence, photographs, drawings, forms, completed checklists, 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 TCEQ are contained in TCEQ OPP 13.02. Deputy Directors, or their designees, oversee and implement management of division records and other operations, including fulfillment of statutory, regulatory, and contractual requirements for environmental programs. They are to establish appropriate controls for the protection of confidential and

sensitive information, and to determine which records are needed to reflect the achievement of required quality for completed work.

Records produced by TCEQ and maintained as official records of the State of Texas are documented in the agency Records Retention Schedule. TCEQ's Records Retention Schedule can be viewed by agency staff at:

Pages – Records Retention Schedule.

The QA Manager, or designees, shall maintain QA 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 QA records relating to their respective programs and ensure that these records are identified in the Records Retention Schedule. Project managers, or designees, shall maintain QA 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 QA records relating to their respective areas of responsibility.

Documentation identifying environmental activities subject to quality system requirements is maintained by the Federal Funds Section 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 Funds Section and to agency program management through the use of grant documents.

Section 15: Plan Do Check Act (PDCA) Model

This model is used to ensure the development, implementation, and continual improvement for the effectiveness of the management system using quality objectives and plans, analysis and review of data, corrective and preventative actions, and management review.

15a: Plan

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. In some cases, foreign laws and international agreements such as the United States-Mexico-Canada Agreement and the La Paz agreement create requirements for quality assurance related to monitoring activities in Mexico that benefit the State of Texas.

Specifications

Environmental programs and projects are planned through the development of the agency strategic plan, organizational business plans and budgets, PPAs, grant work plans, QAPPs, SAPs, QAPs, 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 and cost and schedule constraints are taken into consideration during the development of TCEQ's 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 the preparation of the agency's operating budget.

Project Planning

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

DQOs may be applied to most data collection activities associated with a project or program. DQOs should encompass the total uncertainty resulting from sampling and analysis activities. From an analytical perspective, the process of developing the analytical data requirements from DQOs of a project is essential. These analytical data requirements serve as measurement performance criteria or objectives of the analytical process and are often referred to as measurement quality objectives (MQOs).

Radiochemistry projects employ MARLAP, NUREG-1576. The MARLAP Manual provides guidance on developing MQOs from the overall project DQOs during project planning for select

method performance characteristics, such as method uncertainty at a specified concentration; detection capability; quantification capability; specificity, or the capability of the method to measure the analyte of concern in the presence of interferences; range; and ruggedness.

Underground Injection Control (UIC) projects, including those that involve radionuclides, will follow planning and procedures designated in the UIC QAPP.

Environmental data collection or measurement activities in Mexico shall only be planned in consultation with Mexican government stakeholders and U.S. federal partners consistent with the TCEQ Memoranda of Cooperation with neighboring Mexican states; the Agreement Between the United States of America and the United Mexican States on Cooperation for the Protection and Improvement of the Environment in the Border Area; the U.S.-Mexico Border Environmental Program: Border 2025; and Chapter 24 of the United States-Mexico-Canada Agreement.

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

- identify users;
- ensure that data collected are of the type and quality appropriate to their intended use;
- generate the sampling design (e.g., what, when, where, and how to collect samples);
- ensure data management processes and procedures are documented (e.g., data coding, submittal, receipt, review, verification, validation) to ensure acquired (existing) data will be appropriate for their intended use; 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, or the most current version of *Quality Assurance Project Plan Standard (CIO 2105-S-02).* Other project planning documents will conform to program requirements which include adherence to the principles of EPA QA/R-5 or (most current version of CIO 2105-S-02.). NOTE: The *Quality Assurance Project Plan Standard (CIO 2105-S-02.0)* first went into effect on July 18, 2023, replacing EPA QA/R-5. However, depending on a *Quality Assurance Project Plan's* approval date or revision status, the plan may still fall under the requirements of EPA QA/R-5. TCEQ will ensure *Quality Assurance Project Plans* conform to the most current version of *Quality Assurance Project Plan Standard (CIO 2105-S-02.)* or EPA QA/R-5, as appropriate.

15b: Do (Implementation)

Environmental programs shall be conducted 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 TCEQ shall be implemented in accordance with approved plans. Exceptions, deviations, and changes to these plans shall be approved and documented prior to implementation.

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

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

The quality system implemented by TCEQ is described in Sections 3, 5, 6, and elsewhere in this QMP. Program and project planning inputs, processes, and results are described in Sections 14 (Document and Record Processes) and 15a (Plan) of the QMP. Staff development and training

activities are described in Section 12 of the QMP. Assessment and response (oversight) programs implemented by TCEQ are described in Sections 15c and 15d of the QMP.

Implementation Schedule

The agency's QMP is revised annually or more frequently, if necessary, according to Appendix E. Annual and multi-year QAPPs are prepared and revised as necessary according to Appendix F. The QA Manager shall monitor the status of QAPPs and shall report to the Program Manager (Appendix D) within 15 days of discovering any environmental data operations that do not have current, approved QAPPs.

15c: Check (Assessment and Oversight)

An assessment 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 or at other intervals as required. The results of these work activities are measured by TCEQ and external organizations against specifications contained in approved plans on a semiannual and annual basis through reports prepared by these individuals and others.

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.

TCEQ has defined the following ten types of assessments:

1. Readiness Reviews
2. Surveillances
3. Inspections
4. Quality System Audits (QSAs)
5. Management Systems Reviews (MSRs)
6. Technical Systems Audits (TSAs)
7. Peer Reviews
8. Technical Reviews
9. Data Quality Assessments
10. Audits of Data Quality

Assessment Planning

QA assessments are planned and documented in accordance with TCEQ OPP 18.09.1. Appendix C of this document outlines responsibilities for planning assessments.

Assessment Conduct

QA assessments are conducted in accordance with TCEQ OPP 18.09.2 and/or with approved program SOPs. Appendix C of this document outlines responsibilities for scheduling and conducting assessments.

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 Environmental 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.

15d: Act (Corrective Action and Improvements)

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

Deficiencies and Corrective Actions

TCEQ has not adopted written agency OPPs governing quality system deficiencies and corrective actions. The following paragraphs describe existing agency practice and standards.

Identification of Quality System Deficiencies

A deficiency is defined as any unauthorized deviation from acceptable procedures or practices, a defect in an item, or failure to conform with a specified requirement. Deficiencies can be identified by a variety of activities such as internal and external audits, management reviews, and staff observations.

Deficiencies shall be documented immediately and reported to supervisory personnel in writing. The reports of deficiencies to supervisory personnel will serve as initial deficiency notices. Supervisory personnel shall forward initial deficiency notices to the appropriate project manager and lead QA staff. Lead QA staff shall determine whether deficiencies are significant conditions as defined in Appendix G of the QMP, including cases in which deficiencies recur after having been identified and previously corrected. Project, program, and organizational managers may also determine whether deficiencies are significant conditions. Lead QA staff

shall notify affected Deputy Directors, Section Managers, Grant and Program Managers, and the QA Manager of any significant conditions. If lead QA staff and project, program, or organizational management disagree as to the determination of significant conditions for a deficiency, any of the parties may appeal to the TCEQ QA Manager for resolution (refer to Section 16 for the dispute resolution process).

Planning and Implementing Corrective Actions

With the concurrence of affected lead QA staff, project managers or designees shall prepare a corrective action plan (CAP) to determine and document the following with regard to each deficiency:

- root cause(s);
- programmatic impact;
- required corrective action(s);
- required corrective actions(s) to prevent recurrence;
- means by which corrective actions will be verified as effective;
- means by which corrective action completion will be documented;
- timetable(s); and
- individual(s) responsible.

Within 30 days of the initial deficiency notice, the project manager or designees shall forward copies of CAPs to supervisory and lead QA staff (Appendix D) involved in implementing or monitoring corrective actions. Lead QA staff shall forward copies of CAPs concerning significant conditions to affected Deputy Directors, Section Managers, Grant and Program Managers, and the QA Manager. Supervisory staff shall ensure CAPs are implemented effectively and in a timely manner.

Lead QA staff may monitor the implementation of CAPs 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 QA staff shall advise the appropriate Section Manager, Deputy Director, and the QA Manager if CAPs are not implemented in a timely manner.

Depending upon program requirements, either the project manager or QA staff will notify affected management and lead QA staff when corrective actions have been completed and verified to be effective, and that the associated CAP(s) can be closed. In the case of significant conditions, lead QA staff shall advise the Project Manager, Program Manager, appropriate Section Manager, Deputy Director, and QA Manager when corrective actions have been completed and verified to be effective, and that the associated CAP(s) can be closed.

Stop Work Orders and Work Suspensions

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

The Executive Director or designees may refuse to accept data and analyses from laboratories or other data-producing entities to maintain compliance with programmatic requirements and specifications. The commission may suspend or revoke the accreditation of a laboratory that no longer satisfies the requirements for accreditation.

Section 16: Dispute Resolution Process

Resolution of quality-related disputes between individual program areas and the agency's QA staff are expected to be resolved at the lowest organizational level (i.e., agency QA staff, agency staff, or agency management). Quality-related disputes that cannot be resolved at the staff level will be elevated through the TCEQ QA Manager to the Deputy Director of the Air Monitoring Division. If disputes are not satisfactorily resolved at this level, the issues shall be elevated to the Director of the Office of Air, and subsequently to the Executive Director.

Section 17: Continual Improvement

Management and staff are committed to continually improving the effectiveness of the management system. Continual improvement of the management system occurs through the use of quality policies, quality objectives, audit results, analysis of data, corrective and preventive actions, and management review.

Trend Analysis and Annual Reporting to Executive Management

At least annually, through the QA Annual Review, programs under this QMP (Appendix A) shall review quality-related deficiencies and programmatic improvements, and advise the affected Project Manager, Program Manager, lead division Deputy Director, and QA Manager of any significant trends. The QA Manager will assess the information provided by the programs as part of the annual QA Management System Review (MSR) and provide an annual assessment report to executive management concerning the effectiveness of the quality system and the adequacy of resources for achieving quality. Agency management considers this assessment and other factors in determining response actions.

At least annually, the QA Manager shall advise the Executive Director of any significant trends affecting the agency's QA program.

Annually, the QA Manager shall also provide the Executive Director and EPA Region 6 QA Manager with a report describing the status of the QA program, as determined from the results of the MSR.

Outreach and Assistance

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

Section 18: Data Review, Validation and Verification, and Data Usability Reporting

Review and Evaluation of Environmental Data

Environmental data collected and acquired by the programs listed in Appendix A shall be evaluated and approved prior to use. The data used by those programs shall be assessed against the DQOs defined in the QAPP, SAP, and/or other project planning documents, and the data quality shall be known and documented. These data include data collected and acquired under QAPPs or equivalent planning documents, as well as data collected and acquired outside an approved QAPP or QA program.

Data review, and, if applicable to project requirements, data validation procedures shall be documented in the appropriate QAPP. The details of these procedures shall document the decision process, the factors governing the qualification of data, and the meaning of any codes used to qualify data. 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.

The evaluation of data shall be performed to document that the data acquired by the programs listed in Appendix A are of sufficient and documented quality to meet the project objectives defined in the QAPP, SAP, and/or equivalent planning document. The assessment of data shall include the correct application of statistical methods as appropriate during the assessment process.

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. These revisions are unavoidable artifacts of the continuous data quality assurance process. TCEQ staff will make every effort to maximize confidence in reports containing environmental data. The reports will be technically sound and coherent.

Appendix A: Applicable Programs, Regulatory Requirements, and Guidance Documents

Applicable Programs

TCEQ has implemented a formal QA program for environmental operations related to the programs described below.

Air Quality: Federal Clean Air Act (FCAA) Sections 103(b) and 105; Texas Legislature; National Nuclear Safety Administration Act; Texas Disaster Act; Texas Health and Safety Code, Subtitles C & D

- Community Air Toxics Monitoring Network and State Initiative Monitoring Network
- Climate Pollution Reduction Grants Program
- National Emissions Inventory
- Pantex Nuclear Weapons Facility Ambient Air Monitoring
- Particulate Matter$_{2.5}$ Ambient Air Monitoring Network
- Photochemical Assessment Monitoring Stations Network
- State or Local Air Monitoring Stations Network
- Texas Voluntary Marginal Conventional Well Plugging Program

Waste: Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Resource Conservation and Recovery Act (RCRA); Atomic Energy Act (AEA); Underground Injection Control (UIC) – Safe Drinking Water Act (SDWA)

- Brownfields (CERCLA-Brownfields Amendments)
- Federal Superfund (CERCLA)
- Industrial and Hazardous Waste (IHW) Program (RCRA Subtitle C)
- Leaking Underground Storage Tanks (LUST) Program (RCRA Subtitle I) Note: The EPA's *LUST Corrective Action Program* corresponds with the Remediation Division's program titled *Petroleum Storage Tank State Lead Program*.
- Preliminary Assessment/Site Inspection Program (CERCLA)
- Radioactive Materials and Uranium Licensing (NRC Agreement State Program)
- Solid Waste Infrastructure for Recycling Grant Program
- UIC Program (Though the program is authorized by the SDWA, hazardous waste functions must also meet the requirements of RCRA.)

Water Quality: Clean Water Act (CWA) Sections 106, 303(d), 305(b), 319(h), 320, and 604(b); and Texas Water Code Chapters 5 and 26

- Clean Rivers Program
- Coastal Bend Bays and Estuaries Program
- Continuous Water Quality Monitoring Network
- Galveston Bay Estuary Program
- Groundwater Assessment Program

- Nonpoint Source Program
- Surface Water Quality Monitoring
- Total Maximum Daily Load Program
- Water Quality Assessment
- Water Quality Standards

Public Drinking Water: SDWA and Water Infrastructure Improvements for the Nation (WIIN) Act Section 2107

- Public Water System Supervision
- Lead Testing in School and Child Care

U.S.-Mexico Border Program: The Agreement Between the United States of America and the United Mexican States on Cooperation for the Protection and Improvement of the Environment in the Border Area; the U.S.-Mexico Border Environmental Program: Border 2025; Chapter 24 of the United States-Mexico-Canada Agreement; and TCEQ Memoranda of Cooperation with neighboring Mexican states.

- Border Initiative
- Border 2025
- Administrative Fund for Air Quality Monitoring in the Paso del Norte Air Basin

Other Programs:

- Analytical Method Modification Program
- Field Operations
- Laboratory Accreditation
- Mobile Monitoring Team

The following paragraphs describe the scope of TCEQ's QA programs in greater detail.

Air Quality

Community Air Toxics Monitoring Network (CATMN) and State Initiative Monitoring (SIM) Network

These monitoring efforts, funded by the State of Texas, primarily involve collecting samples of volatile organic compounds (VOCs), continuous particulate matter of 10 micrometers or less in diameter (PM10), hydrogen sulfide (H2S), and related meteorological information for designated sites. The CATMN program was the agency's response to public concern about airborne toxic pollutants 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. SIM monitors provide air quality data for areas of interest or concern, beyond federal requirements.

Climate Pollution Reduction Grants (CPRG) Program

The CPRG program is an EPA grant program that awarded planning grants to states to develop plans to reduce emissions from criteria pollutants, hazardous air pollutants, and greenhouse gasses. A greenhouse gas emission inventory for Texas will be developed for the plan. Reduction measures to reduce emissions from criteria pollutants, hazardous air pollutants, and greenhouse gasses will be identified and quantified as part of the plan.

National Emissions Inventory (NEI)

The NEI is the current official electronic repository for emissions inventory data submitted to EPA as required by the federal Air Emissions Reporting Requirements. The NEI stores emissions data for every county in the state on all components of the inventory: point sources, area sources, on-road mobile sources, non-road mobile sources, and biogenic sources. Automated reporting to the NEI occurs every year for major point sources and every three years for area sources, on-road mobile sources, and non-mobile sources with the submittal of the Periodic Emissions Inventories. Emissions data submitted to the NEI are available on an EPA public website.

Pantex Nuclear Weapons Facility Ambient Air Monitoring

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

Particulate Matter of 2.5 Micrometers or Less in Diameter (PM2.5) Ambient Air Monitoring Network

Activities for this program support the statewide monitoring of PM2.5. The primary goal of the program is to compare the PM2.5 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 Stations (PAMS) Network

The PAMS network consists of ambient air monitoring stations that collect data for ozone (O3), its precursors, and associated meteorological parameters in nonattainment areas classified as serious, severe, or extreme. Ambient analyses of O3 and O3 precursors are used to make attainment/nonattainment decisions; aid in tracking VOCs, non- methane organic compounds (NMOC), carbonyl, and oxides of nitrogen (NOX) emission inventory reductions; better characterize the nature and extent of ambient O3 concentrations; and determine air quality trends. In addition, data from the PAMS network provide an improved dataset for evaluating photochemical model performance, especially for future control strategy mid-course corrections as part of the continuing air quality management process.

State or Local Air Monitoring Stations (SLAMS) Network

The SLAMS network and the federally funded portions of Texas' border monitoring activities are performed by TCEQ and five local agencies in Dallas, El Paso, Fort Worth, Galveston County, and Houston to determine compliance with the NAAQS. SLAMS monitoring includes the federal criteria pollutants: O3, carbon monoxide (CO), sulfur dioxide (SO2), nitrogen dioxide (NO2), lead (Pb), particulate matter of 10 micrometers or less in diameter (PM10), and PM2.5.

Texas Voluntary Marginal Conventional Well Plugging Program (TxMCW)

TxMCW utilizes Inflation Reduction Act funding for mitigating emissions from marginal conventional wells (MCWs). TxMCW will assist oil and gas well owners and operators in voluntarily and permanently plugging and abandoning MCWs on non-Federal lands. Funding for selected MCWs will support well plugging, methane measurement, and the environmental restoration required for full compliance with well plugging and abandonment standards and regulations in Texas.

Waste

Brownfields

The Brownfields program is responsible for working in partnership with stakeholders and with EPA 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. Cleanup, transferability, and revitalization of these

brownfields are accomplished through the development of regulatory, tax, and technical assistance tools. The Brownfields program also is available to provide local governments and nonprofit organizations with technical advice, education, and project partnering for brownfields redevelopment projects.

Federal Preliminary Assessment/Site Inspection (PA/SI) and Superfund

The PA/SI and Federal Superfund programs are responsible for conducting or overseeing the assessment, inspection, investigation, and remediation of sites posing an unacceptable risk to public health and safety or the environment. TCEQ staff either assists EPA or takes the lead in project management of site assessments, site inspections, remedial investigations, feasibility studies, remedial design, and remedial actions. Activities at federal Superfund sites in the operation and maintenance phase are 100% state-funded and do not require EPA approval.

Leaking Underground Storage Tanks (LUST)

The LUST program has two components: prevention and corrective action. The prevention program requires a compliance investigation at every underground storage tank on a three-year cycle. The compliance investigations may include Global Positioning System (GPS) data collection. The corrective action program oversees 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; developing remedial action procedures; executing remedial actions; and documenting the effectiveness of remediation.

Radioactive Materials (RM)

Texas is an Agreement State through the U.S. Nuclear Regulatory Commission Agreement State Program. This authority is shared between TCEQ and the Texas Department of State Health Services. The Texas Railroad Commission also administers a state program for oil-and-gas naturally occurring radioactive materials (NORM) that is not part of the Agreement State Program.

TCEQ's RM Section regulates disposal of radioactive substances, including low-level radioactive waste and non-oil and gas NORM through a licensing program. The licensing for disposal of low-level radioactive waste, certain by-product material, and processing and storage of radioactive waste is covered under 30 TAC Chapter 336, Radioactive Substance Rules. The licensing program also regulates legacy radioactive waste burial sites and the decommissioning of these facilities.

The RM Section also licenses and regulates radioactive material processing facilities associated with in-situ uranium mines. The licensing program work is comprehensive, ranging from environmental assessment work conducted prior to license issuance, and in-depth technical review of license amendments granted during uranium production and processing, as well as decommissioning including site reclamation and restoration. The program also covers reclamation and groundwater protection of older, traditional uranium milling sites associated with surface mines that were developed prior to the use of in-situ mining techniques.

CID's Radioactive Materials Compliance Program is responsible for conducting compliance investigations at uranium mining facilities, low-level radioactive waste storage and processing facilities, low-level radioactive waste disposal facilities, and at the legacy radioactive waste burial sites. In addition, CID staff conduct groundwater, soil, and vegetation sampling at these facilities for compliance purposes, when needed.

Resource Conservation and Recovery Act (RCRA)

The RCRA program responsibilities include promoting activities that reduce or eliminate industrial and hazardous 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; and conducting compliance monitoring and enforcement

activities.

Solid Waste Infrastructure for Recycling (SWIFR) Grant Program

The SWIFR Grant provides additional funds to Texas' Regional Councils of Governments (COGs) and additional financial assistance to rural communities to assist with solid waste management needs and implement projects that support the goals and objectives in the TCEQ approved 20-year Regional Solid Waste Management Plans (RSWMP).

Underground Injection Control (UIC)

The UIC Program is responsible for implementing state and federal mandates to prevent contamination of underground sources of drinking water by regulating the underground injection of fluids through wells. TCEQ's UIC Program regulates Class I industrial, municipal, low-level radioactive, and by-product waste disposal wells; Class III injection wells for solution mining of uranium; Class IV shallow hazardous and radioactive injection wells (generally prohibited); and Class V wells that are used for the injection of nonhazardous fluids into or above underground sources of drinking water. Class V wells include wells used for aquifer storage and recovery projects, aquifer recharge projects, and other projects. The UIC Permits Section conducts technical reviews of Class I and Class III injection well permit applications and issues a permit for a technically complete application. The UIC Permits Section conducts technical reviews of Class IV and Class V authorizations, which are generally considered authorized by rule. The UIC Program oversees phases of well construction, tests, remedial work, and closure; conducts compliance monitoring and participates in enforcement processes; maintains inspection and compliance data; and collects and reports data as required by federal regulations. Class VI wells are used for the injection of carbon dioxide below a USDW for long-term storage (geologic sequestration). State law was amended in 2021 that gave the Railroad Commission of Texas jurisdiction over Class VI wells in Texas. Statute requires that TCEQ review all Class VI applications and issue a letter of determination concluding that drilling or operating Class VI wells will not impact or interfere with any existing TCEQ-permitted injection wells, including any waste plume.

The CID Radioactive Materials Compliance Program is responsible for conducting compliance investigations at the UIC permitted facilities with Class III wells used for in- situ mining under TCEQ's jurisdiction and collects and reports data as required by federal regulations. TCEQ's Regional Offices are responsible for conducting compliance investigations at the UIC permitted facilities with Class I industrial, municipal, liquid low-level radioactive waste, and liquid by-product material waste disposal wells under TCEQ's jurisdiction.

Water Quality

Clean Rivers Program (CRP)

In 1991, the Texas Legislature enacted Texas Water Code Section 26.0135, the Texas Clean Rivers Act, which provides for strategic and comprehensive monitoring, and periodic assessment, of water quality. The Texas Clean Rivers Act established the CRP. The goals of this program are to maintain and improve the quality of water within each river basin in Texas through an ongoing partnership involving TCEQ, river authorities, other state agencies, regional entities, local governments, industry, and citizens. Through the program's watershed management approach, the agency and partners identify and evaluate water quality issues, establish priorities for corrective action, work to implement those actions, and adapt to changing priorities. Because of the program's holistic watershed stewardship responsibilities, the program partners serve as a hub for water quality information and coordination efforts within their respective watersheds.

Work is targeted to long-term monitoring with intensive studies being conducted for water quality priorities when possible and necessary. The partners primarily collect data to determine compliance with the Texas Surface Water Quality Standards; however, program priorities also include providing data to identify significant long-term water quality trends, characterize water quality conditions, support the permitting process, and classify unclassified waters.

Coastal Bend Bays and Estuaries Program (CBBEP) and Galveston Bay Estuary Program (GBEP)

Both CBBEP and the GBEP are continuations of programs initiated under the National Estuary Program established under CWA Section 320. The management conferences of these programs, comprising state and federal agencies, local governments, scientists, and citizen organizations, developed Comprehensive Conservation and Management Plans (CCMP) 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.

Officially established in 1989, the GBEP is a nonregulatory program administered by TCEQ. In 1999, the Texas Legislature passed the Texas Estuaries Act (House Bill 2561; Senate Bill 708). The purpose of the Act was to recognize estuaries of national significance on the Texas coast and to authorize the use of state funds to implement CCMPs. Through this legislation, TCEQ, formerly the Texas Natural Resource Conservation Commission (TNRCC), was designated as the lead administrator of the GBEP. The Galveston Bay Council (GBC) is an official advisory committee to TCEQ for the GBEP. The GBC was created by resolution of TCEQ on Nov. 21, 1995, and extended to Nov. 16, 2035, by TCEQ on March 27, 2019.

Originally a joint program administered by TCEQ and EPA, the CBBEP became a nonprofit organization led by a local Board of Directors in 1999. A mix of local governments, private industry, and state and federal agencies provide program funding. CBBEP receives state funding through an annual direct-award contract with TCEQ.

In addition, TCEQ funds water quality management planning projects in accordance with the CWA Section 604(b) grant.

Continuous Water Quality Monitoring Network (CWQMN)

The CWQMN provides near-real-time water quality data for selected high priority water bodies in the state. TCEQ CWQMN stations include those operated by TCEQ or the United States Geological Survey (USGS). CWQMN monitoring data may be used by TCEQ or other entities to make water resource management decisions, target TCEQ field investigations, evaluate the effectiveness of water quality management programs such as Total Maximum Daily Load (TMDL) implementation plans and watershed protection plans, characterize existing conditions and evaluate spatial and temporal trends, and confirm water quality standards compliance. Stations are programmed to collect water quality data on a continuous basis and to transmit the data to TCEQ and USGS web pages. Current CWQMN measurement parameters include temperature, dissolved oxygen, pH, specific conductance, total dissolved solids, turbidity, and sample depth. Stream discharge is also measured at some USGS-operated stations.

Groundwater Assessment Program

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 under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and 106 Groundwater grant programs under the Performance Partnership Grant (PPG). 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 Program (NPS)

The NPS Program is responsible for water quality management planning and coordinating the management of urban and non-agricultural/silvicultural nonpoint sources of pollution in the state. In accordance with the CWA Section 319(h), the NPS program funds the development and implementation of voluntary watershed-based plans and other activities designed to reduce nonpoint source pollution and help restore water quality in impaired water bodies. All activities serve to fulfill the long and short-term goals (data collection and assessment, implementation, and education) identified in the State of Texas NPS Management Program. In addition, the NPS program funds water quality management planning projects with designated area- wide planning agencies in accordance with the CWA Section 604(b) grant.

Surface Water Quality Monitoring (SWQM)

The SWQM 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 than 1000 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, continuous monitoring network, seagrass monitoring, biological monitoring, and special studies. Water quality data obtained through these components are stored in the Surface Water Quality Monitoring Information System (SWQMIS). 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 (TMDL)

The TMDL program is responsible for restoring water quality in impaired water bodies in Texas by establishing loading limits for pollutants of concern identified on the CWA 303(d) List. Projects managed by the program address data collection, modeling, public participation, and TMDL development. The program oversees the development of a formal plan to implement the control actions and management measures needed to restore water quality. The TMDL program contracts with other state agencies, river authorities, universities, and private entities to conduct statewide projects.

Water Quality Assessment (WQA)

The WQA program is responsible for implementation of the Texas Surface Water Quality Standards in accordance with the CWA and Texas Water Code. Projects managed by the program address determination of site-specific uses and criteria for the protection of human health and the environment, development of implementation procedures for the water quality standards, and other special studies related to water quality standards implementation. Studies addressing site-specific uses and criteria can include sampling of water chemistry, aquatic biota, physical habitat, and hydrologic conditions.

Water Quality Standards (WQS)

The WQS program is responsible for the development, evaluation, and revision of the Texas Surface Water Quality Standards in accordance with the CWA and Texas Water Code. Projects managed by the program such as Use-Attainability Analysis, Recreational Use-Attainability, and other special studies address developing water quality standards for Texas surface waters, including determination of statewide and site-specific designated uses and criteria for the protection of human health and the environment. Studies addressing water quality standards development can include sampling of water chemistry, aquatic biota, physical habitat, and hydrologic conditions.

Public Drinking Water

Public Water System Supervision Program (PWSSP)

This program conducts or oversees drinking water quality, operations monitoring, and compliance 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, source water protection; review of plans and exceptions for drinking water facilities; financial, managerial, and technical capacity development; and data management and reporting.

Lead Testing in School and Child Care (LTSCC) Program

Authorized under the WIIN Act Section 2107, the LTSCC is a statewide program to help eligible schools and childcare programs conduct voluntary testing for lead in drinking water at their facilities. Objectives include increasing public awareness of the health effects of lead and sources of lead, reducing exposure to lead, and establishing routine practices. Participants will receive free training and guidance, sampling materials and laboratory testing, recommended actions and support for remediation activities that may reduce exposure to lead in drinking water at their facilities, and help communicating with their community.

U.S.-Mexico Border Program

Border Initiative

The Border Initiative is a comprehensive, cooperative agency effort to serve border residents. TCEQ oversees its own stand-alone activities and works with local, state, and federal stakeholders to maximize efforts aimed at improving the environment of the U.S.-Mexico border region.

U.S.-Mexico Environmental Program: Border 2025

The U.S.-Mexico Environmental Program Border 2025 is a five-year (2021-2025) binational effort designed to protect the environment and public health in the U.S.- Mexico border region. It includes four strategic goals: reduce air pollution; improve water quality; promote sustainable materials and waste management, and clean sites, and improve joint preparedness for and response to hazardous environmental emergencies.

Administrative Fund for Air Quality Monitoring in the Paso del Norte Air Basin (AQF)

This Administrative Fund is a first-of-its-kind mechanism to support long-term, sustainable operations and maintenance in support of the air quality monitoring network in Ciudad Juarez, to ensure continuous air quality information for the entire Paso del Norte Air Basin administered by the North America Development Bank. It will help enhance the binational air quality information system, health risk communication, and effectiveness of air improvement projects in the area. Per the Joint Advisory Committee resolution that created AQF, funds are available for quality assurance and an annual audit on the quality of the information provided by the monitoring stations in Juárez is required.

Special Projects

Special projects in the Border Program performed by TCEQ and contractors support the objectives set by the agency Border Initiative and the Border 2025 program, and support AQF. Projects can be multi-media and are typically funded 60% federal and 40% state. They include research, technical assistance, and binational collaboration on topics including air quality, water quality, and solid waste management in partnership with Mexican stakeholders and seek to harmonize quality assurance methodologies in the transborder region.

Other Programs

Analytical Method Modification (AMM)

The AMM 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 CWA or FCAA.

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 drinking water and surface water; conducting site visits for compliance determination and inspection at 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 documented air, water, and waste violations identified during inspections and/or complaint investigations; overseeing and ensuring compliance with water rights and allocated water resources 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

The agency has implemented a laboratory accreditation program to provide formal recognition of environmental laboratories meeting standards established by the National Environmental Laboratory Accreditation Program (NELAP).

Laboratory data produced on or after July 1, 2008, that will be used to make environmental decisions must be provided by a laboratory that is accredited by TCEQ according to 30 TAC Chapter 25 (relating to Environmental Testing Laboratory Accreditation and Certification) Subchapters A and B as amended, for the matrices, methods, and parameters of analysis for which accreditation is available, or by a laboratory that is not required to be accredited according to Texas Water Code Section5.134 and 30 TAC Section 25.6.

Laboratory data relating to compliance with the SDWA must be produced by a laboratory that is accredited by TCEQ according to 30 TAC Chapter 25 Subchapters A and B as amended, for the matrices, methods, and parameters of analysis for which accreditation is available, or by a laboratory approved under TCEQ's Public Drinking Water Program.

Mobile Monitoring Team (MMT)

The MMT has three vans equipped with real-time ambient air monitoring instruments located in Austin: two Strategic Mobile Air Reconnaissance Technology (SMART) vans and one SMART-Rapid Assessment (RA) van, deployable to any region of the state. The MMT contributes to special monitoring projects by providing short-term air quality data for areas that may lack stationary monitoring or in support of siting future stationary monitors. The MMT also supports regional investigations, gathers data for studies requested by internal agency data customers, and participates in agency emergency response activities related to industrial incidents and severe weather events.

Regulatory Requirements and Guidance Documents

Subject to any interpretations, limitations, and exceptions described elsewhere in this document, 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, American National Standard ASQ/ANSI E4:2014 (R2019): Quality Management Systems for Environmental Information and Technology Programs – Requirements with Guidance for Use.

The NELAC Institute, TNI Standard Volumes 1 and 2 (latest version).

U.S. Environmental Protection Agency, Policy to Assure Competency of Organizations Generating Environmental Measurement Data under Agency-Funded Assistance

Agreements, Forum on Environmental Measurements, FEM 2012-02, Revision 1 (2013).

U.S. Environmental Protection Agency, EPA Quality Manual for Environmental Programs, CIO 2105-P-01 (latest version).

U.S. Environmental Protection Agency, EPA QA Field Activities Procedure, CIO 2105-P-02. (latest version).

U.S. Environmental Protection Agency, Quality Management Plan Standard, CIO 2105-S-01. (latest version).

U.S. Environmental Protection Agency, Guidance on Systematic Planning Using the Data Quality Objectives Process, EPA QA/G-4, (latest version).

U.S. Environmental Protection Agency, Quality Assurance Project Plan Standard, CIO 2105-S-02.0 (latest version).

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

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

U.S. Environmental Protection Agency, Guidance for Preparing Standard Operating Procedures (SOPs), EPA QA/G-6, (latest version).

Links to documents referenced above:

Information about ANSI E4: 2014 is available from the American Society for Quality, 600 North Plankinton Avenue, Milwaukee, WI 53201, ASQ/ANSI E4-2014 – Quality management systems for environmental information and technology programs – Requirements with guidance for use.

Access to information about the TNI Standard is provided at TCEQ's Laboratory Accreditation website, Environmental Laboratory (NELAP) Accreditation – Texas Commission on Environmental Quality – www.tceq.texas.gov.

EPA requirements and guidance documents may be viewed from EPA's QA website at EPA Quality Program | US EPA.

Appendix B: Agency, Office, and Division Missions

TCEQ Mission

TCEQ strives to protect our state's public health 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 TCEQ, including the development and implementation of the agency quality system. The Deputy Executive Directors serve as chief operating officers to assist the Executive Director in the administration of the agency.

The Executive Director's Office also has direct oversight of the following areas:

- External Relations
- Intergovernmental Relations
- Toxicology, Risk Assessment, and Research

The External Relations Division works to continuously improve and streamline the delivery of information to the public and within the agency. The division assists customers in preventing pollution, conserving resources, and achieving compliance through education, outreach, and technical customer assistance. The division answers questions about pending TCEQ permits, explains the permitting process, and helps the public learn of opportunities for public participation on permit applications. The division also manages Take Care of Texas, a statewide campaign that provides information on Texas' successes in environmental protection, encouraging Texans to help keep air and water clean, conserve water and energy, and reduce waste.

The Intergovernmental Relations Division (IGR) coordinates the agency's response to congressional and state legislative inquiries and constituent issues, legislative initiatives, and interim committee studies affecting the agency. IGR also coordinates the agency's testimony and participation during legislative sessions and ensures that the Legislature is informed of TCEQ's initiatives and activities. Border Affairs in IGR is the agency point of contact for issues supporting TCEQ's mission in the border region of Mexico and manages contracts and special projects related to the PPG U.S.-Mexico Border Program.

The Toxicology, Risk Assessment, and Research Division helps TCEQ make scientifically sound decisions by applying toxicological principles when evaluating environmental data, issuing authorizations, developing environmental regulations, and making policy decisions. TCEQ toxicologists identify chemical hazards, evaluate potential exposures, assess human health risks, and communicate risk to the general public and stakeholders.

Office of Administrative Services (OAS)

The mission of the Office of Administrative Services is to provide exceptional support of the agency's mission through operational efficiencies, continuous improvement, and service excellence. These services include strategic planning; operating budget and performance reporting; oversight of federal grants; information resources; human resource and staff development; records management; procurements and contracts; facility management; and financial administration. On fiscal matters, OAS is the point of contact for TCEQ's oversight agencies.

OAS includes the following divisions:

- Budget and Planning
- Financial Administration
- Information Resources
- Human Resources and Staff Services

The mission of the Budget and Planning Division is to promote fiscal responsibility by providing assistance and analysis in planning, administering, and monitoring the budget. The division manages the development of the agency's strategic plan, biennial appropriations request, the annual operating budget, and quarterly performance reports to the Legislature and the governor. The division is involved in bill implementation, preparing fiscal notes, and providing fiscal analysis and reporting. The division prepares, monitors, submits federal grant applications and work plans, and it provides centralized federal grant management for the agency. The division strives for continuous improvement in its business practices to support the agency's complex financial structure.

The mission of the Financial Administration Division is to manage the agency's finances, procurement and contracting, the development of the Annual Financial Report, and the Historically Underutilized Business function; monitor, estimate, and report revenue collections; ensure the integrity of the accounting records; and maintain adequate internal controls to safeguard the agency's financial assets and ensure the compliance of our fiduciary responsibility to the people of Texas.

The mission of the Information Resources Division is to provide information technology services through collaborative partnerships with its customers in support of clean air, clean water and safe management of waste. These services include information security, application development, telecommunications, infrastructure, software licensing, and records management.

The mission of the Human Resources and Staff Services Division is to provide quality products and services to enable the agency to recruit, hire, develop, and retain a diverse and competent workforce. The division's risk management program ensures a safe and secure workplace for agency employees and property. Additionally, HRSS administers TCEQ's fleet, asset, and facilities management programs, and provides mail delivery and copy services to support the agency's business operations and goals.

Office of Air (OA)

The Office of Air is composed of the following divisions:

- Air Grants Division (AGD)
- Air Monitoring Division (AMD)
- Air Permits Division (APD)
- Air Quality Division (AQD)

AGD implements the Texas Emissions Reduction Plan (TERP) which provides incentive grants for projects to improve air quality in the state's nonattainment areas and other eligible counties of the state. The division administers the TERP programs, as authorized by the state legislature, to reduce nitrogen oxides (NOX) emissions from mobile sources and encourage the use of alternative fuels for transportation in Texas. In addition, AGD administers the funds from the Volkswagen State Environmental Mitigation Trust and the new Texas Voluntary Marginal Conventional Well Plugging Program (TxMWC).

AMD provides TCEQ with the foundation for making sound, scientifically based decisions for the protection of public health and the environment by ensuring the collection, analysis, and display of quality environmental data. The division oversees the Texas air quality monitoring

program, which samples and analyzes the air in Texas, reports the results to EPA, and makes the data available to the public. It supports a network of stationary monitors (that belong to the state, local governments, councils of governments, and private partners), laboratories that analyze samples, and short-term mobile monitoring. The Monitoring Division generates data used for determining the causes, nature, behavior, and trends of air pollution; forecasting possible high concentrations of ozone and particulate matter; determining attainment with EPA air quality standards; informing Air Pollutant Watch List decisions; and evaluating impacts of air quality on human health. The Monitoring Division also promotes compliance with state and federal requirements by accrediting laboratories and coordinating the agency's QA program.

APD is dedicated to protecting human health, the environment, and the state's air resources through the development and implementation of the New Source Review and Federal Operating Permit programs. APD provides New Source Review applicant reviews consistent with state and federal laws and regulations that result in technically sound and economically reasonable authorizations to allow the start of construction. APD conducts Federal Operating Permit reviews of applications for sources subject to Title V of the Federal Clean Air Act to codify all air requirements into one operating permit. APD also administers and maintains the Emissions Banking and Trading Programs.

The mission of AQD is to develop the State Implementation Plan (SIP) that implements FCAA requirements, including attainment demonstrations and progress requirements for criteria air pollutants and regional haze requirements. Consistent with this goal, the division develops and updates the emissions inventory for all stationary, mobile, and area sources of air contaminants.

In addition, AQD develops and implements the state's clean fuel (diesel and gasoline) programs; designs, administers, monitors, and evaluates the vehicle inspection and maintenance programs; administers the Tax Relief for Pollution Control Property program; and provides information and advice on voluntary mobile source emission reduction strategies. Further, the division manages air quality research to develop an improved understanding of air quality issues in Texas. Staff also provides information about the Toxics Release Inventory Program. The division also administers the air emissions and inspection fees program. This program funds the direct and indirect costs of the Federal Operating Permit program which includes the agency's air emissions inventory work, air permitting, field inspections, enforcement, air quality planning, air quality monitoring, and other related air programs.

Office of Compliance and Enforcement (OCE)

The Office of Compliance and Enforcement 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 investigations, technical assistance and outreach, environmental monitoring, appropriate enforcement, and laboratory accreditation. Through its homeland security efforts, OCE works to prevent, protect, respond to, and recover from natural and manmade disasters. Programs within OCE take swift action that is fair, sensible, and responsive to the needs of the citizens of Texas.

OCE consists of the following divisions and regional areas:

- Critical Infrastructure
- Enforcement
- Program Support and Environmental Assistance
- Regional Areas
  - ❖ Field Operations – Border and Permian Basin
  - ❖ Field Operations – Central Texas
  - ❖ Field Operations – Coastal and East Texas

- Field Operations – North Central and West Texas

CID, in keeping with the State of Texas Homeland Security Strategic Plan, strives to achieve a safer, more secure, and more resilient state. To accomplish this, the division seeks not only to assure compliance with environmental regulations to protect public health and the environment, but also to provide support during disaster conditions for regulated critical assets that are essential for the state and its citizens.

The Enforcement Division is dedicated to protecting human health and the environment by enforcing state and federal regulations. The division is committed to enforcement that is responsive to the needs of the citizens of Texas. This division develops enforcement cases from investigations referred by Field Operations or other divisions of the agency. Division staff calculate penalties, determine technical corrective requirements, and negotiate agreed enforcement orders.

The Program Support and Environmental Assistance Division supports the Regional Offices by providing additional expertise in air, water, and waste compliance issues. They administer the On-Site Sewage Facility and Landscape Irrigation Programs to ensure protection of human health and the environment. Staff assist customers in preventing pollution, conserving resources, and achieving compliance through education, outreach, and technical customer assistance through the Small Business and Local Government Assistance Program.

Regional Areas implement agency programs by conducting compliance investigations of permitted, registered, and authorized air, water, and waste facilities located across the state and of complaints at facilities and operations from citizens, businesses and other organizations, or other concerned parties. The Regional Areas also monitor the quality of ambient surface water (rivers, lakes, and bays), ambient air including during and after natural and manmade disasters, and sampling public drinking water to ensure compliance with regulatory standards.

Office of Legal Services (OLS)

The Office of Legal Services manages legal services for the agency in environmental law, enforcement litigation, bankruptcy, and general agency operations. OLS provides legal counsel and support to the Executive Director, agency programs, and, along with the general counsel and the public interest counsel, the commissioners. OLS ensures that commission decisions follow the law, and that any rules developed by the agency comply with statutory authority and are consistently applied.

The Environmental Law Division primarily supports the Offices of Air, Waste, and Water. 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 General Law Division serves as legal counsel to the agency on issues related to contracts, grants, procurement, employment law, and public-service ethics; processing and distribution of information for the public; and records management. The Deputy Director serves as the agency ethics advisor. The division also prepares administrative records for appeals under the Administrative Procedures Act, supports OLS with administrative personnel (i.e., paralegals and legal secretaries), and administers the Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States Act (RESTORE) program. The division supports the agency administratively by coordinating rulemaking and preparing documents for publication in the Texas Register.

The Litigation Division is composed of two Enforcement sections, a Remediation section, and an Environmental Crimes section. The Enforcement sections provide legal representation and support to OCE's Enforcement Division, Regional Areas, and Regional Offices, including

negotiation of agreed enforcement orders, litigation of enforcement actions, and coordination of the Supplemental Environmental Projects and the Texas Environmental, Health, and Safety Audit Privilege programs. The Remediation section provides legal support to the Remediation Division of the Office of Waste, including negotiation of Superfund orders, recovery of cleanup costs, and ongoing legal support related to implementation of the agency's remediation programs. The Enforcement and Remediation sections also provide support for the Office of the Attorney General in state and federal court civil litigation. The Environmental Crimes section investigates and gathers evidence on environmental crimes for prosecution in state and federal courts.

Office of Waste (OOW)

The Office of Waste implements federal, and state laws related to the regulation of aboveground and underground petroleum storage tanks (PSTs); generation, treatment, storage, and disposal of municipal, industrial, low-level radioactive, nonhazardous and hazardous wastes; and the recovery and processing of uranium and disposal of byproduct. It also oversees state cleanup of contaminated sites.

The Office of Waste is composed of the following divisions:

- Occupational Licensing and Registration
- Radioactive Materials
- Remediation
- Waste Permits

The mission of the Occupational Licensing and Registration Division is to protect our state's human and natural resources by providing efficient regulatory services and ensuring operational competency of individuals licensed and entities registered by TCEQ. This division issues and renews occupational licenses and registrations for 10 environmental occupational licensing programs, reviews and approves training courses and training providers, and develops and updates licensing exams. The division also handles registration and reporting for industrial and hazardous waste, municipal solid waste, petroleum storage tanks, used oil, sludge transporters, dry cleaners, medical waste, aggregate production operations, clean water certifications, enclosed containers, and the new aboveground storage vessel safety program.

The mission of the Radioactive Materials Division is to protect the public and the environment from unnecessary radiation exposure and contamination resulting from the possession and disposal of radioactive materials and to protect underground sources of drinking water from improper underground injection practices. This encompasses the disposal of low-level radioactive waste and by-product material, in-situ leach mining of uranium, processing and storage of radioactive waste, and regulation of legacy radioactive waste burial sites. Through the U.S. Nuclear Regulatory Commission Agreement State Program, the division develops, interprets, and implements rules consistent with state and federal laws. In addition, the division manages the UIC Permits Program under the SDWA, which regulates the permitting or authorization, construction, operation, and closure of injection wells that emplace fluids underground for remediation, storage, in-situ mining, or disposal to ensure the protection of underground sources of drinking water.

The mission of the Remediation Division is to oversee the investigation and remediation of waste and pollutants released into the environment. Programs address issues involving petroleum storage tanks, hazardous waste, industrial solid waste, voluntary cleanups, Brownfields initiatives, dry cleaners, and Superfund.

The mission of the Waste Permits Division is: "Facilitating the Safe Management of Waste in Texas." The Waste Permits Division is responsible for permitting and registering facilities that are involved in one or more of the following activities: storing, processing, or disposing of hazardous waste, nonhazardous industrial waste, municipal solid waste, special waste, and

international waste. The division also performs technical analysis of notifications for waste management and submittals from regulated entities.

Office of Water (OW)

The Office of Water strives to protect the state's water resources consistent with sustainable economic development, working towards clean and available water.

The Office of Water consists of the following divisions:

- Water Availability
- Water Quality
- Water Quality Planning
- Water Supply

The Water Availability Division processes water rights permits and amendments; maintains water-availability models for all river basins; reviews water-conservation plans and drought contingency plans; performs groundwater quality planning and assessments; supports the interagency Texas Groundwater Protection Committee and the Texas Groundwater Protection Strategy; manages the state's plan for preventing groundwater pollution from pesticides and the state's program for the identification of priority groundwater-management areas; ensures compliance, through the watermaster programs, with water rights by monitoring stream flows, reservoir levels, and water use; and, supports interstate river compacts.

The mission of the Water Quality Division is to protect water quality through the 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 Water Quality Planning Division develops surface water quality standards, leads and coordinates statewide SWQM programs, verifies, validates, and manages all surface water quality data for the agency, prepares the CWA Section 303(d) list and 305(b) report, manages the CWA Section 319(h) Nonpoint Source grants and the CWA Section 604(b) planning grant, and completes other surface water assessment activities. The division directly manages the CRP, the GBEP, the Sugar Land Laboratory, the NPS program, and the TMDL program, and contracts with a nonprofit organization to administer the CBBEP. The division also coordinates the agency's participation in the implementation of the Texas Coastal Management Program managed by the Texas Land Commissioner.

The Water Supply Division (WSD) ensures the efficient administration of the production, treatment, delivery, and protection of safe and adequate drinking water, and provides general supervision of water districts. The WSD is the lead division in overseeing the PWSSP, which conducts or oversees drinking water quality, operations monitoring, and compliance for public water systems. Activities of the division include bacteriological and chemical monitoring; reviews of monitoring data and documentation to determine compliance with drinking water standards; vulnerability assessments of drinking water sources to chemical and microbiological contaminants; counterterrorism activities; source water protection; review of plans and exceptions for drinking water facilities; financial, managerial, and technical capacity development; review of the issuing of bonds by water districts; receipt and review of financial reporting by water districts; miscellaneous application review; and data management and reporting. The WSD oversees the LTSCC program.

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 user 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, 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 TCEQ's 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 and Chief of Staff report to the Executive Director.

Directors

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

Deputy Directors

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

Section Managers, Team Leaders, and Work Leaders

Section Managers, Team Leaders, and Work 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, Team Leaders and Work Leaders are also responsible for ensuring that environmental programs within their organizations produce the type and quality of results expected. Generally, Section Managers report to Deputy Directors or Assistant Deputy Directors; Team Leaders report to Section Managers; and Work Leaders report to either Team Leaders or Section Managers.

Quality Assurance Manager

The QA Manager is responsible for coordinating the development and implementation of TCEQ's QA program. The QA Manager shall:

- coordinate the development, review, approval, and implementation of the agency QMP and agency-wide QA 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 MSRs, QSAs, and TSAs;
- develop training and certification programs for the QA Manager, QA specialists, laboratory auditors, and QA auditors;
- develop and provide training programs concerning the development, review, and implementation of QMPs and QAPPs;
- oversee, conduct, or participate in MSRs, QSAs, and TSAs, and oversee, conduct, or participate in other types of assessments as appropriate;
- communicate changes and additions to QA standards, policies and procedures to affected program areas;
- maintain a close liaison with the QA staff of federal oversight agencies;
- provide assistance in the area of QA to agency management, project managers, QA staff, regulated entities, and the public;
- ensure quality-related issues are addressed by the appropriate level of agency management as described in Section 5 of this QMP; and
- continuously encourage the development and awareness of QA within TCEQ.

The QA Manager is a full-time position in the Laboratory and Quality Assurance Section of the Air Monitoring Division, and reports to the Executive Director on quality-related issues.

The Deputy QA Manager is responsible for tasks cited above in the absence of the QA Manager or as designated by the QA Manager.

Quality Assurance Specialists

QA Specialists perform QA and quality control tasks including, but not limited to, the following:

- participate in the development, approval, implementation, and maintenance of written QA standards (e.g., QMPs, SOPs, QAPPs) as requested or necessary;
- 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 Deputy Directors and project managers, and through them to 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 QA report to the QA Manager.

QA Specialists may also perform some or all of the following QA 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.

QA Specialists report to Deputy Directors, Section Managers, or Team Leaders. Where they report to Section Managers or Team Leaders, QA Specialists have access to Deputy 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 Deputy Director, or designee(s), for disposition, when appropriate; and
- execute contracts and intergovernmental agreements.

The Executive Director, Directors, Deputy Directors, and the QA Manager have delegated their 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 QA 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 are determined, and corrective actions are planned, implemented, and verified in a

timely manner. The Program Manager for Laboratory Accreditation shall determine whether deficiencies or significant conditions warrant suspension or revocation of a laboratory's accreditation.

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

Grant Managers/PPG Office Coordinators

Grant Managers/PPG Office Coordinators manage federally funded grants to their conclusion and are accountable for the successful completion of grant-related tasks and objectives. Grant Managers/PPG Office Coordinators or their designees may 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/PPG Office Coordinator and the TCEQ Federal Funds Coordinator are informed of changes, revisions, or additions to projects;
- provide a list of expectations to appropriate staff 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 appropriate staff;
- advise supervisory personnel when grant timetables, tasks, and coordination procedures are not being met;
- elevate problems and issues requiring resolution to the lead division Deputy 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;
- enforce corrective action measures to ensure contractors meet deadlines and scheduled commitments and, for federally funded grants, inform the federal project officer and the TCEQ Federal Funds Coordinator of problems and issues relating to corrective actions when necessary; and
- report any suspected waste, abuse, fraud, or criminal activities with grant funds.

The Executive Director, Directors, Deputy Directors, and the QA Manager have delegated their authority to develop and implement grant-related quality systems. These systems shall be developed with the concurrence and assistance of QA 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.

Grant Managers are selected by lead division Deputy Directors, or their designees. Due to the structure of the PPG, PPG Office Coordinators may be appointed by each Office to oversee that Office's environmental and programmatic grant activities. Appendix D contains a current list of TCEQ Grant Managers/PPG Office Coordinators and identifies the Federal Funds Coordinator.

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;
- monitor the effectiveness of the project quality system;
- review QAPPs to ensure project QA and QC requirements are documented in the QAPPs before submittal to lead QA specialists;
- verify QAPPs are being followed and projects are producing data of known and acceptable quality;
- elevate problems and issues requiring resolution to the lead division Deputy 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.

Project Managers may also perform the following tasks:

- ensure the lead division administrative services coordinator or grant budget coordinator, the grant manager, 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;
- lead or participate in the development, approval, implementation and maintenance of QA standards;
- coordinate project planning with other agency programs and external participants;
- lead the QAPP development process to ensure that a systematic project planning process is implemented, consistent with Section 15a of this QMP;
- notify QA Specialists and management of circumstances that may adversely affect the quality of data;
- in coordination with the lead QA specialist, develop, enforce, and monitor corrective action; and
- review and approve data, reports, and other deliverables.

The Executive Director, Directors, Deputy Directors, and the QA 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 QA 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, 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.

Contract Managers

Contract Managers are authorized to procure the services of outside entities for performing or supporting environmental work. They are responsible for overseeing most aspects of contractor work. Contract Manager responsibilities may include:

- communicating with and/or instructing contractors on all matters concerning contracts;
- supporting or enabling contractor performance, ensuring that necessary instructions, reviews, approvals, prior authorizations and other support or input specified in the contract is provided in a timely manner;
- when applicable, coordinating and scheduling the review and approval of QAPPs prepared by contractors;
- monitoring and tracking contract-required work;
- monitoring contract expenditures and reviewing/approving invoices or other types of payment requests;
- evaluating and documenting contractor performance;
- assessing risk and guarding against contractor fraud;
- completing close-out activities;
- maintaining all contract-related documents and records; and
- conducting cost- and price-benefit analyses to determine if contractors provide the best value to the state.

Assessment Team Leaders and Assessors

With the assistance and concurrence of lead QA 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 QA staff (Appendix D), by virtue of their appointment to these positions, have the requisite training and experience which qualify them to conduct assessments. Other personnel determined by Project Managers, lead QA staff, Deputy Directors, Section Managers, or their designees, may be authorized to conduct assessments.

With the concurrence of lead QA staff, Lead Assessors shall:

- prepare and distribute assessment checklists;
- advise affected lead quality assurance staff, Deputy Directors, and project managers of significant conditions;

- forward written copies of assessment reports to manager(s), the project manager, and the lead QA 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 QA staff;
- advise lead QA staff and suspend assessments when assessment objectives cannot be achieved; and
- recommend follow-up assessments.

Appendix D: Lead Offices/Divisions, Quality Assurance Staff, Program Managers, and Grant Managers/PPG Office Coordinators

Lead Offices/Divisions

Program	Lead Office/Division
Agency QA	OA/Air Monitoring
Air Quality – CPRG	OA/*Not currently assigned a division*
Air Quality – NEI Reporting Program	OA/Air Quality
Air Quality Monitoring	OA/Air Monitoring
AMM	OA/Air Monitoring
Brownfields Program	OOW/Remediation
CRP	OW/Water Quality Planning
CBBEP	OW/Water Quality Planning
CWQMN	OW/Water Quality Planning
Federal Superfund	OOW/Remediation
GBEP	OW/Water Quality Planning
Groundwater Assessment	OW/Water Availability
Laboratory Accreditation	OA/Air Monitoring
LTSCC	OW/Water Supply
LUST – Corrective Action	OOW/Remediation
LUST – Prevention Assistance	OCE/Program Support and Environmental Assistance
MMT	OA/Air Monitoring
NPS	OW/Water Quality Planning
PA/SI	OOW/Remediation
PWSSP	OW/Water Supply
RESTORE	OLS/General Law
RM	OOW/Radioactive Materials

Program	Lead Office/Division
RCRA	OOW/Waste Permits
SWIFR	OOW/Waste Permits
SWQM	OW/Water Quality Planning
TMDL	OW/ Water Quality Planning
TxMCW	OA/Air Grants
UIC	OOW/Radioactive Materials
U.S.-Mexico Border Program	Executive Director's Office/Intergovernmental Relations
WQA	OW/Water Quality
WQS	OW/Water Quality Planning

Lead Quality Assurance Staff

Program	Lead Quality Assurance Staff
Agency QA	D. Jody Koehler
Air Quality – CPRG	James Nolan
Air Quality – NEI Reporting Program	Mark Muldoon
Air Quality Monitoring	
CATMN/SIM	Theresa Demboski
PAMS	Theresa Demboski
Pantex	Theresa Demboski
$PM_{2.5}$	Theresa Demboski
SLAMS	Theresa Demboski
AMM	Steve Gibson
Brownfields Program	Mark Maglitto
CRP	Loren Walker
CBBEP	Sagar Shrestha
CWQMN	Jason Natho
Federal Superfund	Mark Maglitto
GBEP	Morgen Zander
Groundwater Assessment	Abiy Berehe, acting

Program	Lead Quality Assurance Staff
Laboratory Accreditation	James Babcock
LTSCC	Jessica Hoch
LUST – Corrective Action	Mark Maglitto
LUST – Prevention Assistance	Heba Kawasmi
MMT	Molly Lyon
NPS	James Babcock
PA/SI	Mark Maglitto
PWSSP	Jessica Hoch
RM	RMD: Omar Lopez
	CID: Muhammadali Abbaszadeh
RCRA	Anju Chalise
SWIFR	Anju Chalise
SWQM	Jason Natho
TMDL	James Babcock
TxMCW	Nate Hickman
UIC	RMD: Tamara Young
	CID: Muhammadali Abbaszadeh
U.S.-Mexico Border Program	Theresa Demboski
WQA	Jason Natho
WQS	Jason Natho

Program Managers

Program	Manager
Agency QA	D. Jody Koehler
Air Quality – CPRG	Kasey Savanich
Air Quality – NEI Reporting Program	Danielle Nesvacil
Air Quality Monitoring	
CATMN/SIM	Holly Landuyt
PAMS	Holly Landuyt

Program	Manager
Pantex	Guy Wilkins
$PM_{2.5}$	Holly Landuyt
SLAMS	Holly Landuyt
Local Programs	Holly Landuyt
AMM	Steve Gibson
Brownfields Program	Anukriti Mahayan
CRP	Sarah Whitley
CBBEP	Cory Horan
CWQMN	J. Andrew Sullivan
Federal Superfund	
Core Program Cooperative Agreement	Sharon Barker, acting
Management Assistance Cooperative Agreement (Block Grant)	Sharon Barker, acting
GBEP	Lisa Marshall
Groundwater Assessment	Abiy Berehe
Laboratory Accreditation	D. Jody Koehler
LTSCC	Jennelle Crane
LUST – Corrective Action	Jennifer Robinson
LUST – Prevention Assistance	Andy Gardner
MMT	Peyton Pearce
NPS	Faith Hambleton
PA/SI	Katie Delbecq
PWSSP	Michele Risko
RM	Chance Goodin
RCRA, Subtitle C	
Corrective Action	Tiffany Deleon
Enforcement	Madelyn Flannagan
Field Operations	John Shelton
Permitting	Martin Torres
Registration & Reporting	Shannon Frazier

Program	Manager
RESTORE	Melissa Porter
SWIFR	Santos Olivarez
SWQM	J. Andrew Sullivan
TMDL	Wyatt Eason
TxMCW	Crystal DelaCruz
Uranium Licensing	Chance Goodin
UIC	Bryan Smith
U.S.-Mexico Border Program	Eddie Moderow
WQA	Gregg Easley
WQS	Sarah Whitley

Grant Managers/PPG Office Coordinators (GOCs)

Program/Grant	Grant Manager/GOC
Air Quality – CPRG	Kasey Savanich
Air Quality – Section 105 Air Pollution Planning and Control PPG	OA: Loren Sammon
	OCE: Heba Kawasmi
Air Quality Monitoring	
Pantex	Andrea Walker
$PM_{2.5}$ Network	Maryam Maadan
Brownfields	Randy Arnett
CWA Section 106 Water Pollution Control Grant: Categorical/Supplemental	Sean Smith
CWA Section 106 Water Pollution Control Grant: Groundwater PPG	OW: Peggy Hunka
CWA Section 106 Water Pollution Control Grant: Surface Water PPG	OW: Randy Baylor
	OCE: Heba Kawasmi
CWA Section 319(h) Nonpoint Source: Categorical	Marian Scott
CWA Section 319(h) Nonpoint Source: PPG	OW: Marian Scott

Program/Grant	Grant Manager/GOC
	OCE: Heba Kawasmi
CWA Section 604(b) Water Quality Management Planning Grant	Marian Scott
Federal Superfund	
Core Program Cooperative Agreement	Randy Arnett
Management Assistance Cooperative Agreement (Block Grant)	Randy Arnett
FIFRA Groundwater PPG	OW: Alan Cherepon
GBEP – CWA Section 320	Sean Smith
LTSCC (WIIN Act Section 2107)	Jim Lancaster
LUST – Corrective Action	Kristine Elliott
LUST – Prevention Assistance	Heba Kawasmi
Multipurpose Grant	Mark Henrichs
NEIEN	Diane Kuhl
PA/SI	April Palmie
PWSS PPG	OW: Jim Lancaster
	OCE: Heba Kawasmi
PWSSP Drinking Water State Revolving Fund (DWSRF)	Jim Lancaster
RCRA PPG	Anju Chalise
	OOW: Mark Henrichs
	OCE: Heba Kawasmi
RESTORE	Melissa Porter
SWIFR	Calen Roome
Air Grants – TxMCW	Nate Hickman
UIC PPG	Kathryn Ploch
	OOW: Mark Henrichs
	OCE: Heba Kawasmi
U.S. – Mexico Border Program PPG	Executive Director's Office: Eddie Moderow
	OCE: Heba Kawasmi

Note: The TCEQ Federal Funds Coordinator is Nicole Immer, Manager, Federal Funds Section, Budget and Planning Division.

Appendix E: 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's most current version of *Quality Management Plan Standard (CIO 2105-S-01),* Section 9) listed in Appendix A.

Preparation

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

The agency QMP shall be prepared with the involvement and assistance of program and QA 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 by the TCEQ QA Manager or designee.

Approval

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

TCEQ Contractors

Contractor QMPs will conform to EPA's most current version of *Quality Management Plan Standard (CIO 2105-S-01)* and other applicable requirements documents consistent with contractual obligations.

Distribution of QMPs

The TCEQ QA Manager shall distribute copies of the approved agency QMP to the Executive Director, Directors, participating divisions, and lead QA staff as well as EPA Region 6. Lead QA staff or Program Managers (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 TCEQ QA Manager shall ensure the agency QMP is current.

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, improve operational efficiency, or accommodate unique and unusual circumstances. Expedited changes to QMPs are effective upon approval by the TCEQ QA Manager and the EPA Region 6 QA Manager.

Appendix F: Preparation, Review, Approval, and Distribution of Quality Assurance Project Plans

Quality Assurance Project Plans (QAPPs) shall be prepared for projects involving environmental data operations (as defined in *EPA Requirements for Quality Assurance Project Plans,* EPA QA/R-5, or the most current version of *Quality Assurance Project Plan Standard (CIO 2105-S-02)*) governed by this QMP. Environmental data operations include, but are not limited to:

- sampling and analysis;
- compilation or use of data collected from existing sources (acquired or secondary data);
- development and/or use of models of environmental processes; and
- collection or calculation of geospatial data.

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

QAPP Preparation and Review

QAPPs shall be prepared in accordance with requirements contained in EPA QA/R-5 or the most current version of *Quality Assurance Project Plan Standard (CIO 2105-S-02),* as applicable. Unless otherwise directed by the lead Directors or Deputy Directors, Project Managers shall, with the assistance of the QA staff, coordinate the preparation of QAPPs.

QAPPs shall be prepared with the involvement and assistance of program and QA staff from all participating organizations, using a systematic planning process, such as the DQO process (*Guidance on Systematic Planning using 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, including annual and multi-year QAPP updates. Review comments, responses to comments, and revisions shall be documented and provided to reviewers by project managers or their designees.

Pre-QAPP Work Approval

EPA QA/R-5 states:

"All work funded by EPA that involves the acquisition of environmental data generated from direct measurement activities, collected from other sources, or compiled from computerized databases and information systems shall be implemented in accordance with an approved QA Project Plan… No work covered by this requirement shall be implemented without an approved QA Project Plan available prior to the start of the work except under circumstances requiring immediate action to protect human health and the environment or operations conducted under police powers."

EPA Quality Assurance Project Plan Standard (CIO 2105-S-02) states:

"All work performed by or on behalf of EPA involving environmental information operations shall be implemented in accordance with an approved Quality Assurance Project Plan (QAPP)… QAPPs must be approved in accordance with this Standard… QA Managers (QAM), as defined by the organization's Quality Management Plan (QMP), review and approve

QAPPs for all environmental information operations projects prior to any information gathering work, or use, except under circumstances requiring immediate action to protect human health and the environment or operations conducted under police powers.

Questions regarding the application of QA requirements to projects or portions of projects may be discussed with TCEQ QA staff and should be discussed in advance with EPA Region 6 Project Officers.

Approval

At a minimum, QAPP approvals shall be documented by the signatures specified in Table 2 in this appendix. Directors, Deputy Directors, Section and Grant Managers/PPG Office Coordinators, and the QA Manager may delegate QAPP approval authority. The lead division Deputy Director, Section Managers, Grant Managers/PPG Office Coordinators, Program and Project Managers, participating QA Specialists, or QA Manager may require additional approval signatures. Both electronic, i.e., scanned and e-mailed/faxed signature pages, and/or original signatures may be accepted, depending upon program-specific requirements.

The TCEQ QA Manager or designee within the Air Monitoring Division's QA Work Group, generally provides the final approval signature to QAPPs and before submittal to EPA. Exceptions will be made upon approval by the QA Manager.

Unless other arrangements have been approved, new QAPPs, including annual and multi-year QAPP updates, shall be prepared and approved according to Table 1 in this appendix.

Table 1. Timetable

Activity Office/Organization	Timetable	Lead
Submittal for TCEQ QA review	135 days before project initiation/ QAPP expiration date	See Appendix D
TCEQ Approval/Submittal to EPA	75-90 days before project initiation/ QAPP expiration date	See Appendix D
Comments/Approval from EPA	15 days before project initiation/ QAPP expiration date	See Appendix D

Clean Rivers and certain other programs are state-funded; therefore, their QAPPs do not require EPA approval and may have different submittal and approval schedules from those cited above.

QAPPs with multi-year approval periods must be reviewed annually, during their approval periods, by TCEQ Project Managers, or by Lead QA Specialists for programs whose Project Managers are not responsible for QAPP preparation or approval. For EPA-funded programs and projects, the annual reviews must be documented in memorandum form and their accuracy certified; the certification must include any program or project changes which were approved via amendment during the prior year. Since the certification is confirming the continued accuracy of the QAPP, any necessary amendments should be approved by EPA (or TCEQ QA Manager for delegated programs) prior to completion of the annual certification. Additionally, any minor administrative revision not impacting data or operations (e.g., organizational changes, schedule changes not affecting the project design or quality or quantity of work to be performed, etc.) shall also be conveyed as part of the annual certification. TCEQ Project Managers or designees must provide certification of the

annual reviews to the TCEQ QA Manager and the appropriate EPA Region 6 Project Officer 30 days before the annual anniversary date of the QAPP. EPA Region 6 may delegate authority for QAPP approval to TCEQ for certain programs. TCEQ intends to seek from EPA authority to approve QAPPs on behalf of EPA Region 6. In doing so, 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 to EPA jointly by the TCEQ QA Manager and the lead division Deputy Director (or designee).

Lead QA Specialists, TCEQ Project Managers, or their designees shall submit QAPPs to their respective EPA Region 6 Project Officers. In the event an EPA Project Officer does not provide written approval of or comments describing deficiencies in a QAPP within 45 days, the Lead QA Specialist, project manager, or designee shall contact the EPA Region 6 QA Manager and request assistance in determining the status of the QAPP.

Table 2: QAPP Approval Requirements

	Executive Director	Director	Grant Manager/ GOC	Deputy Directors	Section Manager	Program Manager	Project Manager	QA Specialist	QA Manager	EPA
Air Quality FCAA Section 105			√	√	√	√	√	√	√	√
Air Quality Monitoring+			√	√	√	√	√	√	√	^
CPRG							√	√	√	√
CRP*					√	√	√	√	√	
CBBEP						√	√	√	√	
CWA Section 106*										
PPG – Groundwater			√	√	√	√	√	√	√	√
PPG – Surface Water, *** (includes CWQMN, SWQM, WQA, and WQS)*			o		√	√	√	√	√	√
*Categorical (Supplemental) Grant**			o		√	√	√	√	√	√
Brownfields			√	√	√	√		√	√	√
Site-specific sampling plans						√	√	√	#	√
FIFRA PPG - Groundwater			√	√	o	√	√	√	√	√
GBEP*				o	o	√	√	√	√	^
LTSCC (WIIN Act Section 2107)			√	√	√	√	√	√	√	√
LUST Corrective Action			√	√	√	√		√	√	√
LUST Prevention Assistance		√	√	√	√	√	√	√	√	√
NPS (CWA Sections 319(h) & 604(b))*			o	o	o	√	√	√	√	^

	Executive Director	Director	Grant Manager/ GOC	Deputy Directors	Section Manager	Program Manager	Project Manager	QA Specialist	QA Manager	EPA
PA/SI			√	√	√	√		√	√	√
Site-specific sampling plans						√	√	√	#	√
PWSSP			√	√	√	√	√	√	√	√
RCRA* **			√	√	√	√		√	√	√
SWIFR			√	√	√	√	√	√	√	√
TMDL*			**o**	**o**	**o**	√	√	√	√	^**
UIC* **			√	√	√	√		√	√	√
U.S.-Mexico Border			√			√	√	√	√	√

Key:

√ - approval signature(s) required. The Deputy QA Manager may sign in lieu of the QA Manager.

\+ - excluding QAPPs from contract laboratories. Approval requirements are determined by program management in consultation with QA staff.

^ - excluding QAPPs for state-funded air quality monitoring programs, the GBEP, and the NPS and TMDL programs.

o - excluding Air Monitoring, Water Quality, and Water Quality Planning Divisions for certain QAPPs.

- TCEQ QA Manager signature required if QAPP amended by field sampling plan.

***** - Water Quality Planning Division Data Manager (or designee) signature required if data will be submitted to SWQMIS.

****** - EPA signatures required for certain modeling projects.

*** - Area Directors' signatures may be required. Personnel should consult OCE Program Support for projects involving Region staff participation.

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.

Distribution

Project managers, or designees, shall distribute copies of QAPPs to the individuals listed in the Distribution Lists of the documents. At a minimum, distribution shall include participating organizations (offices, divisions, regional offices) within TCEQ, participating contractors, and EPA as applicable. TCEQ Deputy Directors, Regional Directors, and contractor representatives

shall ensure copies of QAPPs are made available to personnel performing environmental activities governed by these documents.

Maintenance

Lead QA Specialists (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 QA staff, or designees, shall retain QAPPs for three years after the end of the project period.

Approval Periods and Extensions

The last approved version of a QAPP shall remain in effect only for the approval period defined by the approving authority(ies). Upon expiration of the approval period for a QAPP, all work covered by the expired QAPP, whether performed by TCEQ or contractors, shall cease until such time as a revised QAPP has been fully approved by the approving authority(ies).

TCEQ program personnel may request extensions of federally funded QAPPs, but extensions may only be granted by EPA Region 6 Project Officers, on a case-by-case basis. Copies of the requests must be sent concurrently to the TCEQ Grant Manager and QA Manager. Copies of EPA Region 6 responses to the extension requests must also be provided to the TCEQ Grant Manager and QA Manager. For state funded QAPPs under TCEQ QA purview, program personnel should submit extension requests to the TCEQ QA Manager for approval. Requests for extension should be made as soon as possible once the need for an extension of the QAPP approval period is identified.

Revisions

Until environmental work is completed, QAPPs shall be revised as necessary and reissued by their expiration dates or revised and reissued within 120 days of significant changes, whichever is sooner. If the entire QAPP is current, valid, and accurately reflects the project goals and the organization's policy, the reissuance may be done by a certification that the plan is current, including a copy of new, signed approval pages for the QAPP (see also, “Approval Periods and Extensions”).

Amendments

Amendments to QAPPs are developed and approved to reflect changes in project organization, tasks, schedules, objectives, and methods, address deficiencies, improve operational efficiency, and accommodate unique or unanticipated circumstances. When changes are needed and EPA has not delegated authority to TCEQ for QAPP approval, the TCEQ Project Manager will, in conjunction with the Lead QA Specialist, present the changes to the EPA Region 6 Project Officer. The EPA Project Officer will determine if the changes warrant a substantive or non-substantive amendment. If the amendment is determined 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, TCEQ Project Manager will notify all individuals and organizations contained in the QAPP distribution list of the changes being made. These changes will remain in effect until the next revision of the QAPP, and new EPA Q-TRAK numbers for the amendments will not be needed.

If EPA has delegated authority to TCEQ for QAPP approval, TCEQ Project Manager will contact the Lead QA Specialist or TCEQ QA Manager to determine whether changes are substantive or non-substantive and to discuss the appropriate format for amendment documentation. Once the TCEQ Project Manager has received instruction on the appropriate format for the amendment, the TCEQ Project Manager will submit an amendment to the Lead QA Specialist or

TCEQ QA Manager for review and approval.

Amendments are effective immediately upon approval by TCEQ Project Manager or designees, the Lead QA Specialist, TCEQ QA Manager or designee, and the EPA Region 6 Project Officer (when required). Amendments to QAPPs and the reasons for the changes shall be documented by the TCEQ Project Manager and distributed immediately to all individuals and organizations contained in the QAPP distribution list.

Amendments shall be incorporated into a revised QAPP during the anniversary revision process or within 120 days of the initial approval in cases of significant changes. For multi-year QAPPs, amendments must be attached to and noted in annual certification submissions.

Appendix G: 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 or known 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.

Acquired Data (also existing or secondary data) – Environmental data used for a project but originally produced for other purposes and/or from other sources, including literature, compilations from databases and information systems, results from computerized or mathematical models of environmental processes and conditions, and industry surveys.

Amendment – A change to a quality assurance document that normally 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.

Audit of Data Quality – An examination of data to determine if the data objectives specified in the QAPP were met for the project. Audits of data quality entail tracing data through the steps of the collection, analysis, interpretation, and reporting processes to identify a clear, logical connection between the steps in the data management system for the project.

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.

By-product Material – A radioactive material, other than special nuclear material, that is produced in or made radioactive by exposure to radiation incident to the process of producing or using special nuclear material; and tailings or wastes produced by or resulting from the extraction or concentration of uranium or thorium from ore processed primarily for its source material content, including discrete surface wastes resulting from uranium solution extraction processes.

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 Ladder – A structured progression within a classification series providing an employee with increasing levels of responsibility and pay.

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.

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

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.

Continual Improvement – Recurring activity to enhance performance.

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 TCEQ's 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.

Controlled Document – A document which is identifiable and for which revisions and removal from use can be tracked. The process of document control manages the revisions of documents, ensuring that only the latest version is available to its users. At a minimum, the document control process must perform the following functions: edit, review, approval, revision, and distribution. Additionally, information required to be controlled and retained or maintained by an entity and the medium on which it is contained per the agency document retention. Controlled documents can be in any format and media and from any source. Controlled documents information can refer to:

- the management system, including related processes;
- information created in order for the organization to operate (documentation) and maintained;
- evidence of results achieved (records) and retained.

Corrective Action – An action taken to eliminate the causes and effects of a nonconformity or other undesirable situation and prevent recurrence.

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.

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.

Federal Funds Coordinator – A functional title that refers to the Federal Funds Section Manager who oversees assigned grant program funding.

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 substantial 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. The Functional Job Description (FJD) includes a brief job description statement; a list of the essential 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.

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. The grant manager is the primary communicator with the agency Federal Funds Coordinator.

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.

Injection Well – A bored, drilled, or driven shaft whose depth is greater than the largest surface dimension, a dug hole whose depth is greater than the largest surface dimension, an improved sinkhole, or a subsurface fluid distribution system (but does not include any surface pit, surface excavation, or natural depression) into which a material or substance which flows or moves (whether in a semisolid, liquid, sludge, gas, or any other form) is injected.

Inspection – An evaluation for conformity by observation and judgment accompanied as appropriate by measurement, testing, or gauging. An inspection may include 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 QA program for a TCEQ organization or program.

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

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

Management System Audit – An activity performed to verify, by examination and evaluation of objective evidence, that applicable elements of the quality management system are appropriate and are implemented effectively in accordance and in conjunction with specified requirements.

Management System Review (MSR) – A review to evaluate and document the management policies and procedures used to plan, implement, assess and correct the technical activities for environmental programs, as well as note good practices and suggested changes for improving the quality systems that support data for defensible environmental decisions. The MSR may be based upon document review, file examination, and interviews of managers and staff responsible for environmental data and operations.

Marginal Conventional Well (MCW) - An onshore conventional well producing less than or equal to 15 barrels of oil equivalent per day (BOED), or less than or equal to 90 thousand cubic feet (Mcf) gas per day (1 BOE = 6 Mcf) over a calendar year. These are producing or idle wells with known operators/well owners.

Measurement and Testing Equipment – Measurement instrument, software, measurement standard, referenced material or auxiliary equipment or combination thereof to realize a measurement process. Such equipment may include 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.

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

Monitoring – Determining the status of a system, a process or an activity. To determine the status there may be a need to check, supervise or critically observe. In an environmental context, monitoring may refer to the collection of environmental information through measurements and other methods.

Nonconformance – A deficiency in characteristic, documentation, or procedure that renders the quality of an item or activity unacceptable or indeterminate, nonfulfillment of a specified requirement.

Objective Evidence – Supporting the existence or variety of something. Objective evidence may include any documented information, 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. 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.

Performance Partnership Grant (PPG) Coordinator – A functional title that refers to TCEQ Budget and Planning Division personnel responsible for coordinating PPG efforts with PPG Office Coordinators, the Federal Funds Coordinator, and/or EPA.

Performance Partnership Grant (PPG) Office Coordinator – A functional title that refers to the individual(s) authorized to manage a specific PPG program and/or an Office's portion of the PPG at an office level to its conclusion and who is accountable for the successful completion of the grant-related tasks and objectives. The PPG Office Coordinator is the primary communicator with the PPG Coordinator or Federal Funds Coordinator regarding the assigned PPG program.

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 Deputy 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, implementation, documentation, 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 – Coordinated activities to direct and control an organization with regard to quality. Quality Improvement is a management program for improving the quality of operations. Such management programs generally entail a formal mechanism for encouraging worker recommendations with timely management evaluation and feedback or implementation.

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, documenting, and assessing all activities conducted.

Quality Management System/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, documenting, and assessing work performed by the organization and for carrying out required quality assurance and quality control.

Quality System Audit (QSA) – 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) low-level 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 use 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 superseded and out-of-date document.

Root Cause – The underlying cause of an adverse condition which, when corrected, will prevent further recurrence of the condition. The term "root cause" can also be used to describe the underlying cause of a positive 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 process by which a documented critical review of work is or 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.

Top Management – A person or group of people who directs and controls an organization at the highest level. Top management has the power to delegate authority and provide resources within the organization.

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.

Underground Source of Drinking Water – An "aquifer" or its portions which supplies drinking water for human consumption; or in which the groundwater contains fewer than 10,000 milligrams per liter total dissolved solids; and which is not an exempted aquifer.

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).