

## QUALITY MANAGEMENT PLAN

### NEW MEXICO ENVIRONMENT DEPARTMENT SURFACE WATER QUALITY BUREAU

#### ENVIRONMENTAL DATA OPERATIONS

Effective  
March 1, 2024, through March 1, 2025  
Revision 00



## Approval Page

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## **QUALITY STATEMENT**

**Purpose:** To document the overall policy, scope, applicability, and management responsibilities of the Surface Water Quality Bureau ("SWQB") quality system.

The general objectives and goals of the SWQB quality system are to ensure the quality of the work processes and products. The quality system includes planning, implementing, documenting, and assessing work performed by the SWQB. The SWQB is committed to maintaining a quality system that provides confidence that the products generated by its environmental data operations meet the requirements of internal and external customers.

Quality Assurance is the planned and systematic actions that ensure environmental data operations are of sufficient quality to meet customer requirements. Quality Assurance ("QA") includes Quality Control ("QC"), which is the system of technical activities, including data verification and validation procedures, which measure the attributes and performance of a process, item, or service against defined standards.

### **Policy on Quality Assurance**

It is the policy of the SWQB that the level of QA shall be sufficient to provide confidence that the products of environmental data operations meet the requirements of internal and external customers and that sufficient resources shall be available to develop and maintain the quality system.

### **Independence of QA Officer**

Figure 1 shows the management structure of the SWQB in relationship to the New Mexico Environment Department ("NMED") and documents the independence of the QA Officer ("QAO") from SWQB sections that generate data. Figure 2 shows the SWQB organizational structure.

## ORGANIZATION CHARTS

Figure 1. Management Structure of the NMED-SWQB

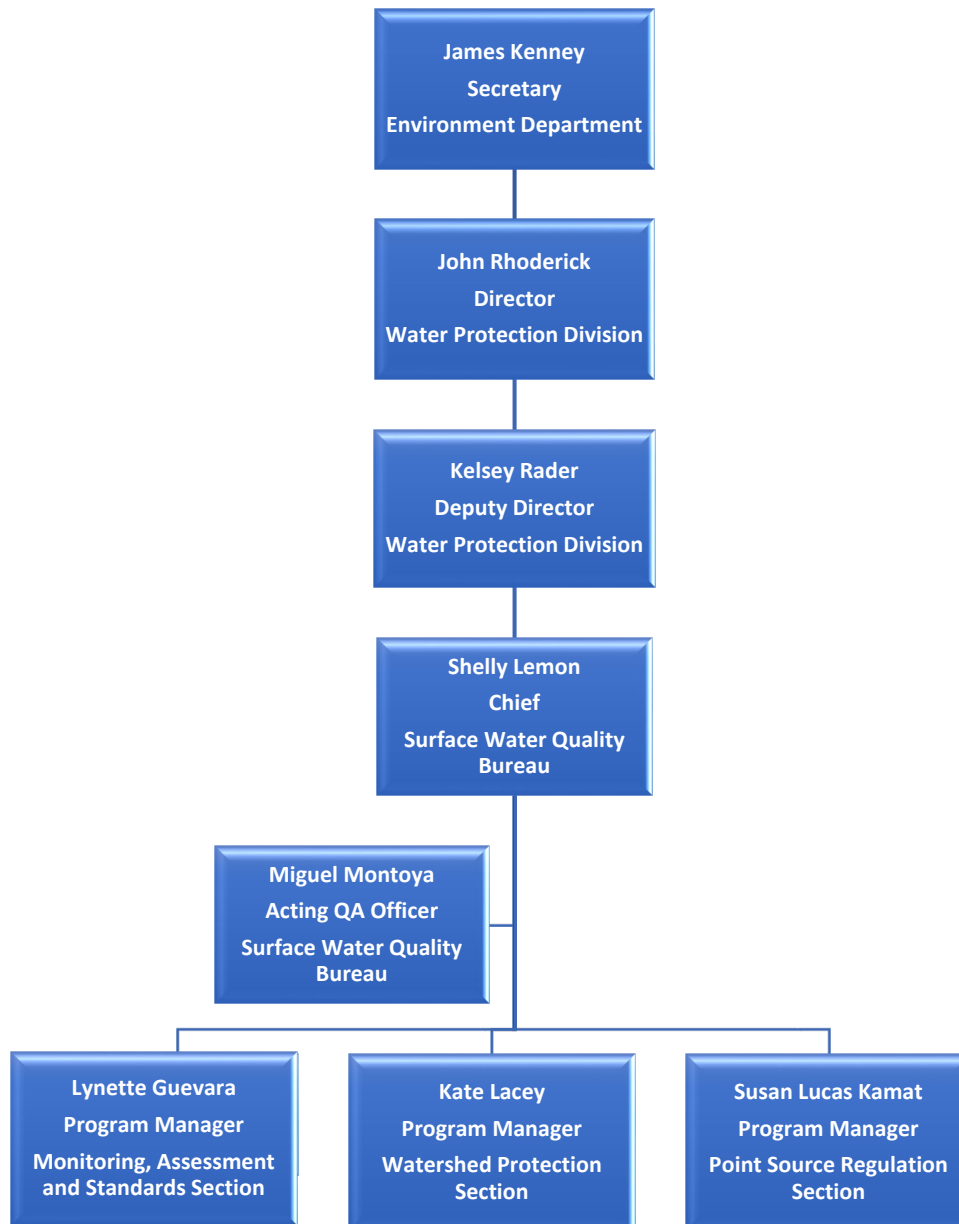
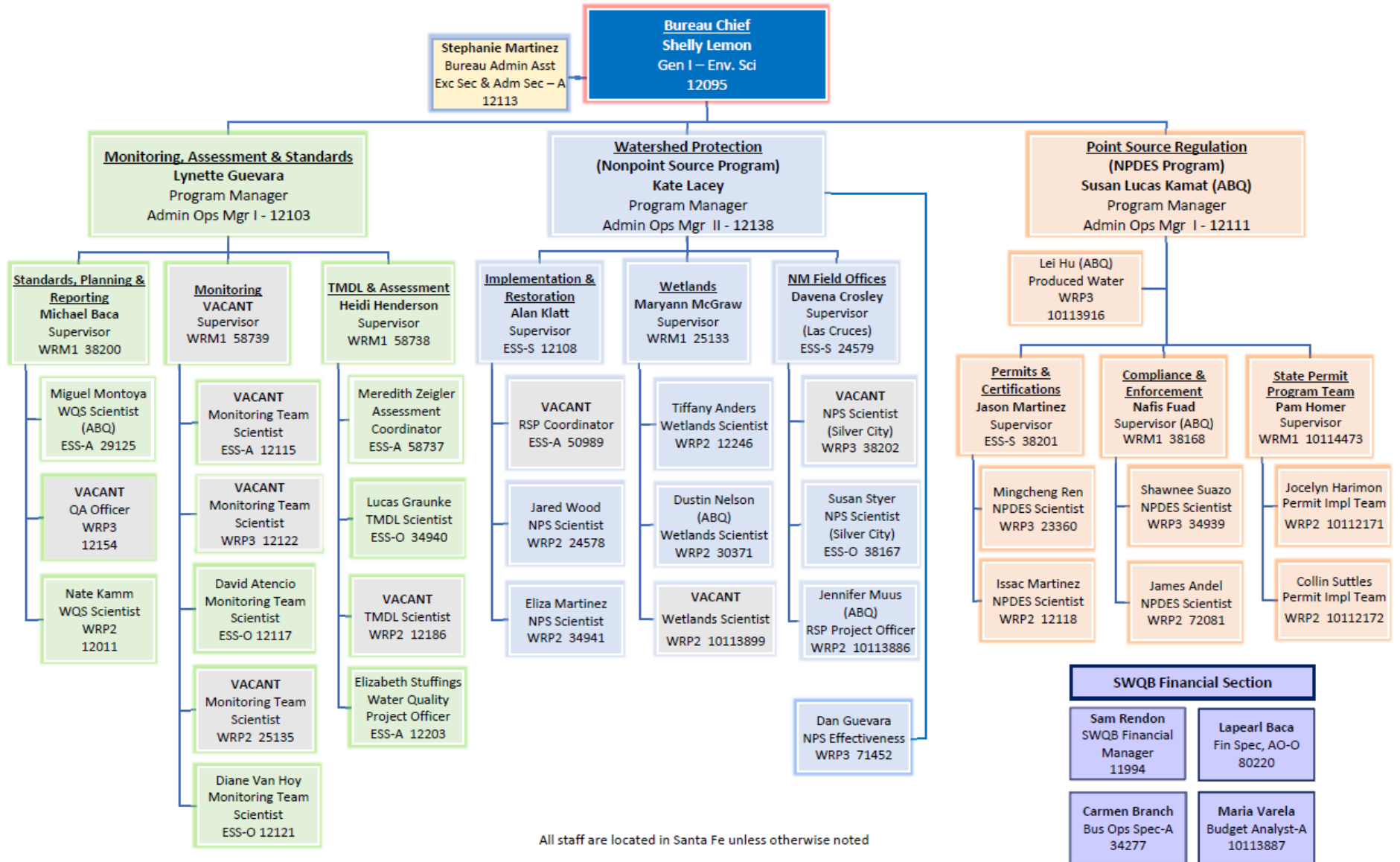


Figure 2. Organizational Structure of the SWQB (01/24/2024)



## **ROLES, RESPONSIBILITIES AND AUTHORITIES**

**Purpose: To document roles, responsibilities, and authorities of the SWQB quality system.**

The SWQB QAO has the authority for planning, assessing, and improving the SWQB quality system. The QAO is responsible for the preparation, approval, and distribution of the Quality Management Plan (“QMP”) and Quality Assurance Project Plans (“QAPPs”). The QAO has the authority to require quality assurance related training. The QAO is also responsible for ensuring the proper review of data and for the review of new or alternative methods and procedures for conducting environmental data operations. The QAO will use requirements defined in Data Quality Objectives (“DQOs”) and Measurement Quality Objectives (“MQOs”) to conduct quality assessments to ensure data being used meet the data quality indicators (“DQIs”) of the SWQB quality system. The QAO has the authority to ensure implementation of work processes according to approved procedures, conduct quality system assessments, and implement quality system improvement activities.

The QAO has the authority to ensure quality documentation in the procurement of products; and to require the inclusion of quality assurance requirements in proposals, work plans, and contracts; and to require persons or organizations that collect environmental data, including contractors, to develop and to conform to the applicable QAPPs.

The QAO is directly supervised by the Standards, Planning, and Reporting (“SPR”) Team Supervisor. SPR Team members support the QAO as needed. For the purposes of quality assurance, the QAO reports to the Bureau Chief and is a full-time NMED SWQB employee.

The QAO shall maintain independence in all QA matters and has the ability to directly and independently interact and initiate communication with technical staff and management. This direct access allows the QAO to independently elevate critical, quality-related issues to the attention of the Bureau Chief at their discretion without challenge or section approval. The QAO communicates with NMED senior management through the Bureau Chief and the SPR Team Supervisor.

### **Management process for assuring that the elements of the quality system are understood and implemented in all environmental programs**

Program Manager(s), with the assistance of the QAO, periodically assess the level of understanding and implementation of the quality system; evaluate the effectiveness of the quality system in satisfying customer requirements and expectations; and monitor the need for improvement of the quality system. Further details on the processes for assessing the implementation of the quality system are provided in the Quality Assessment and Response part of the Planning Section of this QMP. The Program Manager(s), with assistance from the Bureau Chief, are responsible for Environmental Data and Information Operations.

Staff who acquire, generate, compile, or use environmental data must be familiar with the most current SWQB QMP for Environmental Data Operations and QAPP for Water Quality Monitoring Programs. Compliance is documented through a signed acknowledgement statement.

## **TECHNICAL ACTIVITIES AND PROGRAMS SUPPORTED BY THE QMP**

**Purpose: To document programs and activities supported by the QMP.**

The SWQB is comprised of three technical sections: the Monitoring, Assessment, and Standards Section (“MASS”), the Watershed Protection Section (“WPS”), and the Point Source Regulation Section (“PSRS”).

All the sections and teams that acquire, generate, compile, or use environmental data require quality management. For the purposes of quality management, the QAO helps to coordinate the activities of the technical sections and teams.

In addition, all environmental data operations funded directly or indirectly through the Environmental Protection Agency (“EPA”), require an EPA-Approved QAPP specific to project objectives. The current SWQB QAPP for Water Quality Monitoring Programs identifies all programs and projects conducting environmental data operations.

## **CONFORMANCE WITH POLICIES, PROCEDURES, STANDARDS, AND REGULATIONS**

**Purpose: To identify the policies, procedures, standards, and regulations pertinent to the SWQB quality assurance system.**

The mission of the NMED SWQB is to preserve, protect, and improve New Mexico’s surface water quality for present and future generations.

To accomplish its mission and to meet the national requirements of the Clean Water Act, the SWQB conducts environmental data operations, primarily the collection and evaluation of data to monitor the condition of New Mexico surface waters. Much of this work is funded by federal grants provided by the Environmental Protection Agency (“EPA”). The SWQB is committed to developing and maintaining a quality system that meets the needs of EPA, NMED staff, stakeholders, and the public.

According to the Federal Regulation (2 CFR 1500.12 *Quality Assurance*), it is EPA policy that all environmental programs performed by EPA or directly for EPA, through EPA-funded extramural agreements, shall be supported by individual quality system that comply fully with EPA’s Chief Information Officer (“CIO”) order 2105.3 *Environmental Information Quality Policy* (EPA 2023a) or Quality Management Systems for Environmental Information and Technology Programs (“ASQ/ANSI E4:2014”). The EPA issued CIO 2105-P-01.3, *Environmental Information Quality Procedure* (EPA 2023b) to implement the requirements of CIO 2105.3 and 2 CFR 1500.12.

Therefore, to comply with federal regulations and requirements noted above, organizations funded by EPA are required to have a quality system that is documented and approved by EPA. The SWQB documents their quality system in a Quality Management Plan (“QMP”). A QMP describes the organization’s quality system for planning, implementing, documenting, and assessing the effectiveness of activities supporting environmental data operations and other environmental programs. The SWQB QMP establishes management principles and responsibilities for ensuring that SWQB environmental data operations meet EPA quality-related requirements and are of sufficient quality for their intended use and consistent with EPA’s CIO procedure 2105-P-01.3.

The QMP for the NMED SWQB *Environmental Data Operations* is based on the requirements listed in EPA’s *Quality Management Plan Standard* (CIO 2105-S-01.0).

According to EPA policy, the QMP is valid for a period of one year from the date of approval by EPA. However, EPA’s *Quality Management Plan Standard* (CIO 2105-S-01.0) directs the recipient to modify the QMP if any of the following occur:

- major changes in mission and responsibilities, such as changes in the delegation status of a program;
- re-organization of existing functions that affect programs covered by the QMP; or
- EPA-issued assessment findings requiring corrective actions and response.



The principal components of the quality system and the tools for implementing the components are the QMP, QAPPs and Standard Operating Procedures (“SOPs”). These and other components are listed in Table 1. The SWQB QAPP for Water Quality Monitoring Programs identifies projects that require QAPPs and incorporates applications of planning documents such as SOPs as a mechanism to control and document QA/QC for the Bureau. SOPs are used for routine work across multiple projects to maintain consistency with data collection activities. The SWQB QMP, QAPP, SOPs and other planning documents (e.g., Comprehensive Assessment and Listing Methodology and Water Quality Management Plan/Continuing Planning Process) are available at <https://www.env.nm.gov/surface-water-quality/protocols-and-planning/>.

## QA FIELD ACTIVITIES

**Purpose: To document implementation processes for applying quality assurance to field activities administered by the SWQB.**

The quality system is intended to ensure quality in work processes and products. It includes planning, implementation, documentation, and assessment.

The principal components of the quality system and the tools for implementing the components are the QMP, QAPPs and SOPs. These and other components are listed in Table 1. The primary positions that are responsible for the implementation of the quality system components are also listed in Table 1. Additional details of the roles and implementation responsibilities are listed in each QMP Section and the SWQB QAPP for Water Quality Management Programs.

The QAO develops the QMP with the assistance of members of the SPR Team and recommendations from SWQB staff. The QMP describes the quality system for planning, implementing, documenting, and assessing the effectiveness of activities supporting the programs administered by the SWQB. The QMP is reviewed and approved by the Bureau Chief, QAO, and the EPA. The QAO also develops the SWQB’s *QAPP for Water Quality Management Programs* (NMED/SWQB 2021 or current version) and reviews project-specific QAPPs. Field data collection activities are accomplished by following detailed SOPs, which are incorporated into SWQB QAPPs. Visit the SWQB quality assurance and quality control webpage at <https://www.env.nm.gov/surface-water-quality/qaqc/>.

Table 1. Quality System Components

Quality System Component	Documented Quality Component	Responsible Position
Quality Planning	WQMP/CPP, QMP, QAPPs	Bureau Chief, QA Officer
Quality Training	QAPPs and SOPs	QA Officer, Program Manager(s), Subject Matter Expert(s)
Quality Implementation	QAPPs, SOPs, Field Sampling Plans (“FSPs”), Comprehensive Assessment and Listing Methodology (“CALM”), Hydrology Protocol (“HP”), Antidegradation Policy Implementation Procedures, Inspections, Spill/Incident Response	All SWQB Staff
Quality Documentation	Reports, Publications, Certifications, and Rulemakings	Bureau Chief, Program Manager(s), Project Manager(s), and QA Officer

Quality Assessment	Quality System Assessments, Technical System Audit Procedure	Bureau Chief, QA Officer
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## COMPUTER HARDWARE AND SOFTWARE

**Purpose: To document how the SWQB ensures that computer hardware and software satisfies its requirements.**

The SWQB works with New Mexico’s Department of Information Technology (“DoIT”) and NMED’s Office of Information Technology (“OIT”) to ensure that computer hardware and software meet procurement, security, and quality assurance and control requirements.

Computer hardware and software purchases must meet the requirements of the statewide Information Technology Plan. The majority of computer hardware and software products are commercial products that are purchased from suppliers according to the procedures described in the Procurement of Items and Services of this QMP. The OIT communicates requirements to suppliers through the RFP process and evaluates whether the purchased products meet the requirements of the purchase contract and the user. After purchasing hardware or software, the user may advise OIT regarding its suitability for use. The suitability of special-purpose software is evaluated by technical staff members based on their experience and requirements.

The SWQB stores surface water quality data within the Surface Water Quality Information Database (“SQUID”), which is managed by OIT in cooperation with SWQB staff. With the exception of special-purpose software, OIT is responsible for installing, testing, maintaining, controlling, and documenting software. NMED staff must acquire permission from the SWQB database manager before access is granted to SQUID by OIT. Managers and staff are responsible for using the software and becoming familiar with any updates or changes to the software applications. Raw water quality instrument data files, ancillary field observations, photographs, and other forms of data are not stored in SQUID but are maintained on the NMED server and backed up daily. OIT and Program Manager(s) evaluate changes to user requirements and evaluate the effects of changes in hardware and software on the performance of users.

Using application programs, SWQB staff enter data for storage either on a local computer or on a network server. They may also produce new data using other approved applications or programs such as Microsoft Word or Microsoft Excel, often based on the synthesis or evaluation of analytical results.

## INFORMATION QUALITY GUIDELINES

This section is only required for EPA. The SWQB addressed the requirements of quality guidelines through this QMP and the current SWQB QAPP for Water Quality Management Programs.

## ORGANIZATIONS COMPETENCE AND PERSONNEL TRAINING

**Purpose: To document the process for assuring that all personnel performing operations involving environmental data have the necessary skills to effectively accomplish their work.**

It is the policy of the SWQB that personnel who perform operations involving environmental data have sufficient training and qualifications to accomplish their work. This is generally acquired through internal and external trainings, and, for all newly hired personnel, a period of apprenticeship conducted by experienced staff. Newly hired personnel are provided with an onboarding presentation (typically given by QAO) that explains the details and requirements of the SWQB Quality System components (e.g., QMP, QAPPs, SOPs, and FSPs).

The QAO is required to oversee the quality assurance mechanisms in place supporting the SWQB quality system. Therefore, the QAO must have or must attain certification in Quality Project and Program Management from EPA or a certification of equivalent measure within three years of hire date. The QAO documents that personnel are familiar with the requirements of the SWQB's QMP and the *QAPP for Water Quality Management Programs* (NMED/SWQB 2021 or current version) either with documented training or with a signed "SWQB Acknowledgement Statement" that acknowledges receipt and understanding of the documents. Also, at appropriate intervals, the QAO may conduct training to familiarize Program Manager(s), Team Supervisor(s), Project Manager(s), and staff with changes to the SWQB's QMP and the most recent QAPP for Water Quality Management Programs.

Personnel are to be familiar with other related documents, such as the *Statewide Water Quality Management Plan and Continuing Planning Process* ("WQMP/CPP"), the *State of New Mexico Standards for Interstate and Intrastate Surface Waters* (20.6.4 NMAC), and the *State of New Mexico Ground and Surface Water Protection regulations* (20.6.2 NMAC) to ensure proper implementation of surface water quality management programs.

Program Managers whose job responsibilities require actively conducting or participating in procedures identified in the SWQB QAPP are required to seek certification in Quality Project and Program Management from EPA or a certification of equivalent measure. The certification is required to ensure Program Managers have the ability to understand the quality assurance requirements for EPA funded projects; comprehend the value and benefits of an effective quality assurance program; recognize in detail the elements of a QAPP and their requirements; and evaluate and determine the approvability of a QAPP.

The Program Manager(s), Team Supervisor(s), and Project Manager(s), and the QAO are responsible for ensuring that personnel who acquire, generate, compile, or use environmental data are familiar with quality assurance requirements and for verifying that technical staff members are trained in applicable SOPs and the proper use of sampling equipment.

The Program Manager(s), Team Supervisor(s), Project Manager(s), and/or the QAO identify the need for training or retraining to maintain quality assurance-based qualifications through communication with staff, observation of work processes, and QA assessments or technical system audits. The Program Manager(s), Team Supervisor(s), the Project Manager(s), or Subject Matter Expert(s), with oversight from the QAO, organize training for field data collection. The training focuses on specific chapters of the SWQB SOPs and should be led by the Subject Matter Expert(s). Subject Matter Experts are SWQB staff that are familiar with the purpose and procedure for completing a task.

## **PROCUREMENT OF ITEMS AND SERVICES**

**Purpose: To document the processes for the procurement of products (items and services) that affect the quality of environmental programs.**

The SWQB procures products (items and services) to provide the materials and capabilities needed to accomplish its mission. The SWQB uses multiple processes and levels of approval to assure the accuracy, quality, and integrity of the procurement process. If the procurement requires a quality component or if the product will influence the quality of environmental programs or data, the QAO will be consulted.

The NMED is a Cabinet-level Department within New Mexico State government. The procurement process often requires the involvement and oversight of three other state departments: the Department of Finance and Administration ("DFA"), the General Services Department ("GSD"), and the Department of Information Technology ("DoIT"). Within NMED, procurement may need the review and approval of the

Administrative Services Division (“ASD”), the Office of Information Technology (“OIT”) and/or the Office of General Counsel (“OGC”).

SWQB follows procurement procedures in accordance with the New Mexico Procurement Code, Chapter 13, Sections 13-1-1 through 13-1-199 NMSA 1978, and GSD - State Purchasing Division Procurement Code Regulations 1.4.1 NMAC and 2.40.2 NMAC. The purpose of the procurement code is to provide for the fair and equal treatment of all persons involved in public procurement, to maximize the purchasing value of public funds and to provide safeguards for maintaining a procurement system of quality and integrity.

### **Procurements Using Grant Funding**

The SWQB submits grant applications to EPA that include work plans describing the work to be accomplished using Clean Water Act grant funding. The Bureau Financial Manager (“BFM”) works with the Bureau Chief, Program Manager(s), and Project Manager(s) to ensure that grant applications meet both EPA and NMED requirements. Some of the grant objectives and outcomes described in the work plan are completed by the SWQB and others are completed by the Ground Water Quality Bureau, sub-grant recipients, or contractors.

Depending on the cost and type of procurement, SWQB may issue a Direct Purchase Order (“DPO”), Solicitation for Applications (“SFA”), Request for Proposals (“RFP”), or Request for Quotes (“RFQ”). The SWQB conducts SFAs to pass-through a portion of the grant of award (“sub-grant”) to another entity for the purpose of providing programmatic effort on the project. Sub-grant recipients are ultimately responsible for the successful completion of the grant project, or portion of the project, in their sub-grant agreement. The SWQB conducts RFPs and RFQs to buy goods or services for the benefit of the project. The vendor or contractor provides the specified goods or services to the SWQB. See Table 2 for a summary of the procurement process.

Project work plans and scopes of work that involve the use of environmental data for use in decision making supported by EPA funds either directly or indirectly shall indicate that the work will be conducted under an EPA-Approved QAPP specific to project objectives.

### **Sub-grant Agreements**

The SWQB also conducts competitive project development processes using SFAs in which public agencies and community-based organizations may submit applications for a sub-grant award. Applications are reviewed and scored by an evaluation committee. In most cases, the Program Manager(s), other technical staff, and, if necessary, the QAO participate in the evaluation and selection of applicants. Finalists are asked to submit revised applications addressing any concerns of the evaluation committee. Revised applications are then submitted to EPA for review and approval prior to issuing a sub-grant agreement. Sub-grant agreements are routed through the sub-grant recipient, the Program Manager(s), Contract Specialist, BFM, Bureau Chief, OGC and final approval by the NMED Cabinet Secretary or designee. The SWQB currently awards sub-grants for watershed-based planning projects and watershed implementation projects, wetlands restoration projects, and water quality management planning supported with Clean Water Act Section 319, Section 104(b)(3), and Section 604(b) funds. If any of these agreements or the products of these agreements may influence the quality of environmental programs or environmental data, then the agreements will be reviewed by the QAO.

### **Procurement of Services – Contracts**

The SWQB may need to procure professional or general services contracts to achieve its mission. If the proposed service(s) could influence the quality of environmental programs or data, technical staff, the Project Manager(s), Program Manager(s) and the QAO must be involved in the procurement.

For professional or general services contracts less than \$60,000, SWQB solicits formal quotes through an RFQ for the best obtainable price. The contract must be routed through the SWQB financial team and ASD for processing, and the contract will require final approval by DFA for professional services or State Purchasing Division (“SPD”) for general services. NMED-SWQB conducts procurement for professional services contracts equal to or over \$60,000 through an RFP process, whereas SPD conducts procurement for general services contracts equal to or over \$60,000 through a formal RFP process. Both procurements (i.e., professional services and general services) require sealed competitive proposals, unless goods or services are procured under a State-wide Price Agreement. Other methods of procurement exist such as Exceptions (13-1-98), Sole Source (13-1-126), Emergency (13-1-127), and Existing Contracts (13-1-129). All such procurements are routed through the SWQB financial team and ASD for processing. See Table 2 for a process summary of procurement of services.

In most cases, the Program Manager(s), or the Project Manager(s), the BFM or the Contract Specialist, and the QAO (if necessary) participate in the preparation and technical evaluation of the RFP. The technical evaluation shall ensure that the RFP and any resulting agreements and contract documents are complete and accurate, clearly describe the services needed, describe the associated technical and quality requirements, describe the quality system elements for which the supplier is responsible, and provide the criteria by which the supplier’s conformance to quality requirements will be verified.

If NMED conducts the RFP (i.e. for professional services procurements), the proposed contract is routed through the contractor, Program Manager(s), Contract Specialist, BFM, SWQB Bureau Chief, ASD, OGC, and the NMED Cabinet Secretary or designee, prior to approval from DFA. If SPD conducts the RFP (i.e., for general services procurements), the final contract will be routed through the contractor, Program Manager(s), BFM, SWQB Bureau Chief, ASD, OGC, and the NMED Cabinet Secretary or designee, prior to approval from SPD. All purchase orders must be approved by DFA.

Upon receipt of the contract deliverables and draft invoice, Project Manager(s) review the deliverables to assure that all contract requirements have been satisfied. If the deliverables do not meet contract requirements, the contractor is notified in writing of the deficiencies in their invoice and/or deliverables. If the deliverables meet the contract requirements, the Project Manager certifies the invoice and routes it, with proper documentation, to the SWQB financial team for processing.

### **Procurement of Items**

The SWQB purchases items needed to accomplish the Bureau’s mission. If the use of the item could influence the quality of environmental programs or data, then consultation with other technical staff, the Project Manager(s), Program Manager(s) and the QAO should occur when specifications are being developed. After developing technical specifications and cost estimates, the proposed purchase is sent to the Program Manager(s) or Grant Manager(s) for approval. The Program Manager(s) or Grant Manager(s) may determine that the specifications for the proposed purchase need further review by the QAO. If the proposed purchase meets technical requirements and cost limitations, the Program Manager(s) and the Bureau Chief may approve the purchase.

If the cost is less than \$20,000, the purchase can be procured using a DPO based on the evaluation of two quotes, with final approval from ASD. If the cost is greater than \$20,000 but less than \$60,000, the purchase can be procured using a DPO based on the evaluation of three quotes, with final approval from

ASD (see Table 2). In some cases, Statewide Price Agreements may be available for use by NMED (more information below).

Technical personnel evaluate the received item for conformance to requirements and specifications. If the item conforms to the technical requirements and specifications, the technical staff member certifies the invoice and routes it, with proper documentation, to the SWQB financial team for processing. The item will be used or placed in operation within the warranty period to assure that it operates as intended and meets the technical specifications and requirements.

### **Ongoing Procurements of Items and Services – Price Agreements**

The SWQB may require the ongoing procurement of products, including items and services. Depending on the procurement, the SWQB may be involved in the development of the requirements or specifications for a contract with vendors for products. If the use of the product could influence the quality of environmental programs or data, then consultation with technical staff, the Project Manager(s), Program Manager(s) and the QAO is required as the specifications are being developed. If the items or services will be purchased through an ongoing Price Agreement (which allows the products listed in the agreement to be available for purchase by other state agencies), the SPD will issue an Invitation to Bid (“ITB”) for the items or services (see Table 2). Depending on the procurement, representatives of the SWQB including the QAO may participate in the technical evaluation of the responses to the ITB. After technical and administrative review, the SPD will issue a Price Agreement for the products that were described in the ITB.

Upon receipt of the products, technical personnel evaluate the products for conformance to requirements and specifications. If they conform to the requirements and specifications, the technical staff member certifies the invoice and routes it, with proper documentation, to the SWQB financial team for processing.

### **Other Agreements**

The SWQB may also engage in a Memorandum of Understanding or Memorandum of Agreement (“MOU” or “MOA”) with another governmental agency. For example, the SWQB maintains an agreement for analytical services with the State Laboratory Division (“SLD”) of the New Mexico Department of Health. The agreement with SLD does not go through the procurement process. However, the contract is routed through the SWQB financial team for finalization. The SWQB and the SLD, as representatives of agencies of the State of New Mexico, communicate their requirements through annual negotiations and interim meetings. Similarly, components of Wetlands Programs projects are funded through MOAs, for example Rapid Assessment Method development by the University of New Mexico’s Natural Heritage program. A MOU may be used to share resources that mutually benefit the agencies and/or public. A MOA may be used to fund specific projects that benefit two agencies. These agreements may require review and approval by the Department’s ASD, OGC and Cabinet Secretary, including review and approval by the other governmental agency. If any of these agreements or the products of these agreements may influence the quality of environmental programs or environmental data, then the agreements will be reviewed by the QAO.

Table 2. Summary of the Procurement Process

Type	Description	\$ Range	Approving Agency			Process No Price Agreement	Process With Price agreement	Examples	For Use By
			NMED	SPD	DFA				
Sub-Grant	Sub-Grant Agreement	Unlimited	X		X	DPO, SFA**		programmatic support for Bureau's CWA Section 319, Section 104(b)(3), and Section 604(b) grants.	Bureau
Goods/Services*	Small Purchase	\$0 - \$20K	X		X	DPO, ITB or RFQ (2 Quotes)	1 quote	Furniture; office supplies; IT equipment & accessories	Bureau
Goods/Services*	Large Purchase	\$20K - \$60K	X		X	DPO, ITB or RFQ (3 Quotes)	1 quote	One-time Contract Sampling Equipment ≥ \$20K but less than \$60k	Bureau
Goods/Services	Statewide Price Agreement	Unlimited	X		X	DPO	1 quote	Office Supplies, Contract Laboratory Services	Multiple Agencies
General Services	General Services Contract	\$60K +	X	X	X	RFP		One or Multiple Vendors	Bureau, Department
Professional Services	Professional Services Contract	<\$60K	X	X	X	DPO, ITB or RFQ*** (\$0 - \$20K = 2 Quotes) (\$20K - \$60K = 3 Quotes)		One-time Contract	Bureau, Department
Professional Services	Professional Services Contract	\$60K +	X	X	X	RFP		One or Multiple Vendors	Bureau, Department

\*Services can be General or Professional as deemed by Agency Chief Procurement Officer

\*\*SFA is for use with other Local Public Bodies of Government

\*\*\* Submit to NMED Financial Services Bureau: Contract Request Form; Funding Verification, if applicable; Scope of Work; Determination of Services; Horizon decline

Note: Computer-related items may require review by NMED OIT or the Department of Information Technology, See QMP Section for Computer Hardware and Software

## DOCUMENTS AND RECORD PROCESSES

**Purpose: To document appropriate controls for quality-related documents determined to be important to the mission of the organization.**

A quality assurance related document lists, describes, establishes, or specifies how products meet or shall meet either the requirements of the SWQB or the requirements of its customers; or it documents the procedures or plans for meeting those requirements. Quality assurance related documents include the QMP, QAPPs, Field Sampling Plans (“FSPs”), SOPs and protocols, and quality assurance elements found in contracts and work plans. Quality assurance related documents may also include documents from customers and suppliers.

The QAO is responsible for identifying quality assurance related documents. For procedures, protocols, contracts, and work plans, the QAO works with the Program Manager(s), Project Manager(s), or the BFM to identify required quality-related documents.

The QAO develops and prepares updates to the SWQB’s QMP and QAPP for *Water Quality Management Programs* as needed based on effective timeframes, major changes in mission and responsibilities, actions that affect the programs covered by these quality documents, or any findings by EPA that require corrective action. These updates are done in consultation with the applicable Program Manager(s) and staff. The QMP is reviewed yearly and is approved by the Bureau Chief and the QAO. A signed copy of the QMP is forwarded to the EPA Quality Assurance Manager for review and approval. The SWQB QAPP for *Water Quality Management Programs* is reviewed and approved by the Bureau Chief, QAO, and EPA. QAPPs can be approved for up to 36 months. Project-specific QAPPs developed by the SWQB, or their sub-grantees or contractors, are reviewed and approved by applicable Program Manager(s), Project Manager(s), and the QAO before being forwarded to appropriate EPA staff for review and approval. Should there be any changes that affect the quality of data at any time, a revised QAPP must be resubmitted to EPA for review and approval.

The QAO reviews and approves SWQB data collection activities applicable to QAPPs, FSPs, and SOPs (developed internally as well as externally). The QAO may also review supplier-provided quality assurance documentation, such as the state’s Scientific Laboratory Division (“SLD”) QAPP. The QAO and the appropriate Program Manager(s) or Project Manager(s) work together to review applicable sample collection planning documents, procedures, and assessment protocols to ensure documents meet the SWQB DQI.

As described in the Procurement of Items and Services Section, contracts and other agreements are reviewed by: the Program Manager(s), Contract Specialist, the Bureau Financial Manager, and the Bureau Chief. If there are any quality assurance requirements, the QAO will also review those documents. The appropriate Program Manager(s), Project/Grant Manager(s), and/or the Bureau Chief are responsible for technical approval of RFPs, RFQs, SFAs, ITBs, and DPOs and resulting contracts and other agreements.

The QAO distributes the quality assurance-related documents such as the SWQB’s QMP and the QAPP for *Water Quality Management Programs* to all appropriate staff. The QAO verifies and maintains receipt and understanding of the SWQB’s QMP and the QAPP for *Water Quality Management Programs* through acknowledgment forms.

The QAO maintains the original approved version of the SWQB QMP, QAPPs, SOPs and FSPs. These documents are maintained on the NMED server, which is backed up daily. The quality related documents are also posted on the SWQB’s website. Chain of custody procedures for various types of sampling are described in applicable SOPs.



The QAO will maintain the original approved quality related documents in accordance with applicable sections of New Mexico's Disposition of Public Records and Non-Records regulation, codified at 1.13.30 NMAC and Retention and Disposition of Public Records regulations, codified at 1.21.2 NMAC.

Generally, the process for ensuring that records and documents accurately reflect completed work is described in the Assessment and Oversight part of the Planning Section of this QMP.

## PLANNING

**Purpose: To document how individual data collection operations are planned within the SWQB to ensure that data or information collected meets the requirements of the SWQB and its customers.**

The Planning Process for environmental data collection activities is based on the elements of Systematic Planning listed in the *EPA Environmental Information Quality Policy and Procedure* (EPA 2023a and EPA 2023b). The Planning Process identifies and describes the process for the participation of the customers and suppliers that are involved with the study as well as project goals and objectives. The Project Manager(s), through the Planning Process, identifies and prioritizes the questions that the project will be designed to answer and the decisions that can be made as a result of the project. It identifies the type and quantity of data needed and how the data will be used to support the project DQOs. The Planning Process also identifies specification of needed QA and QC activities to assess the project DQIs and describes how the acquired information will be analyzed, evaluated, and assessed against its intended use and the quality performance criteria.

The earlier in the data collection process that the Planning Process is applied, the better. Ideally, the Planning Process should be used as a work plan is being developed. If a work plan is already in place, or if the project is directed by other documents, then the project will still be planned according to the Planning Process. For the SWQB, the Planning Process for environmental data collection activities are documented in project planning documents such as the QAPPs, Work Plans, FSPs or Sampling and Analysis Plans ("SAPs").

As described in EPA's *Environmental Information Quality Procedure* (EPA 2023b) the Planning Process is intended to:

- identify and involve the project manager, sponsoring organization and responsible official, project personnel, stakeholders, scientific experts, etc. (e.g., all customers and cooperators).
- identify the question that is intended to be answered or the decision that is intended to be made;
- identify specification of needed QA and QC
- ensure that the planned data collection activities will provide data that are sufficient to answer the question or make the decision; and
- ensure that the planned data analysis, evaluation and assessment will answer the question or support the decision.

The SWQB *QAPP for Water Quality Management Programs* (NMED/SWQB 2021 or current version) identifies the specific document where the Planning Process will be documented for activities conducted by the SWQB. The SWQB Planning process will address the requirements of Systematic Planning as described in *EPA Environmental Information Quality Procedure* (EPA 2023b), however, this may be more dependent on the SWQB activity. The SWQB QAPP for Water Quality Management Programs must be reviewed by the Project Manager prior to implementation of any project and project personnel must have a signed SWQB QAPP acknowledgment form on file with the QAO. The quality of the data collected by the

SWQB is assured by following the most recent *QAPP for Water Quality Management Programs* and its established SOPs.

Data collected for purposes other than those described in the *QAPP for Water Quality Management Programs* (NMED/SWQB 2021 or current version) or from other sources that might not have the same quality controls as data collected under the *QAPP for Water Quality Management Programs* (NMED/SWQB 2021 or current version) are evaluated independently based on the proposed use. The QAO is the only individual authorized to make a determination regarding whether or not the data quality is adequate for the proposed use. Any environmental data being used for a purpose outside those identified must seek approval from the QAO prior to proceeding with use of that data.

### **Implementation of Work Process**

Once environmental data collection activities are planned according to the SWQB's *QAPP for Water Quality Management Programs* (NMED/SWQB 2021 or current version), Section 15 of this QMP, and the SOP for *Field Sampling Plan Development and Execution* (SOP 2.1) (if applicable), it is the responsibility of the Project Manager(s) to ensure, and QAO to require, that the data collection operations described in the quality assurance documents are performed accordingly. Any necessary deviations from the approved and applicable quality assurance documents (e.g., QMPs, QAPPs, FSPs or SOPs) must be approved by the Program Manager(s) and QAO prior to implementation. The QAO and Program Manager(s) will ensure applicable staff update the quality assurance document(s) in accordance with the SWQB's approved process.

When work requiring a procedure is conducted, the person(s) conducting the work is responsible for ensuring that the most current procedures and field forms are being used, and verifying that work is done as prescribed. Staff are also responsible for notifying the QAO and Project Manager(s) of any obsolete documentation (e.g., field forms). The QAO will archive obsolete documentation in the SWQB network server and will notify staff.

The SWQB QAPP for Water Quality Monitoring Programs incorporates the use and requirements of SOPs, SAPs, and project-specific QAPPs so that data collection activities maintain consistency, data are verified and validated according to procedure, and the SWQB collects legally defensible data for their intended use. The QAPP provides measuring quality objectives, data quality indicators and acceptance criteria for data so that the Bureau can meet goals and objectives.

### **Assessment and Oversight**

The QAO will assess a portion of the quality system periodically as resources allow, typically this is completed annually. The assessment may be either a management or technical assessment. The QAO may use assessment tools, including, but not limited to: quality systems audits, management systems reviews, peer reviews, technical reviews, performance evaluations, data quality assessments, readiness reviews, technical system audits, and surveillance. The SWQB's Technical System Audit SOP ensures the process is standardized and effectively evaluates the implementation of the quality system documents (e.g., QMP, QAPP, SOPs). The qualifications for conducting assessments of the SWQB quality system are described in the Organization Competence and Personnel Training section of this QMP.

Once the specific management or technical area to be assessed has been identified, the specific tool, the frequency of assessments, and the roles and responsibilities of the assessors will be selected. The QAO has the necessary authority to conduct assessments of the SWQB, including access to programs and managers, access to documents and records, and freedom to pursue quality-related issues for the Bureau. The QAO will ensure they have no real or perceived conflict of interest, and no direct involvement or

responsibility for the work being assessed. The results of the assessment will be reported to the applicable Program Manager, Team Supervisor and Project Manager. If assessments identify quality assurance issues that significantly impact the conclusions drawn from the environmental data, the QAO will notify the SWQB Chief for further action. The SWQB SOP for Technical System Audits describes in detail how nonconformance to planning documents is addressed by management.

### **Corrective Action and Improvements**

The QAO is responsible for reporting corrective action required to address nonconformance of planning documents. The corrective action will focus on data quality, data integrity, and decision-making based on the data that is generated or collated by the project. In certain cases, the Project Manager may need to perform corrective action as quickly as possible. Such cases may include adverse impacts on data quality and threats to health and safety. Project Manager(s) are responsible for implementation and completion of the corrective action within the time specified by the QAO, and must inform the QAO once corrective action has been completed. If SWQB personnel do not address the corrective actions in the specified time and the nonconformance significantly impacts the conclusions drawn from the environmental data, the QAO will notify the SWQB Chief for further action. If SWQB personnel implement a corrective action for a project but it does not adequately address the issues, and depending on the severity, the Project Manager may be forced to temporarily cease all environmental data collection activities that affect data quality, data integrity, or decisions being made based on data until the corrective action is implemented. The SWQB Chief must approve temporary termination of environmental data collection activities for a project in order for personnel to implement the termination action. The process for addressing correctives actions is described in the SWQB Technical System Audit SOP.

### **DISPUTE RESOLUTION PROCESS**

**Purpose: To identify the staff responsible for addressing dispute resolution.**

For the resolution of disputes, the Bureau Chief, Program Manager, and Project Manager will develop the specifics for resolution as the issue(s) is developing. The QAO will be included if the disputes are due to quality related issues.

### **CONTINUAL IMPROVEMENTS**

**Purpose: To document how the SWQB improves its quality system.**

At least annually or as resources allow, the QAO will review quality-related deficiencies, nonconformances, and programmatic improvements, and advise management of any significant trends.

All personnel working on environmental programs are encouraged to proactively identify, plan, implement, and evaluate quality improvement activities for their areas of responsibility. Personnel will prevent quality problems wherever possible and report opportunities for improvement as well as quality problems as they are identified.

Deficiencies and nonconformances by staff or observed by staff will be reported to the QAO and appropriate Project Manager(s). The QAO ensures that the deficiencies and nonconformances are documented and forwarded to the appropriate Program Manager(s) or the Bureau Chief.

If necessary, the QAO and the appropriate Program Manager(s) and Project Manager(s) will develop a plan for corrective action. The corrective action plan documents:

- root cause(s);
- programmatic impact;
- required corrective action(s), including action(s) needed to prevent recurrence;
- means by which corrective action completion will be documented and verified;
- timetable(s);
- individuals responsible for implementing corrective action; and
- mechanism to re-evaluate and adjust the corrective action and adjust timelines, as appropriate.

The Project Manager(s) shall ensure that corrective actions are effectively implemented in a timely manner.

Managers, Supervisors, and the QAO are responsible for encouraging staff at all levels to establish communications between customers and suppliers, identify process improvement opportunities, and identify and propose solutions to problems.

## **DATA REVIEW VALIDATION AND VERIFICATION AND DATA USABILITY REPORTING**

**Purpose: To document the processes for conducting review, validations, verification and usability of Environmental Data and Information.**

All data collected by the SWQB undergo a series of verification and validation using the SWQB SOP for Data Verification and Validation to ensure that the data are of sufficient quality and conform to a project's specific objectives. Data review, verification, and validation are key steps for ensuring data integrity, suitability, and usability. The Project Manager or designee reviews all field and analytical data and verifies and validates the data according to the procedures identified in the most recent SWQB QAPP and the most current SWQB Data Verification and Validation SOP (NMED/SWQB 2023c or most current version). The Project Manager or designee summarizes the results from the data verification and validation process on the Data Verification and Validation Worksheet. The Project Manager provides copies of these results of the verification and validation process to the QAO for review and filing. The Project Manager and/or QA Officer will resolve data quality issues. The Project Manager and QAO thoroughly document and maintain all information pertaining to this process in the project file on the NMED network server.

The data verification and validation process establishes the criteria for accepting, rejecting, or qualifying data. The Data Verification and Validation Worksheet(s) serve as the summary of results for each type of data verified and validated. These worksheets serve as a record for the Project Manager and QAO. The QAO also uses the information provided in the Data Verification and Validation Worksheet(s) to prepare a summary of the issues that arose and the resulting resolution status on a periodic basis. The Project Manager and QAO document and include all information pertaining to this process in the project file.

The Project Manager or designee assign appropriate qualifiers or validation codes to all data not meeting the appropriate QA/QC requirements as identified through the data verification and validation process. A summary of laboratory and SWQB's qualifier codes is provided in the SWQB SOP for Data Verification and Validation Procedures, Attachments B1-B5. Once personnel complete the data verification and validation process and accept, reject, or qualify the data, the data are considered usable. SWQB staff may use data that are qualified (as specified by qualifier or validation code), but not rejected, provided the potential uncertainties associated with the data are addressed and appropriate caveats attached.

SWQB personnel may use data collected for ambient water quality monitoring that have undergone the verification and validation procedures identified in SWQB SOP 15.0 Data Verification and Validation for various uses, including enforcement of water quality standards under the NM Water Quality Act (74-6-10

NMSA), water quality assessments for development of the Integrated Report and List, TMDL development, or WQS amendments proposed by the SWQB.

Table 3. Responsibilities/Authority

	<u>PERSONNEL QUALIFICATIONS AND TRAINING</u>		<u>PROCUREMENT OF PRODUCTS</u>		<u>DOCUMENTS AND RECORDS</u>		<u>COMPUTER HARDWARE AND SOFTWARE</u>	
Position/Role	Responsibility for	Authority to	Responsibility for	Authority to	Responsibility for	Authority to	Responsibility for	Authority to
<b>SWQB Chief</b>	Ensuring that personnel are trained and qualified.	Require training.	Ensuring the quality of procured products and the quality and integrity of the procurement process.	Approve purchases and contracts for professional services (with the exception of on-going price agreements) and sub-grant agreements.	Ensuring that quality-related documents are identified and controlled.	Approve quality-related documents.	Ensuring that computer hardware and software meet requirements.	Require that computer hardware and software meet requirements.
<b>QA Officer</b>	Documenting that personnel have received the QMP and QAPP; conducting and documenting quality system training; identifying need for training or retraining in cooperation with Program Manager(s).	Require and provide training.	Ensuring quality requirements are included in proposals and contracts.	Require quality-related documentation to be identified in proposals and contracts.	Identification and control of quality-related documents.	Approve quality-related documents, disseminate to staff, as appropriate, and maintain quality related documents in hard copy and electronically.	Advising SWQB Chief of software and hardware capabilities necessary to maintain quality.	
<b>Program Manager</b>	Ensuring that personnel are trained and qualified in quality requirements including procedures and equipment operation.	Require and provide training.	Ensuring that procured products meet quality requirements and that the procurement process is followed.	Approve purchases and contracts for professional services (except for on-going price agreements) and grant applications.	Identification and control of quality-related documents.	Approve quality-related documents and require staff to review them.	Advising SWQB Chief of software and hardware capabilities necessary to maintain quality.	
<b>Project Manager</b>	Ensuring that personnel are trained and qualified in quality requirements including procedures and equipment operation	Require and provide training	Ensuring that procured products meet quality requirements		Identification and control of quality-related documents.	Review quality-related documents and require staff to review them	Advising Program Manager of software and hardware capabilities necessary to maintain quality	

	<u>PERSONNEL QUALIFICATIONS AND TRAINING</u>		<u>PROCUREMENT OF PRODUCTS</u>		<u>DOCUMENTS AND RECORDS</u>		<u>COMPUTER HARDWARE AND SOFTWARE</u>	
Position/Role	Responsibility for	Authority to	Responsibility for	Authority to	Responsibility for	Authority to	Responsibility for	Authority to
<b>Bureau and Program Financial Managers</b>	Ensuring that management, and financial and technical personnel understand the process for meeting the internal quality requirements of procurements, and understand the procurement process and other administrative processes.	Require and provide training.	Ensuring the quality and integrity of the procurement process.	Advise management and staff of the requirements of grant applications and work plan deliverables and of the procurement process, and to notify the QAO regarding the quality requirements of items or services listed in procurements.	Identification and control of quality-related documents.	Advise QAO of documents containing quality-related requirements.	Ensuring the quality and integrity of the procurement process.	Advise management and staff of the requirements of the procurement process, and to notify the QAO regarding the quality requirements of items or services listed in procurements.
<b>Technical Staff</b>	Participating in and assisting with training in areas of expertise. Advise managers of needed training.	Notify supervisors of needed training.	Requesting necessary products, following the procurement process and ensuring that products meet specifications and requirements.	Inform Program Manager, Project Manager and QAO when products do not meet specifications or requirements.	Review and maintain knowledge of applicable quality related documents. Identification and control of quality-related documents.	Advise QAO of documents containing quality-related requirements.	Advising Program Manager of software and hardware capabilities necessary to maintain quality.	

Table 4. Responsibilities/Authority

	<u>PLANNING</u>		<u>IMPLEMENTATION OF WORK PROCESSES</u>		<u>ASSESSMENT AND RESPONSE</u>		<u>QUALITY IMPROVEMENT</u>	
<b>Position/Role</b>	<b>Responsibility for</b>	<b>Authority to</b>	<b>Responsibility for</b>	<b>Authority to</b>	<b>Responsibility for</b>	<b>Authority to</b>	<b>Responsibility for</b>	<b>Authority to</b>
<b>SWQB Chief</b>	Ensuring the systematic planning of environmental data operations.	Require the systematic planning of environmental data operations.	Ensuring that work processes are conducted according to procedures.	Require that work processes are conducted according to approved procedures.	Ensuring the assessment of the quality system.	Require assessment and response.	Ensuring the implementation of quality system improvement activities.	Require the implementation of quality improvement activities.
<b>QA Officer</b>	Participating in the environmental data collection planning process. Providing input on quality related processes.	Approve FSPs, and other quality related documents such as SOPs and QAPPs. Require conformance to the QAPP and SOPs.	Identifying operations needing procedures.	Require that work processes are conducted according to approved procedures.	Implementing quality system assessments.	Conduct quality system assessments.	Identifying and planning quality system improvement activities.	Require implementation of quality system improvement activities.
<b>Program Manager</b>	Participating in the environmental data collection planning process. Draft QAPPs, SOPs and review FSPs in cooperation with technical staff.	Approve FSPs, and other quality related documents such as SOPs and QAPPs.	Identifying operations needing procedures, ensuring conformance to procedures.	Approve procedures and require that work processes are conducted according to approved procedures. Work under approved QMP, QAPP, FSP and SOPs	Participating in and supporting quality system assessments.	Direct staff to participate in and support quality system assessments.	Supporting quality system improvement activities.	Require staff participation in quality system improvement activities.
<b>Project Manager</b>	Participating in the environmental data collection planning process. Draft SOPs and FSPs in cooperation with technical staff. Advise Program Managers on changes to quality related documents such as QAPPs and SOPs.	Prepare SOPs and FSPs. Advise on updates to QAPPs and SOPs. Approve SOPs and QAPPs.	Identifying operations needing procedures, ensuring conformance to procedures.	Ensure that work processes are conducted according to approved procedures. Work under approved QMP, QAPP, FSP and SOPs	Participating in and supporting quality system assessments.	Direct staff to participate in and support quality system assessments.	Supporting quality system improvement activities.	Require staff participation in quality system improvement activities.
<b>Bureau and Program Financial Managers</b>	Advising Program Manager of grant requirements and limitations.		Ensuring conformance to administrative and procurement procedures.	Approve the release of funds for work to be conducted according to approved QMP, QAPP, FSP SOPs, or other procedures.				



	<u>PLANNING</u>		<u>IMPLEMENTATION OF WORK PROCESSES</u>		<u>ASSESSMENT AND RESPONSE</u>		<u>QUALITY IMPROVEMENT</u>	
Position/Role	Responsibility for	Authority to	Responsibility for	Authority to	Responsibility for	Authority to	Responsibility for	Authority to
<b>Technical Staff</b>	Advising QAO and Program Manager of recommended changes to quality related documents such as QAPPs and SOPs. Preparation of FSPs.	Prepare FSPs. Advise on updates to QAPP and SOPs.	Conducting work according to current procedures. Identifying changes needed in procedures.	Advising the Program Manager and QAO regarding changes or improvements to work processes. Working under approved QMP, QAPP, FSP and SOPs.	Advising the Program Manager and QAO of assessment and response opportunities.	Participate in and support quality system assessments.	Supporting quality system improvement activities.	Advise the Program Manager or QAO of quality improvement opportunities.

	<u>Data Verification and Validation</u>	
Position/Role	Responsibility for	Authority to
<b>SWQB Chief</b>	Ensuring the implementation of data verification and validation through oversight of Program Managers and QAO.	Require the implementation of data verification and validation.
<b>QA Officer</b>	Identifying issues in data verification and validation activities. Documenting and including all information pertaining to this process in the project file.	Require implementation of data verification and validation as well as revision to the data verification and validation process.
<b>Program Manager</b>	Ensuring the implementation of data verification and validation process. Documenting and including all information pertaining to this process in the project file.	Require the implementation of data verification and validation. Advise the QAO of quality related issues regarding data verification and validation.
<b>Project Manager</b>	Ensuring and completing the implementation of data verification and validation process. Documenting and including all information pertaining to this process in the project file.	Require the implementation of data verification and validation. Advise the Program Manager or QAO of quality related issues regarding data verification and validation.
<b>Technical Staff</b>	Completing data verification and validation.	Advise the Program Manager or QAO of quality related issues regarding data verification and validation.
<b>Bureau and Program Financial Managers</b>	Not applicable	Not applicable

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## TERMS AND DEFINITIONS

**assessment** – the evaluation process used to measure the performance or effectiveness of a system and its elements. Assessment is an all-inclusive term used to denote any of the following: audit, performance evaluation, management systems review, peer review, inspection or surveillance.

**assessment units (AUs)** – River or stream reaches defined by various factors such as hydrologic or watershed boundaries, geology, topography, incoming tributaries, surrounding land use/land management, water quality standards, etc. AUs are designed to represent waters with assumed homogeneous water quality (WERF 2007). Stream or river AUs in New Mexico are typically no more than 25 miles in length unless there are no tributaries or land use changes to consider along the reach (NMED/SWQB 2021).

**audit (quality assurance)** – a systematic and independent examination to determine whether quality assurance activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve objectives.

**corrective action** – any measures taken to rectify conditions adverse to quality assurance.

**customer(s)** – an entity, organization or person(s) effective directly or indirectly by the action of the NMED SWQB.

**direct measurements** – environmental data used in or for decision making, directly measured or generated by the SWQB staff.

**data quality assessment** – a statistical and scientific evaluation of a data set to determine the validity and performance of the data collection design and statistical test, and to determine the adequacy of the data set for its intended use.

**data quality indicator (DQI)** – a qualitative or quantitative measure of the conformance of the data to the study requirements. There are two qualitative DQIs: representativeness and comparability. There are four quantitative DQIs: accuracy, precision, completeness, and detection limits.

**data quality objective (DQO)** – a statement of the level of uncertainty (in the data) that is considered acceptable for use in answering the study question.

**deficiency** – a negative assessment finding (i.e., a nonconformance) that renders the quality assurance of an item or activity unacceptable or indeterminate; nonfulfillment of a specification or standard.

**environmental data** – any measurements or information that describe environmental processes, location, or conditions; ecological or health effects and consequences; or the performance of environmental technology. For EPA, environmental data includes information collected directly from measurements, produced from models, and compiled from other sources such as databases or literature.

**environmental data operations (i.e., environmental information operations)** – a collective term for work performed to collect, produce, evaluate, or use environmental information and the design, construction, operation or application of environmental technology. And work performed to obtain, use, or report information pertaining to environmental processes and conditions.

**environmental programs** – work or activities involving the environment, including but not limited to: characterization of environmental processes and conditions; environmental monitoring; environmental

research and development; the design, construction, and operation of environmental technologies; and laboratory operations on environmental samples.

**field sampling plan (FSP)** – planning document developed for water quality surveys that details the planning process and specific survey plan for all data to be collected as part of the survey; maintained throughout course of project to document deviations and problems and provides the basis for the development of the final water quality survey summary report.

**management systems review** – the qualitative assessment of a data collection operation and/or organization(s) to establish whether the prevailing quality assurance management structure, policies, practices, and procedures are adequate for ensuring that the type and quality assurance of data needed are obtained.

**nonconformance** – a negative assessment finding of a deviation from standards, specifications, and documented practices, which may be either a deficiency or a weakness.

**non-direct measurements** – environmental data used in or for decision making, not directly measured or generated by the SWQB.

**peer review** – a documented critical review of work by qualified individuals (or organizations) that are independent of those who performed the work, but are collectively equivalent in technical expertise. A peer review is conducted to ensure that activities are technically adequate, competently performed, properly documented, and satisfy established technical and quality assurance requirements. The peer review is an in-depth assessment of the assumptions, calculations, extrapolations, alternate interpretations, methodology, acceptance criteria and conclusions pertaining to specific work and of the documentation that supports them.

**performance evaluation** – a type of audit in which the 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.

**procedure** – written instructions for performing a task.

**process** – a set of interrelated resources and activities that transform inputs into outputs.

**program manager** – An individual within the SWQB that manages a program such as the Monitoring, Assessment and Standards Section (MASS), Watershed Protection Section (WPS) or Point Source Regulation Section (PSRS). The Program Manager may be the same individual as the Subject Matter Expert.

**project manager** – An individual responsible for a specific project. This individual, in most cases, holds a different title within the organization. The Program Manager and Project Manager are not necessarily synonymous. The Project Manager may be the same individual as the Subject Matter Expert and can include Team Supervisors

**product** – an item or a service, or a combination of items and services.

**quality** – conformance to customer requirements.

**quality assurance (QA)** – the planned and systematic actions that ensure environmental data operations are of the necessary quality (that is, meet customer requirements).

**quality assurance officer (QAO)** – An individual within the MASS that is responsible for overseeing the development and implementation of all quality assurance procedures and processes within the SWQB including those projects that receive support or funding from the SWQB. The QAO is also responsible for validating and verifying data sets for potential use in assessment of surface waters.

**quality assurance project plan (QAPP)** – describes the activities of an environmental data operations project involved with the acquisition of environmental information whether generated from direct measurement activities, collected from other sources, or compiled from computerized databases and information systems.

**quality control (QC)** – the system of technical activities, including data verification and validation procedures, that measures the attributes and performance of a process, item or service against defined standards.

**quality management plan (QMP)** – a description of the SWQB's quality system for planning, implementing, documenting and assessing the effectiveness of activities supported by the programs administered by the SWQB.

**quality system** – a structured and documented management system 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. The quality system provides the framework for planning, implementing, documenting, and assessing work performed by the organization and for carrying out required QA and QC activities.

**quality systems audit** – a systematic and independent examination to determine whether quality activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve objectives.

**readiness review** – a systematic, documented review of the readiness for the start-up or continued use of a facility, process, or activity. Readiness reviews are typically conducted before proceeding beyond project milestones and prior to initiation of a major phase of work.

**sampling analysis plan** – a document that details the procedural and analytical requirements for a one-time or time-limited project. The SAP contains all the elements of a QAPP and a FSP that must be provided to meet the requirements for any project funded by the EPA under which environmental measurements are to be taken.

**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 as the method for performing certain routine or repetitive tasks.

**surface water quality bureau (SWQB)** – A Bureau under the Water Protection Division of the New Mexico Environment Department. The SWQB's mission is to preserve, protect, and improve New Mexico's surface water quality for present and future generations.

**surface water quality information database (SQUID)** – the SWQB database for storing, retrieving and reporting laboratory results, field observations, biologic assemblage data, LTD data, and stream habitat/geomorphic data.

**surveillance (quality assurance)** – continual or frequent monitoring and verification and the analysis of records to ensure that specified requirements are being fulfilled.

**technical review** – a documented critical review of work that has been performed.

**technical systems audit** – 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.

**weakness** – a negative assessment finding (i.e., a nonconformance) that has the potential to (but does not necessarily) render the quality assurance of an item or activity unacceptable or indeterminate; nonconformance of a specification or standard.

## **APPENDIX I. ABBREVIATIONS AND ACRONYMS**

<b>ANSI</b>	American National Standards Institute
<b>ASD</b>	Administrative Services Division
<b>BFM</b>	Bureau Financial Manager
<b>CALM</b>	Comprehensive Assessment and Listing Methodology
<b>DPO</b>	Direct Purchase Order
<b>DFA</b>	Department of Finance and Administration
<b>DoIT</b>	Department of Information Technology
<b>DQI</b>	Data Quality Indicators
<b>DQO</b>	Data Quality Objective
<b>EIO</b>	Environmental Information Operations
<b>EPA</b>	United States Environmental Protection Agency
<b>FSP</b>	Field Sampling Plan
<b>GSD</b>	General Services Department
<b>ITB</b>	Invitation to Bid
<b>MASS</b>	Monitoring, Assessment, and Standards Section
<b>MOA</b>	Memorandum of Agreement
<b>MOU</b>	Memorandum of Understanding
<b>NMAC</b>	New Mexico Administrative Code
<b>NMED</b>	New Mexico Environment Department
<b>NMSA</b>	New Mexico Statutes Annotated
<b>NPDES</b>	National Pollutant Discharge Elimination System
<b>OGC</b>	Office of General Counsel
<b>OIT</b>	Office of Information Technology
<b>PSRS</b>	Point Source Regulation Section
<b>QA</b>	Quality Assurance
<b>QAO</b>	Surface Water Quality Bureau Quality Assurance Officer
<b>QAPP</b>	Quality Assurance Project Plan
<b>QC</b>	Quality Control
<b>QMP</b>	Quality Management Plan
<b>RFP</b>	Request for Proposal
<b>RFQ</b>	Request for Quotes
<b>SAP</b>	Sampling and Analysis Plan
<b>SFA</b>	Solicitation for Applications
<b>SLD</b>	Scientific Laboratory Division
<b>SOP</b>	Standard Operating Procedure
<b>SPD</b>	State Purchasing Division
<b>SPR</b>	Standards, Planning and Reporting
<b>SQUID</b>	Surface Water Quality Information Database
<b>SWQB</b>	Surface Water Quality Bureau
<b>WPS</b>	Watershed Protection Section
<b>WQMP/CPP</b>	Water Quality Management Plan and Continuing Planning Process