NORTHERN NEVADA
Public Health

Air Quality

Northern Nevada Public Health Air Quality Monitoring Program

Quality Management Plan

Version Number 3a

April 1, 2025

NORTHERN NEVADA

Public Health

Serving Reno, Sparks & Washoe County

MISSION

To improve and protect our community's quality of life and increase equitable opportunities for better health.

Air Quality Management Division
Required Reading Form

The required reading form must be signed by all staff performing tasks associated with the Air Quality Management Division Ambient Air Quality Monitoring Network as well as new employees as part of training.

Air Quality Management Division Employees

Name: _____

Title: _____

Signature:_____ Date:_____

Name: _____

Title: _____

Signature:_____ Date:_____

Name: _____

Title: _____

Signature:_____ Date:_____

Name: _____

Title: _____

Signature:_____ Date:_____

Name: _____

Title: _____

Signature:_____ Date:_____

Quality Management Plan Revision History

Version Number	Date	Responsible Party	Description of Change
0	02-28-2013	Daniel Inouye	1. New Document
1	09-30-2014	Daniel Inouye	1. Added Corrective Action Request Form 2. Added Monitoring Quarterly Audits Summary Sheet. 3. Updated WCHD and AQMD Organizational Charts.
2	11-22-2019	Daniel Inouye	1. Updated formatting throughout document. 2. Added U.S. EPA Region 9 QA Branch Manager to Approval Sheet. 3. Updated WCHD and AQMD Organizational Charts. 4. Updated Administrative responsibilities. 5. Added Purchase Requisition Form. 6. Updated Document and Record Retentions Schedule. 7. Updated AQMD Class Specifications.
3	12-23-2024	Craig Petersen Brendan Schnieder Ben McMullen	1. Updated formatting throughout document. 2. Updated document title from WCHD to NNPH. 3. Updated document contents from WCHD to NNPH. 4. Added QMP Revision History. 5. Updated NNPH and AQMD Organizational Charts. 6. Updated Purchase Requisition Form 7. Revisions to Table 6-1, Documentation and Record Retention. 8. Updated assessment frequencies in Section 10. 9. Removed AMP255 report from Section 10.2. 10. Updated References in Section 12.
3a	04-1-2025	Craig Petersen	1. Restructured entire document to follow QMP Standard (EPA Directive No. CIO 2105-S-01.1, August 21, 2023). 2. Addressed comments in EPA Memo dated January 24, 2025: a. Added Element 6 from QMP Standard as new Sec 4. b. Added Element 7 from QMP Standard as new Sec 5.

Version Number	Date	Responsible Party	Description of Change
			c. Added Element 8 from QMP Standard as new Sec 6. d. Revised Sec 10 to include "data usability" determination and moved to new Sec 15. e. Updated QAM responsibilities in new Sec 3. f. Revised Sec 5 to include how suppliers will be responsible for requirements of the quality program and moved to new Sec 10. 3. Addressed recommendations in EPA Memo dated January 24, 2025: a. Updated NNPH Org Chart and replaced Monitoring Branch Org Chart with AQMD Division Org Chart. b. Updated reference to QMP Standard. c. Clarified purchasing agent position in Sec 10.1. d. Added SOP review procedures to Sec 6 and moved to new Sec 11. e. Clarified meteorological procedures in Sec 10.3 and moved to new Sec 15. f. Removed Sec 10.5 (Assessment Staff) as individuals responsible for audits are described in new Sec 15.3. g. Expanded disputes section in Sec 10.7 and moved to new Sec 13.

Quality Management Plan Approval Page

Agency: Northern Nevada Public Health, Air Quality Management Division
Title: *Northern Nevada Public Health Air Quality Monitoring Program Quality Management Plan, Version Number 3a*

This *Quality Management Plan* for the *Northern Nevada Public Health, Air Quality Management Division* is hereby recommended for approval and commits the Northern Nevada Public Health, Air Quality Management Division to follow the elements described within.

Francisco Vega
Digitally signed by Francisco Vega
Date: 2025.04.01 14:44:24 -07'00'

Name: Francisco Vega
Title: Division Director

Craig Petersen
Digitally signed by Craig Petersen
Date: 2025.04.01 14:02:28 -07'00'

Name: Craig Petersen
Title: Monitoring and Planning Supervisor

Matthew McCarthy
Digitally signed by Matthew McCarthy
Date: 2025.04.01 15:18:34 -07'00'

Name: Matthew McCarthy
Title: Senior Air Quality Specialist

Brendan Schnieder
Digitally signed by Brendan Schnieder
Date: 2025.04.01 14:54:49 -07'00'

Name: Brendan Schnieder
Title: Quality Assurance Manager

Gutierrez, Roberto
Digitally signed by Gutierrez, Roberto
Date: 2025.04.22 15:42:12 -07'00'

Name: Roberto Gutierrez
Title: Project Officer, Air and Radiation Branch, USEPA Region 9

Audrey L Johnson
Digitally signed by Audrey L Johnson
Date: 2025.04.22 15:04:22 -07'00'

Name: Audrey L. Johnson
Title: Manager, Quality Assurance Branch, USEPA Region 9

Table of Contents

Figures

Tables

Appendices

Acronyms and Abbreviations

AQMD	Northern Nevada Public Health, Air Quality Management Division
AQS	Air Quality System
CFR	Code of Federal Regulations
CO	Carbon Monoxide
DMS	Data Management System
DQO	Data Quality Objective
EPA	U.S. Environmental Protection Agency
FRM	Federal Reference Method
MQO	Measurement Quality Objectives
NAAQS	National Ambient Air Quality Standards
NIST	National Institute of Standards and Technology
NCore	National Core Multi-Pollutant Monitoring Station
NNPH	Northern Nevada Public Health
NO	Nitric Oxide
NOx	Oxides of Nitrogen
NOy	Reactive Oxides of Nitrogen
NO_2	Nitrogen Dioxide
NPAP	National Performance Audit Program
O_3	Ozone
PDCA	Plan, Do, Check, Act
$PM_{2.5}$	Particulate Matter less than or equal to 2.5 microns in aerodynamic diameter
PM_{10}	Particulate Matter less than or equal to 10 microns in aerodynamic diameter
PMcoarse	PM_{10} minus $PM_{2.5}$
PEP	Performance Evaluation Program
PQAO	Primary Quality Assurance Organization
QAPP	Quality Assurance Project Plan
QA	Quality Assurance
QAM	Quality Assurance Manager
QC	Quality Control
QMP	Quality Management Plan
RFP	Request for Proposal
RH	Relative Humidity
TSA	Technical Systems Audit
TTP	Through-the-Probe
SO_2	Sulfur Dioxide
SOP	Standard Operating Procedure
SLAMS	State and Local Air Monitoring Station
TSD	Technology Services Department
DBOH	District Board of Health

Section 1: Quality Statement

1.1 Mission

"The Air Quality Management Division is dedicated to the protection of air quality and the safeguard of public health for all of Washoe County through the development and implementation of effective programs and regulations while supporting economic growth, community partnerships, and environmental justice."

The mission of the Monitoring Branch is "to monitor and assure the scientific accuracy of the ambient air quality data collected for the determination of compliance with the National Ambient Air Quality Standard (NAAQS) as defined by the EPA."

1.2 Purpose

The Northern Nevada Public Health, Air Quality Management Division (AQMD) Quality Management Plan (QMP) ensures that all environmental data is accurate, reliable, and scientifically sound. This plan establishes a structured approach to quality assurance (QA) and quality control (QC) to support informed decision-making, regulatory compliance, and public health protection. It emphasizes data precision, accuracy, completeness, and comparability while promoting continuous improvement in monitoring, reporting, and assessment. AQMD adheres to state and federal regulatory standards, including EPA guidelines, and provides staff with the necessary training and resources to uphold quality standards. This QMP serves as the foundation for maintaining data integrity across all AQMD operations.

1.3 Quality Statement

AQMD is committed to the highest standards of quality in its environmental information operations, recognizing that accurate air quality data is essential for public health, regulatory compliance, and community trust. AQMD management ensures adherence to QMP principles and best practices by defining staff roles in maintaining data integrity, allocating necessary resources for quality management, and continuously evaluating and improving QA processes. By integrating quality management into all operations, AQMD ensures that its environmental data remains accurate, transparent, and reliable, supporting effective air quality management and public health protection.

Section 2: Organizational Charts

2.1 Structure of the Organization

Nevada Revised Statutes 445B.500 authorizes the District Board of Health (DBOH) to implement and administer air quality management programs within the geographic boundaries of Washoe County. The DBOH is the governing body for Northern Nevada Public Health (NNPH) which includes the AQMD. The AQMD is organized into four branches - Monitoring, Planning, Permitting, and Compliance. The two Air Quality Supervisors each manage two branches. One manages the Monitoring and Planning branches, while the other manages the Permitting and Compliance branches. Figures 2-1 and 2-2 show the organizational structure of the NNPH and AQMD.

The Monitoring Branch is responsible for:

- Collecting air quality data pursuant to the regulatory, health, and informational needs of the AQMD, industry, and the public;
- Maintaining the AQMD's air monitoring network, including meteorological measurements, and is responsible for Quality Assurance/Quality Control (QA/QC);
- Maintaining a laboratory capable of analyzing a wide range of ambient and source related air samples;
- Collecting and reviewing data at ambient air monitoring sites;
- Collecting gaseous and filter samples for analysis;
- Maintaining a set of SOPs to operate, repair, and evaluate the performance of all monitoring equipment in order to meet or exceed EPA data quality objectives;
- Providing ambient air quality data review in accordance with QAPP Data Management SOPs;
- Analyzing gaseous and filter samples collected at monitoring sites;
- Maintaining a set of SOPs to operate, repair, and evaluate the performance of all laboratory analytical equipment in order to meet or exceed EPA data quality objectives; and
- Providing data review for all laboratory measurements in accordance with QAPP Data Management SOPs.

The Planning Branch is responsible for:

- Reviewing and revising the QMP and QAPP;
- Reviewing technical SOPs;
- Preparing reports for submission to EPA Region 9;
- Preparing Emissions Inventories;
- Reviewing and approving Corrective Actions;
- Managing AirVision data collection software;
- Reviewing air quality data daily;
- Assisting with data certification annually; and
- Submitting data to the Air Quality System (AQS), the National regulatory database maintained by EPA.

Figure 2-1 NNPH Organizational Chart

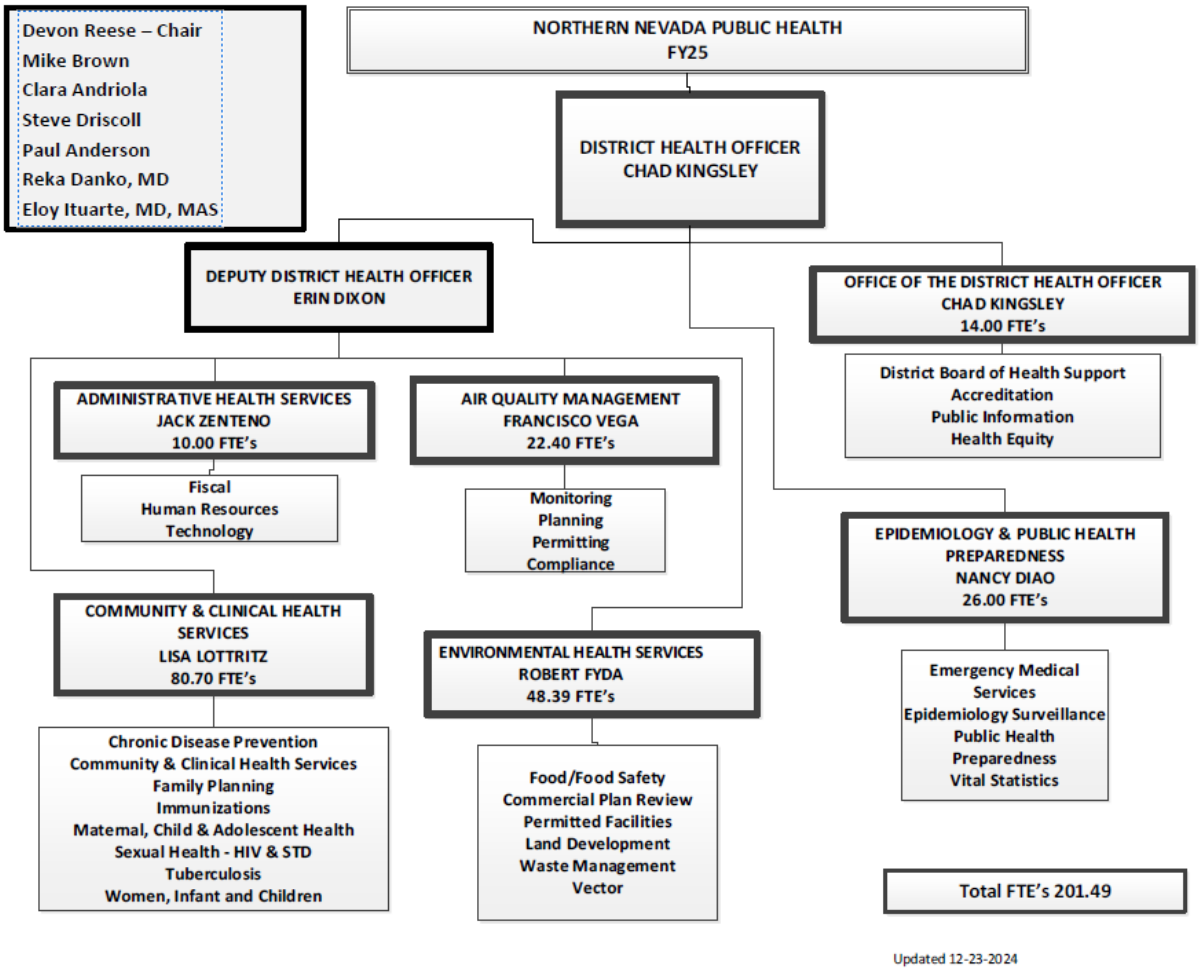
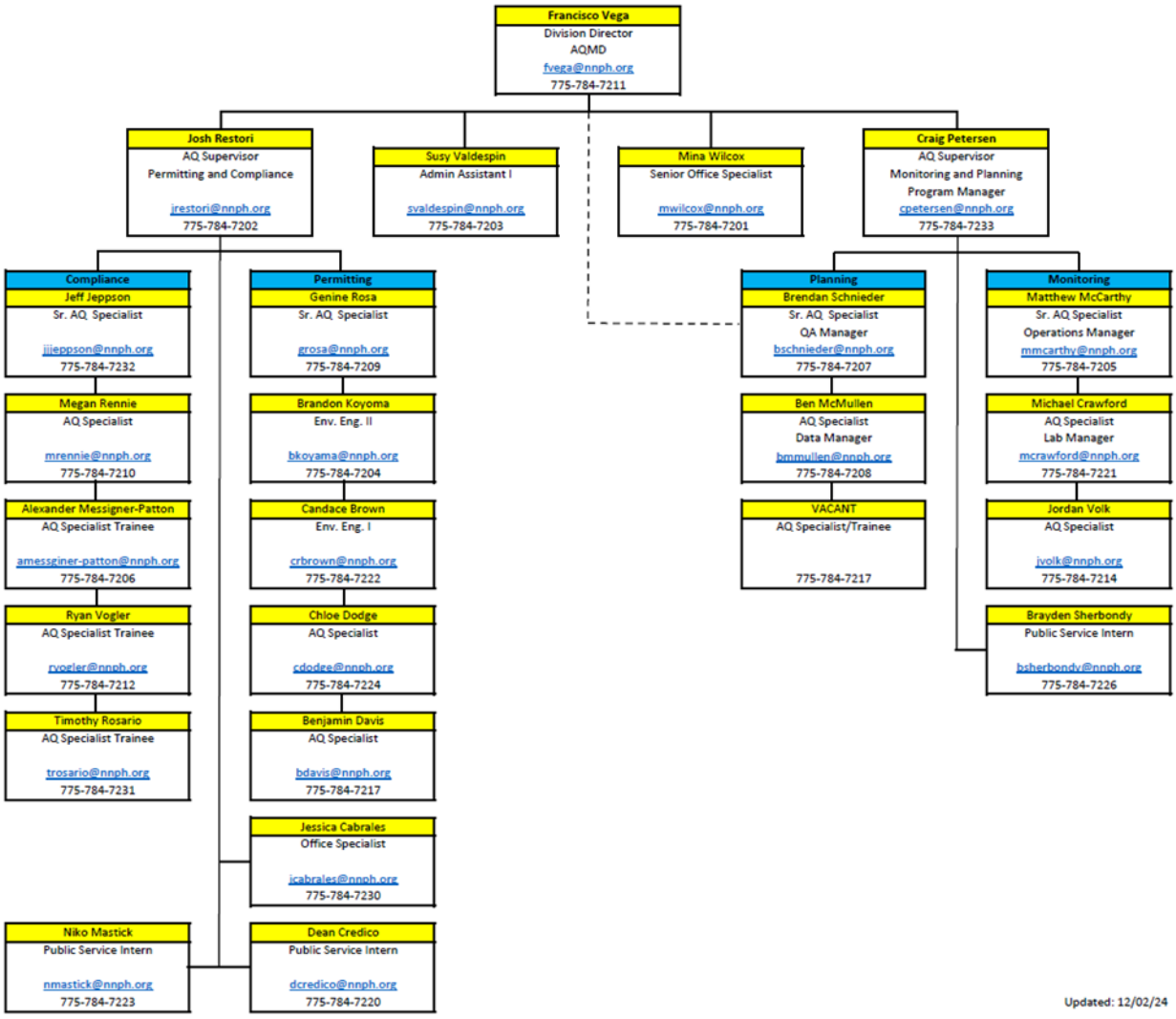


Figure 2-2 AQMD Organizational Chart



Section 3: Roles, Responsibilities, and Authorities

Administrative staff refers to Division employees directly or indirectly responsible for one or more of the Monitoring Branch programs/projects. Administrative staff exercise authority over at least one lower tier of supervisory staff or supervise staff time on a project related basis. The Monitoring and Planning Supervisor and the QA Manager are included in this group and play a role in the Monitoring Branch Quality System, as described below:

Division Director – Under administrative direction, the Division Director plans, organizes and directs the Air Quality Management Program. This position reports to the Deputy District Health Officer of NNPH.

Monitoring and Planning Supervisor (Program Manager) – The Program Manager reports to the Division Director of the AQMD. The Monitoring and Planning Supervisor prioritizes the training and continuing educational needs of Senior Air Quality Specialists and develops funding proposals to accommodate these needs, as necessary and ensures the monitoring and planning branches are operating under the approved QMP, QAPP, and SOPs.

Monitoring Senior Air Quality Specialist (Operations Manager) – This supervising employee is responsible for leading the air quality Monitoring Program, prioritizes training and continuing educational needs of the Air Quality Specialists, and reports to the Monitoring and Planning Supervisor.

Monitoring Air Quality Specialist (Laboratory Manager) – This non-management employee is responsible for managing all laboratory operations and documents. The Laboratory Manager reports directly to the Senior Air Quality Specialist and is in the Monitoring Branch of the AQMD.

Planning Air Quality Specialist (Data Manager) – This non-management employee is responsible for managing the data management system all ambient air monitoring data collected from the monitoring network. The Data Manager reports directly to the QA Manager and is in the Planning Branch of the AQMD.

Planning Senior Air Quality Specialist (Quality Assurance Manager (QAM)) – The QAM has responsibility for oversight of AQMD's QA program, its operations, and has the authority to independently oversee the agency's QA program. The QAM does not report directly to the Program Manager but has a direct line of communication with the Program Manager to discuss quality-related issues. The QAM duties are to see that QA programs are being administered appropriately, and QA procedures are being followed in both the field and the laboratory. The QAM generates reports on AQMD's QA activities and submits those reports to the appropriate individuals. The QAM is responsible for reviewing and approving the QMP considering EPA guidelines and directives. The QAM is responsible for final approval of AQMD's Quality Assurance Project Plan (QAPP) before submittal to EPA. The QAM reports directly to the Division Director and does not have the authority to sign QA documentation for the Program Manager.

Section 4: Technical Activities and Programs Supported by the QMP

All AQMD Branches maintain standard operating procedures and policies for the generation of environmental data. As new ambient air monitoring procedures are established, the Operations Manager will work with the QA Manager and Program Manager to develop the appropriate QA documents. These QA documents will be available to the public and posted on the AQMD website. The sections below detail the technical activities for each Branch covered by this QMP.

The Monitoring Branch operates a network of ambient air monitoring stations and sensors in Washoe County to measure concentrations of criteria pollutants considered harmful to the public and environment, including particulate matter ($PM_{2.5}$ and PM_{10}), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and carbon monoxide (CO). The data collected by the Monitoring Branch is used to determine EPA compliance and provide near real-time air quality data to the community. The Monitoring Branch assures the scientific accuracy of the ambient air quality data collected for the determination of compliance with the NAAQS as defined by the EPA. Projects requiring approved ambient air or meteorological monitoring QAPPs include routine and special monitoring projects led by AQMD staff or its contractors. The Monitoring Program functions as the primary quality assurance organization (PQAO) for local governmental air quality programs in Washoe County.

The Planning Branch develops and maintains a program that reduces air pollution or maintains clean air quality per federal and state statutes. Staff prepares necessary State Implementation Plans (SIPs) and periodic emissions inventories, develops and adopts emission management rules to be included in the DBOH Regulations Governing Air Quality Management, develops and implements a smoke management program to address health and air quality impacts from prescribed burning, monitors air quality trends to determine NAAQS compliance, reduces on-road mobile source emissions by promoting alternative fuels vehicles and other modes of transportation, and researches air pollution contributors and solutions. The Planning Branch works with local communities, tribes, other government agencies, environmental groups, and individuals to develop and implement plans to improve air quality in Washoe County.

The Permitting Branch issues registrations and permits for various sources of air pollution, including wood-burning devices, dust emitting projects, asbestos-related projects, and equipment and processes that cause air pollution. A team of administrative staff, air quality specialists, and engineers engage with the community to limit air pollution in Washoe County.

The Compliance Branch inspects stationary sources of air pollution and investigates citizen complaints to protect the air resource in Washoe County and ensure compliance with health and environmental standards. A team of air quality specialists verifies air pollution sources are in compliance with air quality permits, rules and regulations, and offers assistance to businesses.

Section 5: Conformance with Policies, Procedures, Standards, and Regulations

The QMP is the overall document that explains the Quality System. It describes staff and management and their respective responsibilities, qualifications, and training, and it explains how the system is to function for producing quality data including project management responsibilities, data generation and acquisition, assessment and oversight, and data validation and usability. This QMP will be renewed every five years or when significant changes have been made to its program elements, whichever comes first. This QMP includes the elements from the document *Quality Management Plan Standard (Directive No. CIO 2105-S-01.1)* (August 2023). AQMD's QMP establishes the quality system necessary to ensure the generation of high-quality, defensible air quality data.

When performing EIO, AQMD adheres to the following EPA policies, procedures, and standards.

- EPA CIO 2105.4 – Environmental Information Quality Policy
- EPA CIO 2105-P-01.4 – Environmental Information Quality Procedure
- EPA CIO 2105-P-02.1 – EPA QA Field Activities Procedure
- EPA CIO 2105-P-03.0 – CIO Notification for Environmental Data Quality Issues Procedure
- EPA CIO 2105-S-01.1 – Quality Management Plan Standard
- EPA CIO 2105-S-02.1 – Quality Assurance Project Plan Standard

AQMD also adheres to quality-related terms and conditions in the following grant agreements:

- Grant #A-00905424-0 – Section 105 Air Pollution Control Program
- Grant #PM-97T06501-0 – Section 103 $PM_{2.5}$ Monitoring Network
- Grant #5X-98T56001-0 – Enhanced Air Quality Monitoring for Communities
- Grant #5T-97T21401-0 – Multipollutant Monitoring
- Grant # 5U-97T03301-0 – Air Quality Sensors in Low-Income and Disadvantaged Communities

Additionally, AQMD is mandated under the Clean Air Act (CAA) to monitor ambient air quality for criteria pollutants, including $PM_{2.5}$ and PM_{10}, O_3, NO_2, SO_2, and CO. These monitoring activities must comply with the Quality Assurance/Quality Control (QA/QC) requirements specified in 40 CFR 58, Appendix A, which establish performance standards and quality control procedures for air monitoring organizations operating within the Primary Quality Assurance Organization (PQAO) framework.

Section 6: QA Field Activities

To ensure a Quality System, qualified and trained personnel must be used to perform all field sampling and measurement activities. Technical functions may include sampling, sampler verification/calibration, transporting, reviewing, validating and verifying data. These activities are conducted by AQMD staff and others as prescribed in a QAPP. QAPPs may either be project-specific or fall under the NNPH Air Quality Monitoring Program QAPP. Project-specific QAPPs are developed by the AQMD Project Managers. All QAPPs are approved and signed by the Division Director, Monitoring and Planning Supervisor, Monitoring Senior Air Quality Specialist, and Quality Assurance Manager.

6.1 Field Sampling and Measurements

The particulate matter criteria pollutants, PM_{10}, and $PM_{2.5}$, require analytical methods to evaluate the captured sample in order to establish the pollutant concentrations present in the environment.

The Federal Reference Method (FRM) samplers used by the AQMD for particulate matter monitoring at the National Core Multi-pollutant Monitoring Station (NCore) utilize gravimetric analyses. The AQMD laboratory conducts the analyses of all filters collected in the field. A filter's net weight gain identifies the sample characteristic of interest, captured particulate mass. This net weight gain is obtained by subtracting the initial filter weight from the final weight of the exposed filter. Once calculated, the net weight gain can be used with the total filter volume to calculate the concentration for comparison to the daily and annual NAAQS. Since the method is non-destructive, and due to possible interest in sample composition (e.g., subsequent chemical analyses), the filters will be archived for a minimum of five years after final gravimetric analyses have occurred. QA and QC procedures for the preparation, installation, removal, transportation, conditioning, and weighing of filters used by FRM samplers are detailed in AQMD's QAPP and corresponding sampler and laboratory SOPs.

As field monitoring and laboratory analyses are completed, AQMD monitoring staff must review, verify, and validate the data. The Lab Manager must review and approve Field Sample Reports and PM Filter Weigh Logs before submittal to the Data Manager. The field monitoring staff will submit QA/QC worksheets with explanations for deviations from data quality objectives to the Data Manager.

Section 7: Computer Hardware and Software

7.1 Hardware

The Washoe County Technology Services Department (TSD) provides the computer and telecommunications infrastructure, including the selection, purchase, installation, operation, maintenance, and repair of new software systems, networks, network servers, telephone systems, voicemail systems, firewalls, personal and notebook computers, workstations, file and database servers, operating systems, and application software as required to meet business needs.

Monitoring sites are connected to the AQMD office using wireless signals. All instruments at sites are wired by analog or Ethernet connections to the data loggers. Secure routers are installed at each site and connected to the data logger to ensure security during data polling.

7.2 Software

The TSD provides support for the AQMD's enterprise systems, including the financial system, production system, web site, and the development and implementation of business applications for the new production system to meet business needs. The TSD group also purchases and maintains a suite of standard office software tools that are maintained AQMD-wide. Policies and procedures for purchasing, evaluating, installing, using, maintaining, controlling, and documenting computer software are managed within the TSD and are outside the scope of this document.

New software specific to AQMD needs and work tasks is identified by Monitoring Branch staff or management and purchased directly by the Monitoring Branch after management approvals. Software that requires network support of some sort would be approved by the TSD group prior to purchase and installation. For more complex software, management may approve professional, off-site training classes. After installation and testing on a trial work task, the software is evaluated for efficiency and productivity. If the software successfully completes the work task in a cost/time efficient manner determined by management, SOPs are created or modified to document procedures on how to consistently use the new software. All new computer tools are used in accordance with AQMD computer policies that are compliant with:

- *Enterprise Architecture IT Standards Procedure (EPA CIO 2122-P-03.1)*
- *Software Management and Piracy Policy (EPA CIO 2104.3)*
- *Software Management and Piracy Procedure (2104-P-01.2)*

7.3 Air Monitoring Data Acquisition, Management, and Reporting

The AQMD currently uses AirVision as the Data Management System (DMS). All data is received through data loggers and direct polling BAMs installed at each monitoring station via a wireless broadband connection to the Washoe County Network. The DMS is configured to automatically poll each station every hour to retrieve data. Data is reviewed daily by monitoring and planning staff to identify any outliers. The DMS is also configured to identify and flag

suspect outliers and when equipment is taken offline for weekly, bi-weekly, monthly checks and audits. On a monthly basis all data goes through an extensive QC check. At the beginning of each month the Data Manager reviews and edits all data to ensure flags are properly assigned to the data. The data is further reviewed by the monitoring staff to again ensure data is properly flagged and monthly QC checks are complete. Data that requires manual entry, such as those obtained from manual method particulate samplers, are recorded onto the appropriate field data sheets. The Data Manager is responsible for entering manual method data into the DMS.

Each quarter, the AQMD will submit all raw and QA data to AQS from the previous quarter within 90 days of the end of the quarter. The quarterly reports will be submitted consistent with the data reporting requirements specified for air quality data as set forth in 40 CFR Part 58, Appendix A, Section 5. The quarterly data reporting requirements of 40 CFR Part 58.16 apply to those stations designated SLAMS or NCore. AQMD also submits all SPM data following the same data reporting requirements. For detailed SOPs on Data Acquisition, Management, and Reporting refer to the QAPP.

Section 8: Organizational Competence

8.1 Qualifications

The knowledge, skills, and abilities of staff, supervisors, and managers involved in the production of ambient air monitoring data directly influence the quality of that data. The job class descriptions for all AQMD employees involved in the collection, handling, analysis, performance auditing, assessment, management, and reporting of ambient air monitoring data specify the qualifications required to ensure candidates are selected that have the education, knowledge, skills, and abilities required to perform their duties. Appendix A is a list of job descriptions including the following entry level, Journey level, senior, supervisor, and management positions:

- Air Quality Specialist Trainee
- Air Quality Specialist
- Senior Air Quality Specialist
- Air Quality Supervisor
- Division Director

Section 9: Personnel Training

9.1 Ambient Air Monitoring Branch

Air Quality Specialist Trainees and Air Quality Specialists in the Monitoring Branch are trained by experienced Senior Air Quality Specialists in all aspects of ambient air monitoring and laboratory activities including:

- Standard operating procedures;
- Equipment troubleshooting, diagnosis, maintenance and repair;
- Quality Control and QA requirements;
- Data acquisition, data management, data reporting, data quality and data completeness objectives;
- Equipment maintenance, certification, and recertification requirements for audit standards;
- Field data review;
- Documentation and;
- Safety.

9.2 Training

The Monitoring and Planning Supervisor assesses staff training requirements for each employee's required annual performance evaluation. New or enhanced training as well as retraining requirements are noted, tracked, and documented in the annual performance evaluation. The QA Manager also maintains QAPP and SOP required reading forms that are signed by all staff members. Managers include appropriate funds for training in their program budgets. The Division Director has the responsibility for training managers and reviewing training policies developed by managers and supervisors.

The AQMD provides reimbursement for job related continuing education courses and related materials, including required books, supplies, and lab fees. Staff are encouraged to take job-related courses. The Monitoring and Planning Supervisor and Senior Air Quality Specialist aid in the selection of appropriate courses and arranging work schedules to facilitate staff attending such courses.

9.3 Employee Performance Reviews

Responsibility for applicable QA activities is included in the annual employee performance reviews as a specific objective for staff at the Journey, Senior, Supervisory, and Director level. Director, Supervisors, and Seniors conduct annual performance reviews of each employee, including a comparison of the employee's performance against the standard performance objectives and an assessment of any training needs. If deficiencies are noted, a performance improvement plan is developed, and progress is tracked by the Supervisor or Senior Air Quality Specialist.

Section 10: Procurement of Items and Services

In the Monitoring Branch, procurement includes criteria and non-criteria pollutant monitoring equipment; laboratory analytical instruments; performance auditing equipment; meteorological monitoring equipment; spare parts; consumables; supplies; computer hardware and software; and service contracts for laboratory instruments. Within the Division, equipment needs are determined by the Monitoring and Planning Supervisor and Senior Air Quality Specialist. They evaluate, prioritize, and make decisions on items for proposed procurement in accordance with the need for the equipment, supplies and services, the program budget, and grant requirements. The Monitoring and Planning Supervisor and Senior Air Quality Specialist are also responsible for developing relevant specifications and ensuring that equipment purchased meets all the applicable regulatory requirements, grant requirements, codes, standards, procedures, methods, and other criteria.

Procurements of services, such as contractor and sub-contractor sampling, analysis or other services must include appropriate QA documentation including QMPS, QAPPs, and other applicable documentation. Bids must include completed documents or a statement regarding intent to complete documents before services begin. Project managers for the requested projects will review the QA documents before sending to the Monitoring and Planning Supervisor for review and approval. All purchases are subject to procedures that include a purchasing agent, specifications, contract limitations, purchase requests, and contracts.

10.1 Purchasing Agent

The purchasing agent negotiates to obtain the best price obtainable on all goods and services required by the AQMD. The purchasing agent is not a specific position within the organization but is based on spending limits and NNPH or Washoe County policies. Purchases of less than $5,000 can be completed by AQMD divisional staff, including all monitoring or administrative staff. Purchases less than $100,000 require approval by the NNPH District Health Officer, and purchases over $100,000 require approval by the Board of County Commissioners and will be completed through an advertised bid or Request for Proposal (RFP) unless exempt under NRS 332.115. The RFP process is handled by the Washoe County Comptroller's Office through procedures documented in the Washoe County Purchasing Division Procedures Manual.

10.2 Specifications

Where written specifications are prepared and submitted for public bidding, the specifications must include all criteria to be considered by the AQMD in selecting a successful bidder. For criteria pollutant monitoring, the AQMD only purchases EPA-certified Reference/Equivalent Method sampling equipment or equivalent, Approved Regional Method equipment, or EPA recommended and approved monitoring, sampling, and analytical equipment and supplies. For meteorological equipment, the AQMD only purchases equipment that meets the accuracy and response characteristics recommended by EPA in the *Quality Assurance Handbook for Air Pollution Measurement Systems, Volume IV: Meteorological Measurements* (March 2008). Specifications must be reviewed to ensure that all items meet the requirements of any applicable standards required by the specific program or project QAPP.

10.3 Contract Limitations

The Division Director executes all AQMD contracts for the purchase of supplies, materials, and services. Prior to execution, the AQMD has different Board approval procedures depending on contract dollar amounts and defined in the NNPH Administrative Code. At the highest level, contracts are signed by the chairperson of the DBOH. Mid-level contracts are reported to the DBOH as a consent item. Lower-level contracts may be executed without DBOH involvement.

10.4 Purchase Requests

Purchase requests for supplies, equipment, and/or services must be completed and submitted to management by the Purchase Request Form (Figure 10-1) prior to any order being given to a vendor. The Purchase Request Form will include documentation from suppliers on how the technical and quality requirements will be met. Purchase requests exceeding the remaining balance of unexpended funds within the budget for each line item in a program budget must be accompanied by an approval for a transfer of funds sufficient to cover the amount of the purchase request. The approval document must indicate the line item for the source and destination of the transfer of funds. The AQMD purchases all supplies, equipment and/or services per the Washoe County Purchasing Division Procedures Manual.

10.5 Contracts

The purchasing policy provides formal bids, informal bids, telephone bids, monopoly/sole source bids, prior bid/last price, and letter quotation depending on the goods or services to be purchased, the value, and the circumstances. Requests for consulting services must include a statement of the work; a statement of the qualifications of the people necessary to perform the required work; and an assessment of the resources, capital equipment, and supplies required to carry out the work. Bid solicitation is required for all contracts for goods and services valued above a threshold level specified in the NNPH Administrative Code and must include instructions to bidders, proposal submittal requirements, draft contract, and a list of potential bidders. Bid awards are based on an evaluation of bids and recommendations to the Division Director by staff requesting the goods or services.

Contracts are reviewed though the NNPH contract processing procedures by the applicable staff including Fiscal, Risk, Legal, and Information Technology, as necessary; and other appropriate personnel to ensure that items meet or exceed the specifications required by AQMD and EPA extramural agreements, contracts, or equivalent documentation. As with all other purchases, employees must verify that items/services received meet QA specifications laid out in QAPPs, extramural agreements, or other related documents.

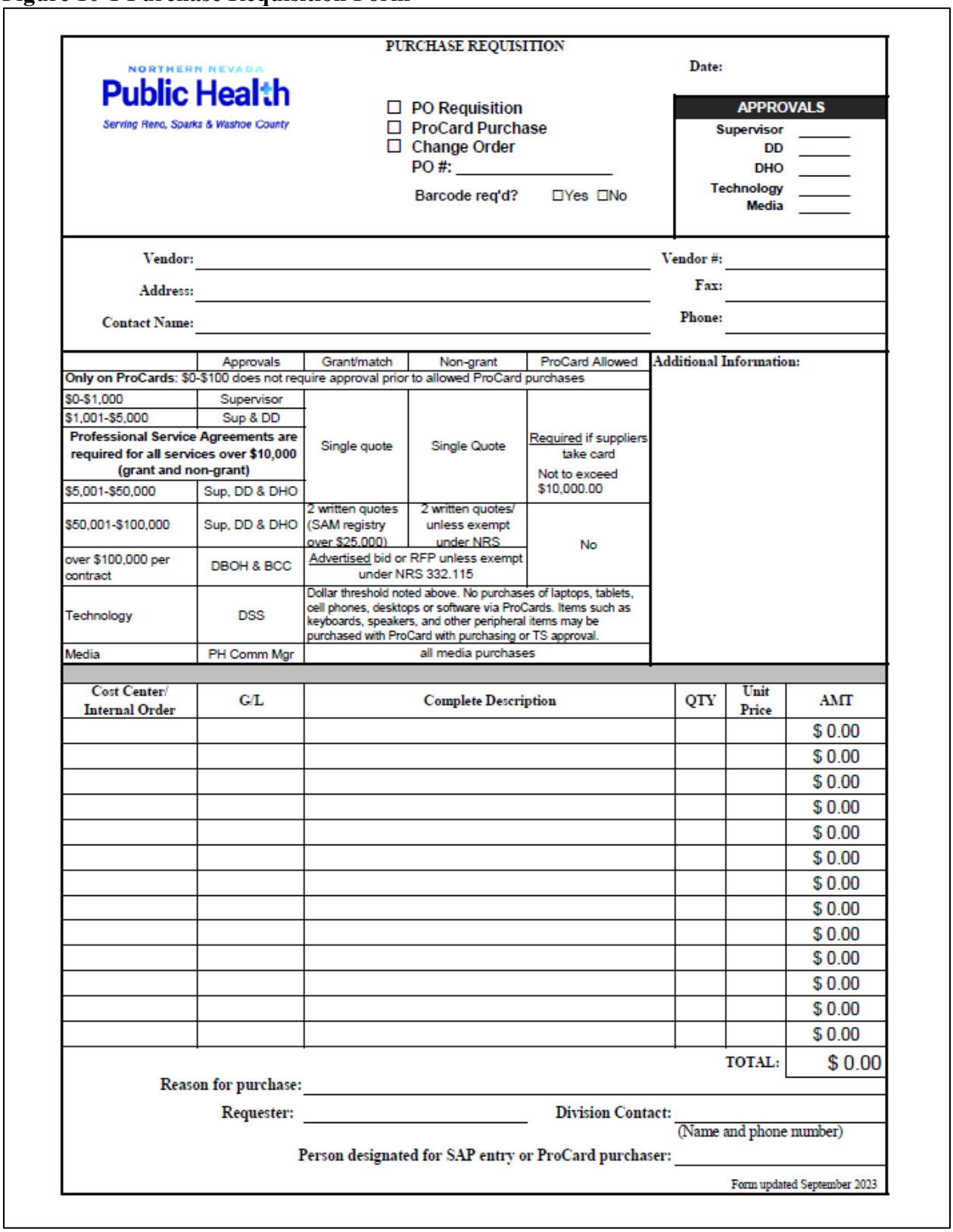
10.6 Acceptance Testing

Equipment delivered by a vendor for use under the AQMD's QAPP must undergo an acceptance test. For Federal Reference or Equivalent Method equipment, acceptance testing is conducted to ensure that EPA quality requirements are met. If the equipment fails to meet the performance

specifications in the purchase agreement, the vendor must repair or upgrade the equipment until the test is passed. After the acceptance test is passed, the Senior Air Quality Specialist will authorize payment.

EPA requires that all certified air quality monitoring equipment display a certification tag on the front panel. This tag, affixed by the vendor, informs the purchaser and user of the equipment that it meets the EPA quality and documentation requirements for use in regulatory ambient air quality monitoring.

Figure 10-1 Purchase Requisition Form



PURCHASE REQUISITION

NORTHERN NEVADA Public Health
Serving Reno, Sparks & Washoe County

Date:

☐ PO Requisition
☐ ProCard Purchase
☐ Change Order
PO #: _____
Barcode req'd? ☐Yes ☐No

APPROVALS	
Supervisor	
DD	
DHO	
Technology	
Media	

Vendor: _____ Vendor #: _____
Address: _____ Fax: _____
Contact Name: _____ Phone: _____

	Approvals	Grant/match	Non-grant	ProCard Allowed
Only on ProCards: $0-$100 does not require approval prior to allowed ProCard purchases				
$0-$1,000	Supervisor	Single quote	Single Quote	Required if suppliers take card Not to exceed $10,000.00
$1,001-$5,000	Sup & DD			
Professional Service Agreements are required for all services over $10,000 (grant and non-grant)				
$5,001-$50,000	Sup, DD & DHO			
$50,001-$100,000	Sup, DD & DHO	2 written quotes (SAM registry over $25,000)	2 written quotes/ unless exempt under NRS	No
over $100,000 per contract	DBOH & BCC	Advertised bid or RFP unless exempt under NRS 332.115		
Technology	DSS	Dollar threshold noted above. No purchases of laptops, tablets, cell phones, desktops or software via ProCards. Items such as keyboards, speakers, and other peripheral items may be purchased with ProCard with purchasing or TS approval.		
Media	PH Comm Mgr	all media purchases		

Additional Information:

Cost Center/ Internal Order	G/L	Complete Description	QTY	Unit Price	AMT
					$ 0.00
					$ 0.00
					$ 0.00
					$ 0.00
					$ 0.00
					$ 0.00
					$ 0.00
					$ 0.00
					$ 0.00
					$ 0.00
					$ 0.00
					$ 0.00
					$ 0.00
				TOTAL:	$ 0.00

Reason for purchase: _____
Requester: _____ Division Contact: _____ (Name and phone number)
Person designated for SAP entry or ProCard purchaser: _____

Form updated September 2023

Section 11: Document and Record Processes

The storage and retention of documents and records are subject to the Documentation and Record Retention (Table 11-1). Documents and records produced by Monitoring Branch in the course of its work are stored and controlled by that Branch.

The primary documents that specify the quality requirements for air quality data produced by the AQMD are the QMP (this document), the QAPP, SOPs, and AQMD policies. The QA Manager reviews and approves the QMP, QAPP, and all SOPs. The Air Quality Division Director has final approval authority for the QMP and QAPP.

SOPs and SOP revisions are proposed and reviewed by the Senior Air Quality Specialist and reviewed and approved by the Monitoring and Planning Supervisor. After approval, the QA Manager must also approve an SOP before incorporating it into the official QAPP. Data management SOPs that assess data quality must be approved by the Data Manager providing that data. New or revised SOPs are uniquely identified with a version number and approval date. The Monitoring and Planning Supervisor, Senior Air Quality Specialist, QA Manager, and Data Manager are responsible for ensuring that documents and records accurately reflect completed work under any SOP. SOPs are revised whenever procedural changes are made to a program. Regardless of any updates, all SOPs are reviewed annually by monitoring staff. After revisions, the SOP must be reviewed by the Senior Air Quality Specialist and final approval by the QA Manager and the Monitoring and Planning Supervisor; and a new revision number and approval date is applied.

All Monitoring Branch staff have network access to the current versions of the QMP, QAPP, and SOPs which are stored in the Monitoring folder on AQMD's file server. The file server is backed up daily by Washoe County Technology Services Department. Staff are encouraged to access the digital version of these documents to ensure that they have the latest version. When any of these documents are revised, an e-mail is sent to monitoring staff that specifies the revised document and briefly summarizes the revision. Older quality system document revisions are maintained in read only pdf format in a designated archive subdirectory on the file server and are available for reference if needed.

As part of the Monitoring documents, the Monitoring and Planning Supervisor, Senior Air Quality Specialist, and QA Manager maintain subfolders for Performance Evaluations and Policy Directives and Notices. Performance Evaluations include internal and external Performance Audits of Monitoring Branch measurements, Technical System Audits, AQS data quality reports, and other indicators and reports of data quality over the last five years. Policy Directives and Notices include administrative directives from management to staff, corrective actions taken by management to remedy problems associated with the Quality System or Monitoring Branch operations, and notices from the EPA Quality Assurance Office regarding changes to the Quality System.

All air quality data, related air QA data, and meteorological data produced by the AQMD are stored in databases on file servers that are backed up daily. After data QC reviews are completed, these data are loaded into Air Quality System (AQS). AQMD data management

policy and procedures comply with AQMD requirements and *Quality Assurance Project Plan Standard (Directive No: CIO 2105-S-02.1)* (August 2023) concerning vital data records management, public access, etc. Some aspects of the EPA Directives are not under direct Monitoring Branch control but instead are managed by AQMD staff with broader responsibilities.

Table 11-1 Documentation and Record Retention

Record Type	Retention Period	Disposition/ Notes	Type/ Location
Data			
Ambient Air Monitoring Data	Permanent	None	Digital/LAN
Meteorological Monitoring Data	Permanent	None	Digital/LAN
Data Files for Submittal	Permanent	None	Digital/LAN
Annual Data Certifications	15 years	Delete	Digital/LAN
Quarterly QA Data Review	5 years	Delete	Digital/LAN
Monthly Data Review	5 years	Delete	Digital/LAN
Station Data Exception Logs	5 years	Delete	Digital/LAN
Data Relating to Legal Action	Until Action is Complete	Delete	Digital/LAN
QA/QC			
Quarterly Audits (Gas, PM, Met)	15 years	Delete	Digital/LAN
EPA Audit Reports (PEP and NPAP)	15 years	Delete	Digital/LAN
Calibration Cylinder Certifications	15 years	Delete	Digital/LAN
O_3 Transfer Standard Verifications	15 years	Delete	Digital/LAN
Annual Multi-point QC Checks (NCore Gas)	5 years	Delete	Digital/LAN
Semi-Annual Multi-point QC Checks (Gas)	5 years	Delete	Digital/LAN
Monthly Verifications (PM)	5 years	Delete	Digital/LAN
Bi-weekly QC Checks (Gas, PM)	5 years	Delete	Digital/LAN
Weekly QC Checks (NCore Gas)	5 years	Delete	Digital/LAN
Calibration Records (Gas, PM, Met)	5 years	Delete	Digital/LAN
Control Charts	5 years	Delete	Digital/LAN
Station Log Reports	5 years	Delete	Digital/LAN
Quality Assurance Project Plan (QAPP)	Superseded by revision	Delete	Digital/LAN & Website

Record Type	Retention Period	Disposition/ Notes	Type/ Location
Standard Operating Procedures	Superseded by revision	Delete	Digital/LAN
Quality Management Plan (QMP)	Superseded by revision	Delete	Digital/LAN & Website
Corrective Action Requests	15 years	Delete	Digital/LAN
Equipment			
Instrument Logbooks	15 years	Dispose	Hardcopy/Field Site
Maintenance and Calibration Records	15 years	Delete	Digital/LAN
Work Orders and Repair Orders	15 years	Delete	Digital/LAN
Standard Traceability Certifications	15 years	Delete	Digital/LAN
Requisitions and Purchase Orders	15 years	Delete	Digital/LAN
Manuals	Life of equipment	Delete/ Dispose	Digital and Hardcopy/ LAN and Field Site
Laboratory			
$PM_{2.5}$ STN Custody and Field Sample Forms	5 Years	Dispose	Hardcopy/Data Manager
$PM_{2.5}$ and PM_{10} FRM Field Sample Reports	5 Years	Dispose	Hardcopy/Data Manager
Laboratory Logbooks	15 years	Dispose	Hardcopy/Laboratory
Annual Service/Calibration Records	15 years	Delete	Digital/LAN
Quarterly Audits (Temp, RH)	15 years	Delete	Digital/LAN
PM Weigh Logs	15 years	Delete	Digital/LAN
Mass Standard Verifications	15 years	Delete	Digital/LAN
Mass Standard Traceability Certifications	15 years	Delete	Digital/LAN
47mm $PM_{2.5}$ and PM_{10} Filters	5 years	Dispose	Refrigerator
BAM $PM_{2.5}$ and PM_{10} Filter Tape	5 years	Dispose	Field Site
PM Filters Relating to Legal Action	Until Action is Complete	Dispose	Refrigerator
Other			
Training Certificates	Permanent	None	Hardcopy/Digital/LAN
Required Reading	Superseded by previous	Delete	Digital/LAN
Lease/Right of Entry Agreements	Permanent	None	Hardcopy/Digital/LAN

Section 12: Plan, Do, Check, Act (PDCA) Quality Model

12.1 The Elements of Systematic Planning

The purpose of ambient air monitoring in the AQMD is to collect data of known and documented quality that will meet five basic objectives:

- Provide air pollution data to the general public in a timely manner.
- Support compliance with ambient air quality standards and emission strategy development.
- Support air pollution research studies.
- Activate emergency control procedures that prevent or alleviate air pollution episodes.
- Observe pollution trends throughout the region, including non-urban areas.

Before embarking on the collection of air quality data, systematic planning is necessary. AQMD staff use the elements of systematic planning from Chapter 3 of the *EPA Quality Manual for Environmental Programs, EPA Manual 5360 A1* (May 2000), which are listed below.

- **Organization**: Identification and involvement of the project manager, sponsoring organization and responsible official, project personnel, stakeholders, scientific experts, etc. (i.e., all customers and suppliers).
- **Project Goal**: Description of the project goal, objectives, and study questions and issues.
- **Schedule**: Identification of project schedule, resources (including budget), milestones, and any applicable requirements (i.e., regulatory requirements, contractual requirements).
- **Data Needs**: Identification of the type of data needed and how the data will be used to support the project's objectives.
- **Criteria**: Determination of the quantity of data needed and specification of performance criteria for measuring quality.
- **Data Collection**: Description of how and where the data will be obtained (including existing data) and identification of any constraints on data collection.
- **Quality Assurance**: Specification of needed QA and QC activities to assess the quality performance criteria (i.e., QC samples for field and laboratory, audits, technical assessments, performance evaluations, etc.).
- **Analysis**: Description of how the acquired data will be analyzed (either in the field or the laboratory), evaluated (i.e., QA review/verification/validation), and assessed against its intended use and the quality performance criteria.

The Monitoring and Supervisor is responsible for identifying the need for any new monitoring programs and for validating the continued operation of all existing programs in support of the five basic AQMD objectives. The Division Director identifies the sponsoring organizations and officials, the program stakeholders, scientific experts, and data customers, etc., for new programs and specifies the program goals, objectives, and study questions and issues. The Division Director assigns a QA Manager to design a QAPP that meets the program goals and objectives.

The assigned QA Manager is responsible for developing a Project Plan that meets the goals and objectives established by the Division Director, or to modify an existing Project Plan to address plan changes identified by the Division Director. The Plan includes a project schedule, resources needed (budget, staff, equipment, etc.), milestones, and applicable regulatory and contractual

requirements. The Plan identifies the type, quantity, quality, and origin of data needed and how it will be used to support the program objectives. Any constraints on data collection such as location, local sampling conditions, proximity to sources, monitoring objective, spatial scale, etc., are included in the Plan.

Project Plan data quality may be specified in several different ways and must include procedures to evaluate quality to ensure plan objectives are met. For some criteria pollutant data collected to determine attainment of National Ambient Air Quality Standards, EPA provides Data Quality Objectives and quality assessment guidelines to determine Measurement Quality Objectives and the corresponding Standard Operating Procedures. Other Plans may have only Measurement Quality Objectives based on a manufacturer's instrument specifications; the highest data quality available within the Division's resources. Data quality objectives must also include data collection constraints.

In consultation with the QA Manager and other appropriate Monitoring Branch staff, the QA Manager must include a QA element in the Project Plan to assess the quality of data collected and demonstrate that performance objectives are met. QC activities may include, but are not limited to, single point precision checks, collocated samplers, flow and leak checks, laboratory blanks, technical assessments, and performance evaluations. The Plan must also include a description of how the data will be reviewed, verified, validated, and if possible, assessed against its intended use.

Completed Quality Assurance Project Plans are submitted by the QA Manager to the Monitoring and Planning Supervisor for review, revision as required, and the Division Director's final approval. The QA Manager is then responsible for submitting the Plan to the EPA Quality Assurance Office for approval and executing the Program according to the approved Plan. The Director is responsible for providing the necessary staff, budget, and other Monitoring Branch resources required in the Plan.

12.2 Developing, Reviewing, Approving, Implementing, and Revising a QAPP

If a particular project does not adequately fit into a previously developed QAPP as determined by the QA Manager and confirmed by the Monitoring and Planning Supervisor, the QA Manager will produce a project specific QAPP. The QA Manager identifies all activities to be covered in the project specific QAPP and ensures that the guidance and methodologies will produce data of sufficient quality to meet identified project goals. Any deviation, addition, or omission from applicable portions of any QAPP are to be reviewed by appropriate parties, noted, and explained in written documents maintained with the QAPP. The QA Manager has content approval authority for the project specific QAPP, with input and review by the Monitoring Branch staff, where appropriate, and final approval by the Division Director. The QA Manager shall establish a project folder on a network drive (with suitable file restrictions) where all Program-specific documents will be maintained.

The QA Manager is responsible for integrating the new QAPP content into the unified QAPP maintained by the Monitoring Branch. After final review and approval of the amended QAPP by the Monitoring staff and Monitoring and Planning Supervisor, the QA Manager will assign new

revision numbers to the affected document sections and publish the new version as outlined in the QAPP. The new QAPP takes effect upon notification of staff and any other parties included in the Quality System Notification List.

12.3 Evaluating and Qualifying Collected Data for New Use

The QA Manager also works with interested parties to determine if ambient air monitoring data are of sufficient quality to be utilized for other purposes outside of the original scope. The QA Manager's recommendations are noted in the project folder. The Data Manager, QA Manager, and Monitoring and Planning Supervisor determine if the data meets all appropriate QC/QA requirements of the QAPP and whether it is appropriate to use the data for other purposes, with final approval from the Division Director.

The AQMD uses both air quality and meteorological data collected by third parties, providing that the Monitoring Branch has approved the monitoring site, monitoring equipment, QC procedures, and data quality objectives and has either reviewed external audits or conducted performance audits demonstrating that QC procedures have been implemented, and data quality objectives have been met.

Section 13: Dispute Resolution Process

When technical issues regarding Quality Assurance (such as the applicability of the Quality System requirements, the application of quality assurance and quality control procedures, assessments and corrective action) are in dispute, resolution should occur at the lowest management level practicable. All parties should resolve disputes through discussion and negotiation. If unsuccessful, final resolution will rest with the Division Director.

With delegation from AQMD's Division Director, the QAM has responsibility for oversight of the QA program. Issues and questions regarding quality concerns may be raised by staff and management to the QAM. Disputes can be raised about both technical issues and how management implements the quality system. Resolution of quality-related disputes between individual program areas and the quality staff are expected to be resolved at the lowest organizational level, i.e., staff and management. Disputes that arise related to audits should first be brought up between the auditor and auditee but can be elevated if not resolvable. Quality-related disputes that cannot be resolved at the staff level will be elevated through the QAM to the Monitoring and Planning Supervisor. If disputes are not satisfactorily resolved at this level, the issues shall be elevated to the Division Director for resolution. Disputes and the steps toward resolution shall be documented unless the person bringing the dispute requests otherwise.

13.1 Assessment Disputes

Internal Assessment and Recommendations:
All assessment information and recommendations are sent to the appropriate site managers by the Senior Air Quality Specialists to the QA Manager. In cases where the assessment findings or recommendations are disputed or any other disputes arise among the site operators, Senior Air Quality Specialist, Data Manager, Laboratory Manager or QA Manager, disputes are resolved at the lowest level of the organization as follows:

- Journey level staff involved in the dispute meet and discuss the disputed findings or recommendations and attempt to resolve the dispute at that level;
- If the dispute cannot be resolved by Journey level staff, the dispute is escalated to Senior level staff in a further attempt to reach a resolution;
- If the dispute cannot be resolved by Senior level staff, the dispute is escalated to Supervisory level staff in a further attempt to reach a resolution;
- If the dispute cannot be resolved by Supervisory level staff, the AQMD Division Director reviews the information presented and makes a final decision.

External Assessment and Recommendations:
In cases where external assessments conducted by or recommendations made by EPA or any other third party are disputed, the Division Director and Monitoring and Planning Supervisor involved in the dispute meet with the appropriate staff from EPA or other third party to discuss and attempt to resolve the disputed findings. In some cases where there is an interagency dispute the Division Director may be involved in dispute resolution. For external assessments, EPA or another third party ultimately make the final determination in resolving a dispute.

Section 14: Continual Improvement

Quality improvement is an ongoing, continuous process by which an organization identifies areas that require corrective action or provides opportunities for improvement. As part of the process, this QMP, the associated QAPP, and all SOPs are all "living" documents subject to constant review and change as improvements are made.

The Monitoring and Planning Supervisor, Senior Air Quality Specialist, and QA Manager are responsible for identifying, planning, implementing, and evaluating the effectiveness of quality improvements.

There are many tools and techniques, described elsewhere in this document, that are designed to prevent and/or promptly identify conditions that require corrective action, in particular developing, maintaining, and revising high quality standard operating procedures. A few examples include:

- Quality Control checks for gaseous analyzers;
- Frequent flow rate checks for PM samplers;
- Frequent performance evaluations;
- Monthly $PM_{2.5}$ filters with invalid flag report
- Blanks, standards, controls, and replicates lab analysis; and
- Internal systems audits.

When activities that require corrective action are identified, senior and supervisory level staff and managers make it a priority to determine the cause and the extent of the problem. Corrective action is taken as soon as possible, and the problem and corrective action taken are documented as appropriate on a Corrective Action Request form (Figure 15-1), in the air monitoring station logbook, air monitoring instrument logbook, or laboratory instrument logbook. Depending on the nature of the problem, the manager, supervisor, or senior level staff responsible for the area in which corrective action was required is responsible for tracking the corrective action. Tracking of corrective actions takes place on the Monitoring Quarterly Audits summary sheet (See Figure 14-1).

Manager, supervisory, and senior level staff are responsible for ensuring that staff at all levels identify, report, and develop recommendations for activities that require corrective action or provide opportunities for improvement, and report them to the appropriate Director, Supervisor, or Senior level staff.

Director, Supervisory, and Senior level staff are also responsible for ensuring that staff at all levels communicate with both internal and external data users and external data suppliers to identify problems as well as opportunities for improvement and to develop and propose solutions.

Figure 14-1 Monitoring Quarterly Audits Summary Sheet

Monitoring Quarterly Audits Year: _____ Quarter: _____

Parameter	Site	Instrument	Model	Serial #	Date	Avg. % Dev.	Difference	Audit Criteria	Pass / Fail	Corrective Action
CO	Reno 4	TAPI	T300U	704			---	+/- 15%		
Ozone	Incline	TAPI	400E	2133			---	+/- 15%		
	Lemmon Valley	TAPI	T400	1399			---	+/- 15%		
	Reno 4	TAPI	T400	6575			---	+/- 15%		
	South Reno	TAPI	T400	1398			---	+/- 15%		
	Spanish Springs	TAPI	T400	2789			---	+/- 15%		
	Sparks	TAPI	T400	1400			---	+/- 15%		
	Toll	TAPI	T400	7411			---	+/- 15%		
SO_2	Reno 4	TAPI	T100U	514			---	+/- 15%		
NO_2	Reno 4	TAPI	T200U	493			---	+/- 15%		
NO	Reno 4	TAPI	T200U	493			---	+/- 15%		
NOx	Reno 4	TAPI	T200U	493			---	+/- 15%		
NOT	Reno 4	TAPI	T200U	404			---	+/- 15%		
NOy	Reno 4	TAPI	T200U	404			---	+/- 15%		
NO_{2y}	Reno 4	TAPI	T200U	404			---	+/- 15%		
Zero Air	Incline O_3	TAPI	T701	2137		---		< 10 ppb		
	Lemmon Valley O_3	TAPI	T701	2499		---		< 10 ppb		
	Reno 4 CO	TAPI	T701H	1199		---		< 0.1 ppm		
	Reno 4 O_3	TAPI	T701H	1199		---		< 10 ppb		
	Reno 4 SO_2	TAPI	T701H	1199		---		< 1 ppb		
	Reno 4 NO_2	TAPI	T701H	1199		---		< 10 ppb		
	Reno 4 NO_y-NO	TAPI	T701H	1199		---		< 10 ppb		
	South Reno O_3	TAPI	T701	1949		---		< 10 ppb		
	Spanish Springs O_3	TAPI	T701	1948		---		< 10 ppb		
	Sparks O_3	TAPI	701	2498		---		< 10 ppb		
	Toll O_3	TAPI	701	2497		---		< 10 ppb		
Shelt. Temp.	Incline	T Sentry	140-100HVB	91011331		---		+/- 2°C		
	Lemmon Valley	T Sentry	140-100HVB	91011333		---		+/- 2°C		
	Reno 4	T Sentry	140-100HVB	91011335		---		+/- 2°C		
	South Reno	T Sentry	140-100HVB	91011328		---		+/- 2°C		
	Spanish Springs	T Sentry	140-100HVB	91011329		---		+/- 2°C		
	Sparks	T Sentry	140-100HVB	91011332		---		+/- 2°C		
	Toll	T Sentry	140-100HVB	120315641		---		+/- 2°C		
PM_{10}	Reno 4	Met One	E-9EQ	B13408			---	+/- 4%		
	Reno 4	Met One	BAM 1020	C16695			---	+/- 4%		
	Spanish Springs	Met One	BAM 1020	N10986			---	+/- 4%		
	Sparks	Met One	BAM 1020	C16691			---	+/- 4%		
	Toll	Met One	BAM 1020	M7516			---	+/- 4%		
$PM_{2.5}$ (act. flow)	Reno 4	Met One	E-9EQ	B13407			---	+/- 4%		
	Reno 4	Met One	BAM 1020	C16694			---	+/- 4%		
	Spanish Springs	Met One	BAM 1020	N10985			---	+/- 4%		
	Sparks	Met One	BAM 1020	C16684			---	+/- 4%		
	Toll	Met One	BAM 1020	H8579			---	+/- 4%		
Speciation	Reno 4	Met One	SuperSASS	D14378			---	+/- 10%		
	Reno 4	URG	3000N	3N-B1573			---	+/- 10%		
Amb. Temp.	Lab	Dickson	RTRH	1915706		---		+/- 2°C		
	Reno 4	Met One	063-1	W14373		---		+/- 0.5°C		
	South Reno	Met One	063-1	W14372		---		+/- 1.0°C		
	Spanish Springs	Met One	063-1	W14375		---		+/- 1.0°C		
	Sparks	Met One	063-1	W14376		---		+/- 1.0°C		
	Toll	Met One	063-1	W14374		---		+/- 1.0°C		
RH	Balance Room	Dickson	RTRH	1915706		---		+/- 2%		
	Reno 4	Met One	083E	P18243		---		+/- 7%		
WSP/WDR	Reno 4	Met One	50.5H	N11876		---		Ops check		
	South Reno	Met One	50.5H	N11877		---		Ops check		
	Spanish Springs	Met One	50.5H	N12432		---		Ops check		
	Sparks	Met One	50.5H	D5669		---		Ops check		
	Toll	Met One	50.5H	N12434		---		Ops check		
Mass	Lab	Working	500 mg	9QN3		---		+/- 2.0µg		
	Lab	Working	300 mg	9QN5		---		+/- 2.0µg		

= failed audit = audit not completed

QA Manager Signature: _____ Date: _____

Section 15: Data Review, Validation and Verification, and Data Usability Reporting

AQMD ensures that air monitoring data meets strict quality standards through systematic review, validation, and verification processes. These steps determine data usability, ensuring accurate and reliable information informs regulatory compliance and public health decisions. This QMP outlines these procedures, while AQMD's QAPP provides project-specific details.

Quality Assurance functions include review and approval of program planning documents, auditing of sample collection, sample analysis, and data handling procedures, and evaluating the effectiveness of implemented QC procedures. QA takes two forms. Internal QA is conducted or arranged within the Division as directed by senior management. External QA is provided by EPA. As part of grant funding and regulatory requirements, EPA provides oversight/audit services. The following is a list of internal and external assessment tools utilized by the AQMD in accordance with EPA regulations:

Internal

- Data quality assessments;
- Performance Evaluations;
- Flow rate audits;
- Gaseous audits by Monitoring staff;
- Temperature and relative humidity performance audits by Monitoring staff;
- Wind sensor performance audits by manufacturer, and;
- Management reviews.

External

- Technical systems audits by EPA;
- NPAP through-the-probe audits, and;
- Performance Evaluation Program (PEP) audit by EPA.

15.1 Data Quality Assessments

Internal data quality assessments will be reviewed annually and conducted by the QA Manager. These assessments may include data management and review procedures, completeness, QC/review procedures, and statistical evaluations. Assessment reports will be prepared and submitted to the Division Director with recommendations. At the request of senior management, independent data assessments are also conducted by a Data Manager in the Planning Branch. These assessments are usually conducted using final pollutant data that have gone through the normal, complete data review process and been submitted to AQS. If irregularities are discovered, QA staff are notified and causes or explanations for the data irregularities are identified. As a result of the findings, data may be invalidated, adjusted, or confirmed through this process. Corrective actions by Air Monitoring staff may be required if data were invalidated or adjusted. If a systemic problem is identified, recommendations for Quality System changes are submitted to the QA Manager, with final approval from the Division Director.

15.2 Review of EPA AQS Reports

The EPA maintains several standard AQS reports that provide data quality summary information. The AMP430 Completeness Report shows the percentage of valid data by month

for all pollutants and other aerometric data submitted to AQS. The AMP251 QA Raw Assessment Report lists all submitted one-point QC checks and performance evaluations, including those conducted by outside agencies, and provides a quick review for problems associated with a particular monitor or site. The AMP256 QA Data Quality Indicator Report currently provides statistical information on all criteria pollutants for individual AQMD sites and the entire network.

AQS reports are reviewed quarterly by the Data Manager and QA Manager to ensure that data quality objectives are met. When the data completeness or data quality objectives are not met, the QA Manager and Senior Air Quality Specialist determine the cause and notify the Monitoring and Planning Supervisor. The QA Manager and Data Manager brief the Division Director on the data completeness and data quality for the previous year prior to completing the Data Certification by the Data Manager. Before May 1, the AMP600 Data Certification Report will be reviewed for the previous year by the Senior Air Quality Specialist and QA Manager, with final approval from the Division Director, as part of the Data Certification process.

15.3 Internal Audits

Performance evaluations assess the accuracy of ambient particulate samplers, gaseous pollutant analyzers, and laboratory instruments. These audits are performed in accordance with EPA regulations by the Air Quality Specialists in the Monitoring Branch, making sure that no staff member is auditing the samplers, analyzers, or instruments that they run on a day-to-day basis. This ensures the separation of duties as required by EPA regulation. If the difference between the audit reference standards and the indicated values of the equipment being audited exceed the tolerances established as policy in the QAPP, the auditor issues a Corrective Action Request form (see Figure 15-1) indicating the need for investigation of the audit discrepancy. The Monitoring Branch must investigate the cause of the discrepancy and take corrective action if necessary. Depending on the results of the investigation, data collected while the discrepancy existed may require correction (if possible) or invalidation. The results of the investigation and any action taken are documented on the Corrective Action Request form which remains on file as a record of the problem, the corrective action, the resulting data adjustments, and the timetable for these events. After the corrective action has been addressed by the auditor and the site operator, the QA Manager reviews the Corrective Action form for accuracy and completeness of the corrective action. The QA Manager approves the Corrective Action form before submitting the form to the Division Director for final approval.

Meteorological verification/calibrations and audits are completed in accordance with EPA regulations. Temperature and RH sensor verification/calibrations are completed semi-annually for NCore and annually for SLAMS at a minimum. Temperature and RH sensor audits are completed annually for all stations. Wind sensors are taken down for complete recertification or calibration by the manufacturer semi-annually at NCore and annually at SLAMS. Audit findings are submitted to the QA Manager for review, and corrective action taken where needed. Data from sensors that fail verifications or audits are reviewed and edited or invalidated.

Figure 15-1 Corrective Action Request Form

Air Quality Management Division
Corrective Action Request

NORTHERN NEVADA Public Health | Air Quality

Part A (to be completed by requestor)

To: (Site/Instrument Operator) _____

Urgency: (check one)

- ☐ Emergency (failure to take action immediately may result in injury or property damage)
- ☐ Immediate (4 hours)
- ☐ Urgent (24 hours)
- ☐ Routine (7 days)
- ☐ As resources allow
- ☐ For information only

From: (Requestor) _____

Problem Identification:

Site: _____
System: _____
Date: _____
Time: _____
Nature of Problem:

_____

Recommended Action: _____

_____

Signature: _____ Date: _____

Part B (to be completed by site/instrument operator)

Problem Resolution:

Date corrective action taken: _____
Time corrective action taken: _____
Corrective Action Summary:

_____

Signature: _____ Date: _____

QA Manager Signature: _____ Date: _____

Supervisor Signature: _____ Date: _____

Director Signature: _____ Date: _____

File completed original form in audit folder and file copies in instrument and data exception logs.

File Name: Corrective Action_fillable
Last Revision: 03/18/24

15.4 External Audits

The AQMD's quality system is audited by EPA or an EPA-hired contractor. EPA's contractor conducts National Performance Audit Program (NPAP) through-the-probe (TTP) audits at 20% of AQMD's monitoring sites annually. EPA's audit program is certified, and these audits fulfill the federal NPAP requirement. EPA conducts local agency program review audits, including the Air Monitoring Program every 7 to 10 years. EPA's contractor conducts audits at AQMD's $PM_{2.5}$ monitoring sites as part of the Performance Evaluation Program (PEP) at approximately 15% of the monitoring stations annually.

EPA also conducts technical systems audits (TSAs). A TSA is an on-site inspection and review of a monitoring organization's entire program, including sample collection, sample analysis, data processing, staff, procedures, facilities, and documentation to assure compliance with EPA air quality monitoring, QA, siting, and data reporting regulations. EPA's Region 9 Air Quality Analysis Office conducts a technical systems audit of the AQMD every three years and submits the audit report to the Division Director and Monitoring and Planning Supervisor.

Any audit findings that require corrective action are addressed as described under the Management Review and Response subchapter below.

15.5 Management Review and Response

Staff document all work performed by preparing reports, which are reviewed by supervisors and managers. If quality problems are identified by data assessment, internal audits, or external audits or reviews that require corrective action, the Senior Air Quality Specialist notifies the QA Manager and together they develop and implement a corrective action plan. The corrective action plan identifies the root causes, determines if the problem is unique, and recommends a revision to an existing SOP or a new SOP as appropriate. The Senior Air Quality Specialist ensures that corrective action is taken as soon as possible, and the QA Manager verifies the implementation and effectiveness of any corrective action taken.

NORTHERN NEVADA
Public Health

Air Quality

Please contact Francisco Vega for questions and comments at,
fvega@nnph.org

Appendix A

Northern Nevada Public Health
Air Quality Management Division

Job Class Specifications

CLASS SPECIFICATION

Class Code:	0619
Date Est:	09/1990
Last Rev:	07/2019
Last Title Chg:	
FLSA:	exempt
Probation:	12 months

DIVISION DIRECTOR - AIR QUALITY MANAGEMENT

DEFINITION

Under administrative direction, plans, organizes and directs the Air Quality Management Program for Washoe County, including regulation development, air quality plan development, air quality monitoring, permitting, enforcement, emissions control and public education efforts; represents the division on a variety of matters with boards, public forums and the media; and performs related work as required.

EXPERIENCE AND TRAINING REQUIREMENTS

A bachelor's degree from an accredited college or university in natural or environmental sciences, engineering or a closely related field AND five years of full-time experience performing environmental control or enforcement functions in a government agency or industry, including two years in developing or directing a major program in a field of environmental control; OR an equivalent combination of education and experience. A master's degree in environmental science, public health or a related field may be substituted for one year of the required experience.

LICENSE OR CERTIFICATE

A valid driver's license is required at the time of appointment.

SUPERVISION EXERCISED

Exercises direct supervision over professional staff within the Washoe County Air Quality Management Program.

EXAMPLES OF DUTIES *(The following is used as a partial description and is not restrictive as to duties required.)*

Prepare, present and implement a Strategic Plan, including Federal Air Quality work plans; and develop program requirements based on statutes and the need for the maintenance of air quality standards.

Develop regulatory proposals to control emissions from mobile and stationary sources of air pollution and submit them for consideration by the District Board of Health.

Assign, direct and review the work of division staff including the direct supervision of air pollution staff; conduct performance evaluations and evaluate the effectiveness of programs.

Develop and provide budget justifications for division expenditures and make recommendations for budget reductions deemed necessary during budget review.

Represent the Air Pollution Management Program with the media, hearing boards, District Board of Health, the public, civic organizations and other departments and agencies.

Explain division regulations, air pollution attainment strategies, air quality trends and related issues to the public.

Direct the preparation and prepare progress reports to grant agencies and special reports on air quality programs and issues for the public and the District Board of Health.

Coordinate with other agencies in the development and implementation of strategies to attain health-based air quality standards.

Develop recommendations for technical and research programs necessary to determine sources and extent of air quality problems or to evaluate potential solutions; including, but not limited to, siting of air quality and meteorology monitors, computer simulation modeling of air pollution episodes, chemical testing and identification of sources.

Provide direction and guidance for enforcement processes including enforcement techniques, documentation of facts, evidence collection, issuance of notices of violation, stop work orders, operating permit suspensions and citations.

Make recommendations to Health Officer on the declaration of air pollution episodes when air pollution levels reach, or are predicted to reach, unhealthful levels.

Ensure that assigned personnel perform duties and responsibilities in a safe and prudent manner that does not expose them or others to unnecessary harm or risk of on-the-job injury.

JOB RELATED AND ESSENTIAL QUALIFICATIONS

Full Performance *(These may be acquired on the job and are needed to perform the work assigned.)*

Knowledge of:
Departmental/division policies and procedures.

Countywide personnel policies and procedures.

Computer software specific to the department/division and technical field.

Federal, State and County laws and regulations governing air quality management.

Community commissions and agencies involved in air pollution control.

Ability to:
Supervise personnel, including training, assigning and reviewing work, coaching and mentoring, administering discipline, and conducting performance evaluations.

Plan, coordinate, and direct the operations of the Air Quality Management Program to efficiently accomplish established goals and objectives.

Develop and implement air pollution control requirements and apply federal air quality control requirements while demonstrating awareness and sensitivity to political issues.

Implement work methods and procedures that promote a safe working environment and ensure proper staff training in work safety.

Entry Level *(Applicants will be screened for possession of these through written, oral, performance or other evaluation methods.)*

Knowledge of:
Principles and practices of management and supervision.

Principles of budget preparation and fiscal accounting.

Federal air quality management control programs and laws, rules, and regulations pertaining to air quality standards.

Methods and procedures of identifying and controlling air quality problems, which includes the measurement and control of pollutants.

Meteorological and atmospheric processes affecting air pollution levels in the community.

Investigation, inspection and enforcement techniques.

Ability to:
Interpret, understand and apply technical reports, statutes, rules, regulations, physical test results and data.

Evaluate work priorities, procedures and processes to determine their effectiveness and efficiency.

Direct investigations and inspections through the use of proper investigative techniques and processes.

Ensure that appropriate enforcement actions are undertaken.

Develop and implement recommendations regarding work procedures and cost-effective services.

Interpret chemical and physical test results and ensure conformity to appropriate standards.

Communicate effectively, both orally and in writing.

Make sound decisions under pressure and negotiate outcomes that preserve individual rights and meet environmental standards.

Maintain cooperative working relationships with division staff, the public, and representatives of other departments.

SPECIAL REQUIREMENTS *(Essential duties require the following physical skills and work environment.)*

Ability to sit for extended periods. Ability to frequently stand and walk. Ability to lift and move objects weighing up to 25 lbs. Ability to use environmental testing equipment and office equipment including computers, copiers, telephones, and two-way radios.

This class specification is used for classification, recruitment and examination purposes. It is not to be considered a substitute for work performance standards.

CLASS SPECIFICATION

Class Code:	60000609
Date Established:	06/1974
Last Reviewed:	05/2023
Last Revised:	05/2023
Last Title Change:	05/1994
FLSA:	exempt
Probation:	12 months

AIR QUALITY SUPERVISOR

DEFINITION

Under general direction, manages the activities in one or more major functional areas within the Air Quality Division (e.g., Planning, Monitoring, Compliance, Permitting); and performs related work as required.

EXPERIENCE AND TRAINING REQUIREMENTS

A bachelor's degree from an accredited college or university in engineering, natural, physical, or environmental sciences, or a closely related field, AND four years of professional or technical full-time experience in air quality planning, monitoring, compliance, or permitting, including two years of experience leading or supervising an environmental management program; OR an equivalent combination of training and experience.

LICENSE OR CERTIFICATE

A valid driver's license is required at the time of appointment.

DISTINGUISHING CHARACTERISTICS

This classification exercises direct supervision over the Air Quality Specialist series and provides direction to major functional areas within the Air Quality division. In addition, this classification works closely with the Division Director on the development, evaluation, and implementation of air quality programs, policies, and procedures.

SUPERVISION EXERCISED

Exercises direct supervision over staff assigned to the Air Quality Division.

EXAMPLES OF DUTIES *(The following is used as a partial description and is not restrictive as to duties required.)*

Manage the activities of one or more major functional areas of the Air Quality Division through the formulation, implementation, and evaluation of procedures which regulate air quality monitoring, data collection and analysis, air quality planning, compliance/enforcement, local and federal permitting, rule/regulation development, grant/report writing, and coordination of assigned activities with others in related areas; completes the annual needs assessments and develops goals and objectives for program activities and staff assignments.

Supervise assigned staff including staff selection, assigning, scheduling, and reviewing work, providing training in proper work methods and procedures, performance evaluation, coaching and mentoring, providing professional development, and implementing discipline and conflict resolution procedures when necessary.

Make determinations for more complex complaints or concerns from team members or the community.

Analyze the operational impact of changes in federal mandates, legislation, and regulations; evaluate operational performance by reviewing work methods and procedures, and developing, recommending, presenting, and implementing changes in work processes, workflow, and/or equipment used to ensure effective operations in compliance with policies and/or regulations.

Oversee the analysis and interpretation of collected data through a variety of methods including statistical analysis, computer simulation modeling, and chemical analysis, determining the source of air pollutants, air quality trends, and the degree of regulatory effectiveness/compliance to develop and/or evaluate appropriate strategies for air quality attainment and continued maintenance.

Develop regulatory proposals for adoption by the District Board of Health that will facilitate attainment of mandated air quality standards and provide for continued compliance within the jurisdiction of the Air Quality District.

Coordinate the preparation and compose documents such as grant applications, state implementation plans, progress, monitoring, and other reports, which describe regulatory activities and their effectiveness for submission to the appropriate agencies in a timely manner.

Represent the division before different entities or individuals which may include the EPA, District Board of Health, advisory boards, state, county, other planning agencies, the general public, professional groups, and civic organizations to provide information, explain division policies/regulations, and represent the interests of the division.

Prepare budget recommendations and justifications for assigned program(s), including staffing levels, expenditures for equipment, supplies and other needs to assist in the formation of an annual budget for the division/department. Monitor and approve expenditures to ensure compliance with appropriate regulations and to meet grant deliverables.

Testify/present evidence in court or before designated hearing boards regarding actions, involvement, observations, and information obtained related to violations of complex environmental regulations.

Ensure that assigned personnel perform duties and responsibilities in a safe and prudent manner that does not expose them or others to harm or unnecessary risk of on-the-job injury.

JOB RELATED AND ESSENTIAL QUALIFICATIONS

Full Performance *(These may be acquired on the job and are needed to perform the work assigned.)*

Knowledge of:
Departmental/divisional policies and procedures.

Countywide personnel policies such as sexual harassment, discrimination and EEO.

State and local laws and regulations governing air quality control.

Jurisdictional, compliance, and enforcement issues related to air quality control regulations.

Computer hardware, software, and monitoring equipment utilized by the division/department.

Budget development methods and techniques.

Ability to:
Plan, coordinate, and direct the operations of an air quality program to accomplish established goals and objectives and optimize efficiency.

Incorporate existing geographic and meteorological conditions of Washoe County into air quality planning and monitoring programs and activities.

Effectively supervise, motivate, and develop staff.

Identify work methods and procedures that promote a safe working environment for employees and others; and train staff accordingly.

Entry Level *(Applicants will be screened for possession of these through written, oral, performance, or other evaluation methods.)*

Knowledge of:
Principles, practices, and techniques of air quality planning, monitoring, permitting, compliance, and control.

Principles and practices of effective supervision including leadership, motivation, development, team building, conflict resolution, employee training, performance evaluation, and discipline.

Federal laws and regulations governing air quality control.

Advanced mathematics including algebra, trigonometry, calculus, and statistics.

Atmospheric physics, meteorology, and chemistry as they apply to air quality control.

Engineering principles and practices as they apply to air quality control.

Ability to:
Develop and evaluate work priorities, procedures, and processes to determine their effectiveness and efficiency.

Analyze data and make appropriate recommendations.

Develop and implement recommendations regarding work procedures and cost-effective services.

Compile statistical reports.

Interpret and apply statutes, regulations, policies, and procedures.

Communicate both orally and in writing in a clear, concise manner; produce written documents with clearly organized thoughts with proper sentence construction, punctuation, and grammar.

Establish, foster, and maintain effective and collaborative working relationships with all those contacted in the course of work.

SPECIAL REQUIREMENTS *(Essential duties require the following physical skills and work environment.)*

Position may be considered "essential" in times of public health emergencies, natural disasters or during declared emergencies.

Work is performed in a professional office environment and various indoor and outdoor off-site locations. Ability to lift and move objects weighing up to 50 lbs. Ability to operate monitoring and sampling/ testing equipment for air pollution control. Ability to use standard office equipment including computers, copiers, telephones, and fax machines. Ability to work around machinery with moving parts and on slippery or uneven surfaces. Ability to tolerate exposure to the elements, dust, chemicals, and possibly toxic substances with the proper use of personal protective equipment (PPE). May require ability to satisfactorily pass respirator medical screening tests, depending on duties assigned.

This class specification is used for classification, recruitment and examination purposes. It is not to be considered a substitute for work performance standards.

CLASS SPECIFICATION

Class Code:	60015900
Date Established:	07/2006
Last Reviewed:	05/2023
Last Revised:	05/2023
Last Title Change:	
FLSA:	non-exempt
Probation:	12 months

SENIOR AIR QUALITY SPECIALIST

DEFINITION

Under general supervision, as lead in a specific air quality program, independently performs and directs others in the full range of air quality duties; and performs related work as required.

EXPERIENCE AND TRAINING REQUIREMENTS

A bachelor's degree from an accredited college or university in engineering, natural, physical, or environmental sciences, or a closely related field, AND three years of full-time experience in an environmental management program, including one year of experience in a specialized program area; OR an equivalent combination of training and experience.

LICENSE OR CERTIFICATE

May require the ability to obtain an Asbestos Hazard Emergency Response Act Certification and/or Visual Emissions Evaluation Certification and may be required to complete the Mine Safety and Health Administration basic above ground mine safety course, based on area of assignment.

A valid driver's license is required at the time of appointment.

DISTINGUISHING CHARACTERISTICS

This is the senior level classification of the Air Quality Specialist series. It is distinguished from the Air Quality Specialist as incumbents serve as program lead, may exercise direct supervision, and perform more complex assignments with limited direction.

SUPERVISION EXERCISED

May exercise direct supervision over staff assigned to the Air Quality Management Division.

EXAMPLES OF DUTIES *(The following is used as a partial description and is not restrictive as to duties required.)*

As lead worker in a specific air quality program, direct program activities; train Air Quality Specialists and other support staff in procedures of air quality to ensure that activities are performed within established standards and regulations; participate in the annual needs assessments and provide input on goals and objectives for program activities and staff assignments.

May supervise assigned staff including staff selection, assigning, scheduling, and reviewing work, performance evaluation, coaching and mentoring, providing professional development, and coordinating with management to implement discipline and conflict resolution procedures when necessary.

Serve as initial resource for team members and the community on elevated complaints or concerns.

Coordinate and participate in the development of new programs and revision of existing programs to meet department objectives; participate in the development, review, and approval processes for new and revised rules and regulations pertaining to air quality.

Review and issue complex permit applications and inspection results to determine if businesses are in compliance

with established air quality regulations; recommend modifications to establishments and/or operations to achieve compliance, gain permit approval or eliminate conditions which are in violation to assist local industry.

Analyze and interpret collected data through a variety of methods including statistical analysis, computer simulation modeling, and chemical analysis, determining the source of air pollutants, and air quality; review and analyze complex cases, reports, and rules for compliance with applicable regulations; prepare reports and recommendations relative to compliance programs.

Monitor and evaluate legislation and governmental actions related to air quality; develop recommendations for district regulations and programs.

Conduct, coordinate, and perform research data collection for the control or eradication of air quality hazards or deficiencies; write inspection and investigation reports which evaluate the findings and include recommendations; assemble data, (computerized and manual) for tracking and documentation purposes and to prepare federal, state, and local reports.

Testify/present evidence in court or before designated hearing boards regarding actions, involvement, observations, and information obtained related to violations of complex environmental regulations.

Promote awareness and understanding of air quality programs, services, policies, and regulatory requirements by conducting workshops, making presentations, and providing training/information to targeted groups, e.g., a variety of legal, public, private agency officials, boards, businesses and meetings of community groups.

Mentor, train staff in procedures and protocols of air quality programs to ensure that assigned activities are performed within established standards and regulations.

Ensure that assigned personnel perform duties and responsibilities in a safe and prudent manner that does not expose them or others to unnecessary harm or risk of on-the-job injury.

JOB RELATED AND ESSENTIAL QUALIFICATIONS

Full Performance *(These may be acquired on the job and are needed to perform the work assigned.)*

Knowledge of:
Departmental/divisional policies and procedures.

Countywide personnel policies such as sexual harassment, discrimination, and EEO.

Health/safety violations and possible solutions specific to assigned area(s).

State and local laws and regulations governing air quality control.

Operations, services, and activities or air quality management programs.

Computer hardware, software, and monitoring equipment utilized by the division/department.

Principles of general management, supervision, and training.

Program planning and implementation.

Ability to:
Select, supervise, and evaluate the performance of assigned staff.

Assist in the planning, development, and implementation of assigned air pollution control program components.

Perform functions and activities of various program areas with the Air Quality Division.

Present training and public education programs to a variety of audiences.

Observe and evaluate air quality/pollution deficiencies and hazards and recommend solutions.

Interpret, explain, and enforce protocols, policies, and procedures within assigned program area(s), including administrative and departmental policies and procedures.

Entry Level *(Applicants will be screened for possession of these through written, oral, performance or other evaluation methods.)*

Knowledge of:
Federal regulations governing compliance with air quality standards.

Advanced investigative sampling and testing methods, techniques, and protocols for air quality programs.

Conditions contributing to air quality problems and accepted control measures.

Quantitative methods, scientific methodology, data collection and report preparation.

Advanced principles of chemical analysis.

Advanced mathematics, including algebra, geometry, and trigonometry.

Instrumentation and equipment commonly used in air quality/monitoring programs.

Training methods, techniques, and practices.

Ability to:
Use sampling and testing methods for air quality data acquisition.

Operate instruments and equipment commonly used in air quality/monitoring programs.

Operate a personal computer and use a variety of software.

Read, interpret, apply, and explain pertinent laws, statutes, codes, regulations, protocols and standards.

Research, compile, tabulate, analyze, and interpret data and information.

Communicate in a clear, concise manner both orally and in writing.

Write inspection/investigative reports and other documents.

Interact courteously and diplomatically with the public.

Plan, prioritize, and organize work to meet schedules and timelines.

Establish and maintain effective working relationships with those contacted in the course of work.

SPECIAL REQUIREMENTS *(Essential duties require the following physical skills and work environment.)*

Position may be considered "essential" in times of public health emergencies, natural disasters, or during declared emergencies.

Work is performed in a professional office environment and various indoor and outdoor off-site locations. Ability to lift and move objects weighing up to 50 lbs. Ability to operate monitoring and sampling/ testing equipment for air pollution control. Ability to use standard office equipment including computers, copiers, telephones, and fax

machines. Ability to work around machinery with moving parts and on slippery or uneven surfaces. Ability to tolerate exposure to the elements, dust, chemicals, and possibly toxic substances with the proper use of personal protective equipment (PPE). May require ability to satisfactorily pass respirator medical screening tests, depending on duties assigned.

This class specification is used for classification, recruitment and examination purposes. It is not to be considered a substitute for work performance standards.

CLASS SPECIFICATION

Class Code:	60000618
Date Established:	07/1986
Last Reviewed:	05/2023
Last Revised:	05/2023
Last Title Change:	09/2017
FLSA:	non-exempt
Probation:	12 months

AIR QUALITY SPECIALIST

DEFINITION

Under general supervision, performs the full range of air quality control duties with a high degree of independence; investigates, monitors, and analyzes existing and potential sources of air pollution; assists with the implementation and enforcement of abatement programs; and performs related work as required.

EXPERIENCE AND TRAINING REQUIREMENTS

A bachelor's degree from an accredited college or university in engineering, natural, physical, or environmental sciences or a closely related field, AND two years of full-time experience in an environmental management program; OR an equivalent combination of training and experience.

LICENSE OR CERTIFICATE

May require the ability to obtain an Asbestos Hazard Emergency Response Act Certification and/or Visual Emissions Evaluation Certification and may be required to complete the Mine Safety and Health Administration basic above ground mine safety course, based on area of assignment.

A valid driver's license is required at the time of appointment.

DISTINGUISHING CHARACTERISTICS

This is the journey level in the Air Quality Specialist series. It is distinguished from the Air Quality Specialist Trainee by performance of the full scope of air quality monitoring, planning, permitting or enforcement duties with a high degree of independence.

SUPERVISION EXERCISED

Exercises no supervision.

EXAMPLES OF DUTIES *(The following is used as a partial description and is not restrictive as to duties required.)*

Monitor ambient air quality by installing, calibrating, adjusting, collecting, and processing data from testing/ sampling instrumentation and equipment to evaluate public health risks.

Develop and support databases for air quality programs, e.g., permitting, monitoring, planning, compliance, and asbestos; compile and analyze data using statistical analysis, computer modeling, chemical analysis, or other methods to draw conclusions and support recommendations.

Participate in the development of regulations; recommend changes in division protocols and procedures; recommend methods for the control or eradication of air quality hazards or deficiencies.

Review permit applications and inspection results to determine if businesses are in compliance with established air quality regulations; recommend modifications to establishments and/or operations to achieve compliance, gain permit approval or eliminate conditions which are in violation to assist local industry.

Enforce appropriate control measures to ensure compliance with air quality standards and regulations through the issue of operating permits and citations; inspect existing and potential stationary sources of air pollution, sampling and analyzing results.

Perform inspections and investigations of air quality complaints and conditions by sampling, testing, and surveying potential or reported sources of emissions and other air quality problems to determine the extent of compliance/non-compliance with air quality standards and regulations and identify the necessity for corrective/ preventative action.

Write inspection, investigation, and technical support reports, which evaluate findings and include recommendations; assemble data (computerized and manual) for monitoring and documentation purposes and assist in preparing grant proposals, federal, state, and local reports.

Testify/present evidence in court or before designated hearing boards regarding actions, involvement, observations, and information obtained, related to violations of environmental regulations.

Promote awareness and understanding of air quality programs, services, policies, and regulatory requirements by making presentations and providing training/information to targeted groups, e.g., boards, businesses, and meetings of community groups.

Train staff in procedures and protocols of air quality programs to ensure that assigned activities are performed within established standards and regulations.

Full Performance *(These may be acquired on the job and are needed to perform the work assigned.)*

Knowledge of:
Departmental/divisional policies and procedures.

Federal, state, and local regulations governing compliance with air quality standards.

Local geography and population densities.

Management information systems and software used in the assigned area(s).

Protocol for handling, preserving, and presenting evidence.

Conditions contributing to air quality problems and accepted control strategies in Washoe County.

Program planning and implementation.

Asbestos hazard abatement.

Ability to:
Maintain responsibility for the planning, development, and implementation of assigned air pollution control program components.

Train staff in procedures and protocols of air quality programs.

Operate and maintain assigned departmental equipment used in testing and sampling of air quality conditions and deficiencies.

Present training and public education programs to a variety of audiences.

Perform functions and activities of various program areas with the Air Quality Division.

Entry Level *(Applicants will be screened for possession of these through written, oral, performance or other evaluation methods.)*

Knowledge of:
State and local regulations governing compliance with air quality standards.

Investigative sampling and testing methods, techniques, and protocols for air quality programs.

Conditions contributing to air quality problems and accepted control strategies.

Quantitative methods, scientific methodology, data collection and report preparation.

Basic principles of chemical analysis.

Advanced mathematics; including algebra, geometry, and trigonometry.

Instrumentation and equipment commonly used in air quality/monitoring programs.

Ability to:
Use sampling and testing methods for air quality data acquisition.

Operate instruments and equipment commonly used in air quality/monitoring programs.

Observe and evaluate air quality/pollution deficiencies and hazards and recommend solutions.

Interpret and apply protocols, regulations, policies, and procedures.

Research, compile, tabulate, analyze and interpret data and information.

Communicate in a clear, concise manner both orally and in writing.

Write inspection/investigative reports and other documents.

Interact courteously and diplomatically with the public.

Maintain files, records, data, and information.

Read blueprints, construction plans, and flow diagrams.

Establish and maintain effective working relationships with those contacted in the course of work.

SPECIAL REQUIREMENTS *(Essential duties require the following physical skills and work environment.)*

Position may be considered "essential" in times of public health emergencies, natural disasters or during declared emergencies.

Work is performed in a professional office environment and various indoor/outdoor off-site locations. Ability to lift and move objects weighing up to 50 lbs. Ability to operate monitoring and sampling/testing equipment for air pollution control. Ability to use standard office equipment including computers, copiers, telephones, and fax machines. Ability to work around machinery with moving parts and on slippery or uneven surfaces. Ability to tolerate exposure to the elements, dust, chemicals, and possibly toxic substances with the proper use of personal protective equipment (PPE). May require ability to satisfactorily pass respirator medical screening tests, depending on duties assigned.

This class specification is used for classification, recruitment and examination purposes. It is not to be considered a substitute for work performance standards.

CLASS SPECIFICATION

Class Code:	60000617
Date Established:	07/1986
Last Reviewed:	05/2023
Last Revised:	05/2023
Last Title Change:	09/2017
FLSA:	non-exempt
Probation:	12 months

AIR QUALITY SPECIALIST TRAINEE

DEFINITION

Under supervision, receives training to perform permitting, compliance inspections, monitoring, and planning duties to attain compliance with air quality standards; and performs other related work as required.

EXPERIENCE AND TRAINING REQUIREMENTS

A bachelor's degree from an accredited college or university in engineering, natural, physical, or environmental sciences or a closely related field: OR an equivalent combination of training and experience.

LICENSE OR CERTIFICATE

May require the ability to obtain an Asbestos Hazard Emergency Response Act Certification and/or Visual Emissions Evaluation Certification and may be required to complete the Mine Safety and Health Administration basic above ground mine safety course, based on area of assignment.

A valid driver's license is required at the time of appointment.

DISTINGUISHING CHARACTERISTICS

This is the entry-level in the Air Quality Specialist classification series, which provides for progression to the next level in the series upon meeting the requirements of the class and recommendation of the appointing authority. This level is intended as a training position to enable incumbents to learn policies, procedures, specific techniques, and regulations related to air quality management.

SUPERVISION EXERCISED

Exercises no supervision.

EXAMPLES OF DUTIES *(The following is used as a partial description and is not restrictive as to duties required.)*

Participate in monitoring local air quality by learning to install, calibrate, adjust, collect, and process data from testing/sampling instrumentation and equipment to evaluate public health risks.

Assist in the development of and support databases for air quality programs, e.g., permitting, monitoring, planning, compliance, and asbestos; learn to compile and analyze data using statistical analysis, computer modeling or other methods to draw conclusions and support recommendations.

Participate in the development of regulations; recommend changes in division procedures and protocols; recommend methods for the control or eradication of air quality hazards or deficiencies.

Learn to review permit applications and inspection results to determine if businesses are in compliance with established air quality regulations; recommend modifications to establishments and/or operations to achieve compliance, gain permit approval or eliminate conditions which are in violation.

Participate in inspections and investigations of air quality complaints and conditions by sampling, testing, and surveying potential or reported sources of emissions and other air quality problems to determine the extent of compliance/non-compliance with air quality standards and regulations and identify the necessity for corrective/ preventative action.

Write inspection and investigation reports to senior staff which evaluate findings and include recommendations; assemble data (computerized and manual) for monitoring and documentation purposes and assist in preparing grant proposals, federal, state and local reports.

Review and recommend compliance actions and appropriate control measures, to senior staff, which ensure compliance with air quality standards and regulations through the issue of operating permits and citations; inspect existing and potential stationary sources of air pollution, sampling and analyzing results.

Promote awareness and understanding of air quality programs, services, policies, and regulatory requirements by participating in presentations and providing training/information to targeted groups, e.g., boards, businesses, and meetings of community groups.

JOB RELATED AND ESSENTIAL QUALIFICATIONS

Full Performance *(These may be acquired on the job and are needed to perform the work assigned.)*

Knowledge of:
Departmental/divisional policies and procedures.

Federal, state, and local regulations governing compliance with air quality standards.

Investigative sampling and testing methods, techniques, and protocols for air quality programs.

Local geography and population densities.

Management information systems and software used in the assigned area(s).

Protocol for handling, preserving, and presenting evidence.

Conditions contributing to air quality problems and accepted control measures in Washoe County.

Ability to:
Operate and maintain assigned departmental equipment used in testing and sampling of air quality conditions and deficiencies.

Understand the principles and practices of Air Quality investigation, inspection, monitoring, and sampling as necessary to assume assigned responsibilities.

Observe and evaluate air quality/pollution deficiencies and hazards and recommend solutions.

Write inspection/investigative reports and other documents.

Read blueprints and construction plans.

Entry Level *(Applicants will be screened for possession of these through written, oral, performance or other evaluation methods.)*

Knowledge of:
Conditions contributing to air quality problems and accepted control strategies.

Quantitative methods, scientific methodology, data collection, and report preparation.

Advanced mathematics, including algebra, geometry, and trigonometry.

Instrumentation and equipment commonly used in air quality/monitoring programs.

Ability to:

Interpret and apply protocols, regulations, policies, and procedures.

Research, compile, tabulate, analyze and interpret data and information.

Communicate in a clear, concise manner both orally and in writing.

Maintain files, records, data, and information.

Establish and maintain effective working relationships with those contacted in the course of work.

Operate a computer and operate a variety of software.

SPECIAL REQUIREMENTS *(Essential duties require the following physical skills and work environment.)*

Position may be considered "essential" in times of public health emergencies, natural disasters or during declared emergencies.

Work is performed in a professional office environment and various indoor and outdoor off-site locations. Ability to lift and move objects weighing up to 50 lbs. Ability to operate monitoring and sampling/ testing equipment for air pollution control. Ability to use standard office equipment including computers, copiers, telephones, and fax machines. Ability to work around machinery with moving parts and on slippery or uneven surfaces. Ability to tolerate exposure to the elements, dust, chemicals, and possibly toxic substances with the proper use of personal protective equipment (PPE). May require ability to satisfactorily pass respirator medical screening tests, depending on duties assigned.

This class specification is used for classification, recruitment and examination purposes. It is not to be considered a substitute for work performance standards.