Quality Management Plan

For

Ambient Air Monitoring

Alaska Department of Environmental Conservation
Division of Air Quality
410 Willoughby Avenue Suite 303
P.O. Box 111800
Juneau, Alaska 99801-1800

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Quality Management Identification and Approval Form

Approval for Implementation:

Title: Air Quality Management Plan, State of Alaska Department of Environmental Conservation (ADEC), Division of Air Quality, Air Monitoring & Quality Assurance Program.

This Air Quality Management Plan is hereby recommended for approval and commits the Air Monitoring & Quality Assurance Program to follow the elements described within.

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Table of Contents

INTRODUCTION ____ 5

1.0 MANAGEMENT AND ORGANIZATION ____ 5

1.1 Quality Assurance Policy ____ 5

1.2 Organization Chart ____ 7

1.3 Responsibilities and Authorities for Quality Assurance ____ 7

2.0 QUALITY SYSTEM DESCRIPTION AND IMPLEMENTATION ____ 12

2.1 Quality Assurance Project Plans (QAPPs) ____ 12

2.2 Dispute Resolution ____ 13

2.3 Types of Environmental Data Generated ____ 13

2.4 Technical Functions – Environmental Monitoring, Sampling and Measurements ____ 14

2.5 Technical Support ____ 17

2.6. Operational Policies, Procedures, Guidance and Tools ____ 17

2.7 AM&QA Program Quality Assurance Guidance Documents ____ 17

3.0 PERSONNEL QUALIFICATIONS AND TRAINING ____ 18

3.1 Training Policy ____ 18

3.2 Training Processes and Documentation ____ 18

4.0 PROCUREMENT OF ITEMS AND SERVICES ____ 19

4.1 Non-Professional Items and Services – Review & Approval ____ 19

4.2 Professional Services and Contracts ____ 19

5.0 DOCUMENTATION AND RECORDS MANAGEMENT ____ 21

6.0 COMPUTER HARDWARE AND SOFTWARE ____ 21

6.1 General ____ 21

6.2 Quality Assurance - Data Management 21

7.0 PLANNING & IMPLEMENTATION OF WORK PROCESSES 23

7.1 Monitoring & Quality Assurance Program Planning 24

7.2 Specific Project Planning - QAPP Processes 24

8.0 ASSESSMENT AND CORRECTIVE RESPONSE 26

8.1 AM&QA Program – Review, Assessment and Corrective Action 26

8.2 Quality Assurance Project Plans – Review, Assessment and Corrective Action 26

9.0 QUALITY IMPROVEMENT 28

10.0 REFERENCES 29

11.0 DEFINITION OF TERMS 30

12.0 APPENDICES 31

12.1 QA Responsibility 31

INTRODUCTION

The Air Quality Management Plan (Air QMP) for Ambient Air Quality contains an outline of the systematic approach to quality assurance adopted in the Air Monitoring and Quality Assurance Program (AM&QA) of the Division of Air Quality of Alaska's Department of Environmental Conservation (ADEC). The Air Quality System is a structured and documented management system. This system describes the policies, objectives, principles, organization authority, responsibilities, accountability and implementation plan for ensuring quality in its work process, products (items) and services. This *Quality System* approach is based on guidance provided by the U.S. Environmental Protection Agency (EPA) in *EPA Requirements for Quality Management Plans, EPA QA/R-2, March 2001;* https://www.epa.gov/sites/production/files/2016-06/documents/r2-final.pdf. All organizations conducting environmental programs funded by EPA are required to establish, implement and document a Quality System per 40 CFR 31 and 35. This Quality Management Plan (QMP) is implemented statewide and assures that all data collection and measurement activities are conducted in accordance with EPA's data collection and quality assurance requirements. This includes projects funded by EPA. The purpose of this Air QMP is to establish consistency in Ambient Air Monitoring practices within the Division of Air Quality in the application of quality assurance and quality control practices.

ADEC developed this Air QMP to document how AM&QA Program staff will consistently plan, implement and assess the effectiveness of quality assurance and control operations in ambient air quality monitoring. It describes the quality system's organizational structure, functional responsibilities of management and staff, lines of authority, and required interfaces for those planning, implementing and assessing all activities conducted. Due to its broad scope, the resource and scheduling implications of the Air QMP are significant.

1.0 MANAGEMENT AND ORGANIZATION

1.1 Quality Assurance Policy

The Division of Air Quality Director ensures all environmental data generated by or on behalf of the AM&QA Program are suitable for their intended use. QMP systems and practices provide a framework to assure that the quality of all environmental data generated and processed are appropriate for their intended use, valid, precise, accurate, complete, representative, comparable, and where appropriate, legally defensible. Implementation of this plan will allow Air Program Managers to make decisions based on verifiable environmental data.

The Department of Environmental Conservation is committed to quality assurance practices. This commitment compliments EPA's emphasis on comprehensive and coordinated Quality Assurance (QA) Programs. The AM&QA Program continues to revise, develop and integrate quality assurance (QA) practices into its data collection and measurement activities. These QA and quality control (QC) practices are designed to generate and process data of defined quality in a practical manner.

QA policies include:

- All environmental data generated will be of known quality. This quality standard will meet the needs of the intended data use as stated in the individual Quality Assurance Project Plan (QAPP). This Air QMP is the "umbrella" document under which project-specific QAPPs will be developed.
- All air programs generating, using, or requiring the collection of ambient air quality and meteorological data under the State of Alaska's jurisdiction will follow the requirements outlined in this Air Quality Management Plan.
- ADEC will maintain the competency of the Air Program by meeting the requirements of the EPA Forum on Environmental Measurement's (FEM) Policy of Competency https://www.epa.gov/sites/production/files/2015-03/documents/competency-policy-aaia-new.pdf. Management and staff will establish the intended use(s) of ambient air quality and meteorological data and thus the level of quality necessary to support the intended use prior to data collection efforts.
- Acceptable and effective QAPPs and subsequent Standard Operating Procedures (SOPs) will be developed and implemented. The AM&QA Program has adopted the EPA requirements for project-specific QAPPs (See *EPA Requirements for Quality Assurance Project Plans, EPA QA/R5, March 2001(Reissued May 2006)* https://www.epa.gov/sites/production/files/2016-06/documents/r5-final_0.pdf and its companion document, *EPA Guidance for Quality Assurance Project Plans, EPA QA/G-5, December 2002;* https://www.epa.gov/sites/production/files/2015-06/documents/g5-final.pdf.
- Project-specific QAPP documents will be submitted to the project QA officer for approval prior to new ambient air quality and meteorological data collection activities. Technical and administrative authority for all QA/QC resides with the Air QA Officer. In matters of quality assurance and quality control, the Air QA Officer reports directly to the Division Director (Appendix 12.1.1: ADEC, Division of Air Quality Organization Chart). The Division of Air Quality QA Officer is the contact between EPA's Regional QA/QC Program and ADEC's Monitoring & Quality Assurance Program.
- Data quality information will be documented and available.
- Regular audits will be conducted on program sections and projects involving data collection to ensure compliance with QA/QC requirements. Deficiencies highlighted in these assessments will be addressed in a timely manner. Audits may be conducted internally or by an outside party.
- Management defines personnel and training requirements. Adequate resources to support the AM&QA Program Quality System will be provided to accomplish objectives for all ambient air quality and meteorological data collection programs, projects, and tasks. As ADEC's partner in Air Quality, EPA supplies some resources to support the AM&QA Quality Management System.
- Management supports QA training. Staff training may be achieved through internal or external sources for all levels to ensure that QA requirements and responsibilities are understood and implemented at all stages of projects. EPA will provide some of the training needed to support the AM&QA Quality System.

1.2 Organization Chart

The Division of Air Quality has five Programs: *Air Permits, Air Compliance, Air Non-Point and Mobile Sources, Air Administrative Support* and *Air Monitoring and Quality Assurance* (Appendix 12.1.1: Organization Chart). Ambient air and meteorological monitoring projects may be undertaken or administered by these programs. Projects which generate, use, or collect this data, must have approved Quality Assurance Project Plans (QAPPs). The Air QA Officer works with the Air Program Managers and their staffs to ensure each project has an approved QAPP, and that it is followed to meet project objectives.

The Division of Air Quality adopted the QAPP requirements in *EPA Requirements for Quality Assurance Project Plans, EPA QA/R-5.* These requirements resulted from a national consensus on how to develop and implement Quality Assurance Project Plans, (ANSI/ASQC E4), and are being followed at the federal, state and local level.

The AM&QA Program serves as the monitoring services group within the Division of Air Quality. The AM&QA Program ensures ambient air and meteorological monitoring projects supported by the Department provide data of known quality. Projects requiring approved ambient air or meteorological monitoring QAPPs include routine and special monitoring projects led by ADEC staff or its contractors; Prevention of Significant Deterioration (PSD) ambient air and/or meteorological monitoring projects required by ADEC in support of a construction permit; and PSD quality ambient air and/or meteorological monitoring projects required by ADEC in support of an operating permit condition. The Program functions as the primary quality assurance organization (PQAO) for state and local governmental air quality programs in the State of Alaska. The AM&QA Program has signed Memorandums of Understanding (MOU) for air quality control with the Fairbanks North Star Borough and the Municipality of Anchorage which outlines the responsibilities of each party for air pollution control and monitoring within their respective boundaries. According to the MOUs, the ADEC shares the following common factors with the local governmental agencies:

(a) Communication and information sharing needed to issue air quality advisories and forecasts;
(b) Cooperation on the development or revision of State Implementation Plans (SIPs);
(c) Cooperation on public outreach, information distribution and education activities;

1.3 Responsibilities and Authorities for Quality Assurance

ADEC Division of Air Quality, Director

Name: Denise Koch Phone: (907) 465-5109
or successor

Responsibilities: Provides overall policy direction, leadership and oversight for the QMP and serves as the overall authority for directing activities in accordance with Department policies and regulations, particularly 18 AAC 50.010 Alaska Ambient Air Quality Standards (AAAQS).

ADEC Monitoring & Quality Assurance Program Manager

Name: Barbara Trost or successor — Phone: (907) 269-6249

Responsibilities: Provides policy direction, leadership and oversight for the AM&QA Program's Quality System and serves as the overall authority for directing its activities in accordance with Department regulations and policies. During the planning of grant, permit or other monitoring projects, the AM&QA program manager is responsible for establishing and implementing project objectives and data quality indicators appropriate for the project purpose and regulations involved. Throughout the implementation and assessment of monitoring projects, the AM&QA program manager is responsible for ensuring that the quality of the information generated meets the requirements in the approved QAPPs. The program manager serves as quality program liaison between the ADEC AM&QA program and the EPA regional office.

Specifically, the AM&QA program manager is responsible for the following:

- Primary responsibility for facilitating the development, renewal and implementation of QAPPs according to EPA QA/R-5 requirements, by providing technical assistance and training to grant recipients and ADEC air staff.
- Review, approve and sign, if acceptable, final draft QAPP along with the ADEC Air QA Officer.
- Review data as they become available, and provide technical assistance, as necessary, to assure compliance with approved QAPP.
- Working with the statewide ambient air monitoring staff to assure that applicable ambient air monitoring data become part of the ADEC ambient air and meteorological monitoring database as well as the EPA Air Quality System (AQS) database in an acceptable manner, and
- With the assistance and guidance of the Air QA Officer, audit projects to assure compliance with approved QAPPs.

ADEC Air Non-Point and Mobile Sources Program Manager

Name: Cindy Heil or successor — Phone: (907) 269-7579

Responsibilities: Provides policy direction, leadership and oversight for the Non-Point and Mobile Source Program and serves as the overall authority for directing its program activities in accordance with Department regulations and policies. With respect to quality, responsibilities include actively engaging and relying on the expertise of the Air QA Officer to ensure that the QMP is implemented and functioning properly with respect to any ambient air quality and/or meteorological monitoring done by the program or contracted by the program.

ADEC Air Permits Program Manager

Name: John Kuterbach or successor — Phone: (907) 465-5103

Responsibilities: Provides policy direction, leadership and oversight for the Air Permits Program and serves as the overall authority for directing its activities in accordance with Department regulations and policies. With respect to quality, responsibilities include actively engaging and relying on the expertise of the Air QA Officer to ensure that the QMP is implemented and functioning properly with respect to ambient air quality and/or meteorological monitoring required by the program via pre-construction or post-construction permit requirements.

ADEC Air Compliance Program Manager

Name: James Baumgartner or successor — Phone: (907) 465-5108

Responsibilities: Provides policy direction, leadership and oversight for the Air Compliance Program and serves as the overall authority for directing its activities in accordance with Department regulations and policies. With respect to quality, responsibilities include actively engaging and relying on the expertise of the Air QA Officer to ensure that the QMP is implemented and functioning properly with respect to ambient air quality and/or meteorological monitoring required by the program via post-construction and operating permit requirements.

ADEC Air Quality Assurance Officer

Name: Dan Fremgen or successor	Phone: (907) 465-5111

Responsibilities:

Provides AM&QA Program-wide focus on quality management with respect to ambient air and meteorological monitoring. The Air QA Officer reports directly to the Division of Air Quality Director on QA related issues. Assures that management and staff members recognize their respective QA responsibilities, reporting mechanisms and methods of dispute resolution. Assures that program managers, section managers and staff are knowledgeable about current quality policy, requirements and guidance. Establishes quality policy in coordination with management. Maintains resource file of quality-related documents. Coordinates updating the QMP for the Division. Assists in the development of new ambient air and meteorological monitoring methods and recommends their approval.

The Air QA officer is responsible for assuring the reliability of the state-wide ambient air monitoring network through:

- Routine performance and systems audits of Alaska's ambient air quality monitoring network;
- Approval of project-specific QAPPs;
- Data reviews (including data validation/verification) to ensure compliance with approved QAPPs.

For projects not directly under the purview of the AM&QA program, the Air QA Officer provides recommendations to Air Permits and Air Non-Point and Mobile Sources Program/Project Managers regarding the development and acceptability of QAPPs, and the collected data quality governed by approved QAPPs.

ADEC Division of Air Quality Project Managers and Staff
Air Permits Program
Air Compliance Program
Air Monitoring & Quality Assurance Program
Air Non-Point Mobile Source Program
Air Administrative Support Program

Responsibilities:

For grants, permits or projects that include ambient air and/or meteorological monitoring, QA project managers and staff are responsible to ensure a QAPP is developed that meets EPA QA/R-5/G-5 criteria. QA project managers may be lead staff assigned by the respective program manager and knowledgeable about the project's specific monitoring goals and objectives. The AM&QA program is available to provide assistance and guidance for the development of acceptable QAPPs. AM&QA QA staff reviews, and if acceptable, recommends approval of all QAPPs. Throughout the implementation and assessment of monitoring projects, QA project managers are responsible for ensuring that the quality of the information generated meets the requirements in the approved QAPPs.

Specifically, these individuals are responsible for assistance with the following:

- Primary responsibility for facilitating the development, renewal and implementation of QAPPs according to EPA QA/R-5 Air requirements, by providing technical assistance and training to permittees, grant recipients, consultants, federal, state and local government representatives, tribes and ADEC air monitoring staff.
- Review, approve and sign, if acceptable, final QAPP, along with the Air QA officer.
- Review data as they become available and provide technical assistance, as necessary, to ensure compliance with approved QAPP.
- Working with AM&QA Air Quality System (AQS) database staff, assure that applicable data become part of the EPA AQS database in an acceptable manner.
- With the assistance and guidance of the Air QA officer, assess and audit projects to ensure compliance with approved QAPPs.

2.0 QUALITY SYSTEM DESCRIPTION AND IMPLEMENTATION

The Quality System provides a framework for planning, implementing, documenting and assessing work conducted within the Monitoring & Quality Assurance Program. Through this system, the Monitoring & Quality Assurance Program generates the type and quality of information required to fulfill its duties under state law and regulations.

Management's commitment to quality is the foundation of this Quality System. The ADEC AM&QA Quality Policy reflects management's philosophy. The Quality Policy states that all personnel have responsibility for quality, and will strive to build quality into work processes, products and services related to ambient air and meteorological data collection. Management provides support, policy definition, leadership and oversight for its Quality System. Management is responsible for allocating resources, so that the Quality Policy can be implemented.

2.1 Quality Assurance Project Plans (QAPPs)

Air Program Managers and their staffs are responsible for implementing project-specific Ambient Air and Meteorological Monitoring QAPPs in the field and laboratory. Through the approval of this QMP, USEPA Region 10 QA Manager gives the ADEC Air QA Officer and Project Manager the delegated authority to approve the ADEC Air Program's site specific QAPPs.

Project Managers lead the development and implementation of ambient air quality and meteorological monitoring projects in their respective programs. As such, these managers are, in consultation with the Air QA Officer, responsible to ensure that each QAPP follows EPA QA/R-5 requirements adopted by the AM&QA Program. The QA section of AM&QA provides essential QA direction, reviews and recommends approval of all acceptable QAPPs. For monitoring projects outside AM&QA direct authority, ultimate project compliance with EPA R-5/G-5 criteria lies with the Program Manager in the AQ Division who initiates or authorizes the field monitoring project.

The Air QA Officer is available to provide training and technical assistance to Project Managers and ADEC Air staff during QAPP development and review. The Air QA Officer provides technical assistance in development of the QAPP, such as project objectives, data quality indicators, appropriate sampling and analytical methods, etc. Once a final draft QAPP is available, the Air QA Officer and respective project manager(s) review the document. If acceptable, the Air QA Officer or his designee, and project manager(s) sign the approval page, along with any grantee or permittee project manager and project quality assurance officer. The ADEC Air Meteorologist will review, approve and sign the approval page of any QAPP solely related to a meteorological monitoring project. By signing, all parties agree the QAPP will be followed during the life of the project.

Project Managers are the principal points of contact as data are delivered to the Air Programs. Whenever problems occur with monitoring protocols or elements of the approved QAPP, Project

Managers will discuss and resolve these problems in coordination with the Air QA Officer as needed. Major modifications to an approved QAPP requires that all signatories reapprove/resign the modified QAPP.

It is the goal of the Air Monitoring and Quality Assurance Program to make data verification and validation a major component of each Quality Assurance Project Plan. Data review, verification and validation are the responsibility of the party gathering the data.

ADEC Project Managers and the Air QA Officer will review ongoing monitoring projects with approved QAPPs as needed to ensure these projects are following QAPP requirements. ADEC Air Program Project Managers will routinely provide the Air QA Officer with copies of QA data and audit summary reports.

Alaska's air monitoring network includes State and Local Air Monitoring Stations (SLAMS), NCore and Special Purpose Monitoring (SPM) networks. The Air QA Officer (or their designee) will audit all the SLAMS/SPM network monitors at least every six months. At least once per year each SLAMS/SPM/NCore network gaseous monitor will be audited. At least every 3 years, if resources allow, a Technical Systems Audit (TSA) of Alaska's SLAMS/SPM/NCore air monitoring network will be conducted by EPA Region 10 and reported to AQS.

2.2 Dispute Resolution

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 Director of Air Quality.

2.3 Types of Environmental Data Generated

Quality management controls are required wherever data generation or collection occur. To assure the collection of quality data, the AM&QA program requires oversight of ADEC and permit related ambient air and meteorological monitoring projects. For effective quality management to occur, coordination must be maintained between the ADEC Air QA Officer and project managers responsible for the development and oversight of project-specific QAPPs.

Types of air quality and meteorological monitoring data include:

- Monitoring data required by PSD permits.
- Baseline data collected by prospective permittees.
- Data collected by ADEC monitoring staff as baseline, inspection, compliance or complaint response data.
- Data collected by ADEC or its contractors, MOA, or FNSB to answer environmental questions to assist ADEC in making sound policy decisions.

- Compliance with NAAQS.

The Air Monitoring and Quality Assurance Program staff is trained to perform ambient air quality monitoring activities. The current statewide "*Quality Assurance Project Plan for the State of Alaska is posted on the Air Monitoring & Quality Assurance Program web site.* The statewide QAPP includes or references Standard Operating Procedures (SOPs) based on Alaska's Ambient Air Quality Standards (AAAQS) 18 AAC 50.010, and the National Primary and Secondary National Ambient Air Quality Standards (NAAQS) found in 40 CFR Part 50.

2.4 Technical Functions – Environmental Monitoring, Sampling and Measurements

To ensure a Quality System, qualified and trained personnel must be used to perform all sampling, monitoring and laboratory activities. Technical functions may include sampling, testing, shipping/transporting, evaluating, reviewing, validating and verifying data. These activities are conducted by ADEC staff, grantees, permittees, subcontractors and others as prescribed in a Quality Assurance Project Plan (QAPP). QAPPs may either be project-specific or fall under the revised State of Alaska QAPP for State and Local Ambient Air Monitoring Networks. Project-specific QAPPs are developed by the grantee, permittee, or ADEC Project Managers with technical assistance from AM&QA staff, if necessary. QAPPs are signed by the Project Manager, Project Quality Assurance Officer, ADEC Project Manager, and Air QA Officer.

QAPP implementation can include the following:

Field Monitoring and Laboratory Equipment –
Field monitoring and laboratory equipment will be kept calibrated and in working order. Calibration standards will be kept in-certification and traceable to known standards of accuracy.

Custody Documents –
Examples of custody documents include chain-of-custody forms, receipt for sample forms, and sample tags.

Field Log Books and Field Notes-
Log books are bound page-numbered books, or electronic log books, whereas field notes can be individual event sheets. Log books and field data sheets contain detailed records of when, where (including site maps), how, and who took each sample. The results of associated field measurements, field calibration results, and background readings are recorded. Other factors that might affect sample quality or interpretation of results, such as ambient temperature and climatic conditions, may also be recorded in the log book or on the field data sheet. Site activities such as instrument maintenance, troubleshooting, repairs or replacement should also be documented. In addition, a photographic log may be maintained.

Maps and Photographs –
A visual and graphical record of sampling site location/s, site exposures, environmental

conditions, processes, sample source, etc. is taken by appropriate personnel.

Climatological Charts –
A graphical record of climatic conditions prepared from either existing on-site meteorological data or collected data is prepared by project personnel as required by the QAPP.

Standard Operating Procedures (SOPs) for Sampling, Field Analytical and Laboratory Measurements –
These are procedures used for conducting routine ambient air monitoring activities. SOPs may be incorporated into, or referenced in, the QAPP. AQ Project Managers are responsible for ensuring procedures are understood and followed in the field and laboratory. Deviations from these procedures must be documented.

ADEC's Ambient Air Monitoring Program regularly reviews, revises and updates existing SOPs for field monitoring and laboratory analysis as well as adding new ambient air quality monitoring methods and SOPs to its QAPP, but at a minimum once every 5 years. These methods/SOPs follow Federal Reference or Equivalent Methods where applicable.

All monitoring projects, implemented by AQ staff, grantees, or permittees, will follow methods found in AAAQS regulations, 18 AAC 50.010; 40 CFR Part 53 Ambient Air Quality Reference and Equivalent Methods; and 40 CFR Part 58 Ambient Air Quality Surveillance. Exceptions must be specifically addressed and approved in a specific QAPP.

Each contracted field monitoring or laboratory contractor may have their own SOP documents. When using a contracted field monitoring operator or laboratory, their QMP will be referenced in the project-specific QAPP. The Air QA officer keeps these QMPs on file. The field monitoring or lab contractor must provide and maintain up-to-date QMPs and SOPs with ADEC's Air QA officer.

SOP document/s will be either referenced or included in project-specific QAPPs. If referenced, a complete set of SOPs are to be maintained on file with the Air QA officer. It is the responsibility of the respective permittee, ADEC grantee and/or field monitoring/lab contractor to provide and maintain up-to-date SOPs. ADEC Project Managers will ensure that data quality indicators required to meet the project-specific objectives are clearly stated in the QAPP. The indicators include detection levels, data completeness, accuracy, precision, etc. The Air QA Officer ensures that the most current field monitoring and laboratory analytical procedures are available for use, and that outdated and/or revised procedures are removed from use.

Data Quality Objectives and Sample Analytical Strategies –
The type, quality and number of data measurements which support the project purpose must be defined for monitoring, sampling, and analyses. The type and number of samples collected must be appropriate to achieve the level of data completeness and reliability required by the project. AQ project managers will select the analytical test methods and appropriate detection and reporting levels with assistance from the Air QA Officer when necessary. Acceptable methods

include: federal reference methods (FRM), federal equivalent methods (FEM), and/or State of Alaska approved ambient air monitoring methods. The selected methods must be based on the purpose for the sample(s) as stated in the QAPP.

Data Quality Indicators –
These can include blanks, standard reference materials, QC check samples, replicates, spikes and alternative methods. QAPPs will define acceptable criteria for precision, accuracy, completeness, representativeness and comparability for each sampling parameter.

Analytical Results –
AQ Project Managers are responsible for ensuring that analytical results are consistent with each other and that they meet the project objectives as specified in the QAPP. The Project Manager communicates data requirements to those collecting the data. The Project Manager is responsible for ensuring that data results are received in a manner consistent with EPA's Air Quality System (AQS) database or other data format specified in a project specific QAPP.

Field Monitoring and Laboratory Records –
As field monitoring and laboratory analyses are completed, whichever group is performing the field monitoring or laboratory analyses must review, verify and validate the data. The field monitoring or laboratory supervisor must review and approve the data results before submittal to the AQ Project Managers. The field monitoring or laboratory group will submit to ADEC complete QA/QC information sheets with data results and provide specific information on deviations from data quality objectives. When appropriate, completed chain-of-custody or transmission forms will be provided along with data results. ADEC may also require that responsible field monitoring or laboratory groups provide the following information: observations and interpretations made during sampling or analyses, records of when and how analyses were performed, and permanent records of raw analytic results.

Tribal Monitoring Support – The Division of Air Quality provides monitoring assistance to Tribal Villages as funding allows in the same fashion as it does to other non-tribal communities in Alaska (e.g., Anchorage, Fairbanks, Juneau). The Department provides direct monitoring assistance to villages receiving air monitoring funding through EPA Region 10 Air Tribal Programs. Technical assistance may include any of the following:

- Development of project specific air monitoring QAPPs
- Air monitoring equipment operations training
- Air monitoring station site selections
- Installation of monitoring sites
- Instrument maintenance and repairs
- Instrument calibrations and operations
- Instrument performance and systems audits
- Laboratory analysis of air monitoring samples
- Equipment loans
- Data analysis.

The Air Quality Division is not responsible for Quality Assurance oversight of tribal monitoring projects where a tribal entity is the Project Manager. This QMP does not govern these tribally led projects.

2.5 Technical Support

Support for technical functions is provided through ADEC management. Technical support includes management, health and safety training, document and record management, information retrieval, and computer hardware and software administration. Management provides technical support via several options (term contract, vendor provided safety training, etc.). Computer hardware and software administration is provided by ADEC's Division of Administrative Services (DAS).

2.6. Operational Policies, Procedures, Guidance and Tools

The Monitoring & Quality Assurance Program Quality System for ambient air quality monitoring, sampling and measurement activities include:

- Air Quality Management Plan (AQMP)
- ADEC Air Quality Regulations, particularly 18 AAC 50.010 Alaska Ambient Air Quality Standards (AAAQS)
- ADEC Division of Air Quality Policies and Guidance documents
- EPA and ADEC Quality Assurance Guidance Documents
- AM&QA Program Technical Assessment Reviews
- AM&QA Audit Reports to ADEC, Division of Air Quality and to EPA
- Management System Reviews
- The Air Monitoring & Quality Assurance Program Manager's Annual Report and Work Plan to ADEC Division of Air Quality management and to EPA.

Quality Assurance and Quality System tools will be stored in the ADEC Statewide Allshare drive S:\AQ\M&QA Guidance folder (or successor or electronic file system) for AQ staff access. Most of these documents are accessible on the ADEC AM&QA website, http://dec.alaska.gov/air/am/index.htm or available from the Air QA Officer. These tools will be reviewed periodically as appropriate to address changes in the Quality System. The Air QA Officer in coordination with the Air Program Managers is responsible for this review.

2.7 AM&QA Program Quality Assurance Guidance Documents

The ADEC monitoring program began its formal QA program in the late 1970s. Since that date the *Alaska Quality Assurance Manual for Ambient Air Quality Monitoring* has undergone several revisions. The last revision was August 21, 1996. In December 1998, Alaska added a separate Statewide *Quality Assurance Project Plan for the State of Alaska $PM_{2.5}$ Ambient Air Quality Monitoring Program*. In February 2010, the *Quality Assurance Project Plan for the State of*

Alaska Air Monitoring & Quality Assurance Program consolidated and replaced these documents. As of the writing of this QMP, the AM&QA program is in the process of updating the latest QAPP. Once completed it will be posted to the AM&QA website.

The Air QA Officer has worked with ADEC project managers, grantees, and permittees to develop project-specific QAPPs which follow EPA requirements. The following QA guidance documents, located in the ADEC Statewide Allshare drive S:\AQ\M&QA QA Guidance folder, are available to anyone conducting ambient air monitoring in Alaska:

- Ambient Air Monitoring Quality Assurance Project Plan (QAPP) Elements
- Ambient Air Monitoring QAPP Checklist
- PSD Quality Ambient Air Quality & Meteorological Monitoring Annual Data Report Format (Sep-12).

3.0 PERSONNEL QUALIFICATIONS AND TRAINING

All personnel involved in data generation, use and compilation will have adequate education, training and experience in the area of their technical expertise and in quality assurance to meet their designated responsibilities. All other data collection personnel will possess adequate experience and knowledge to perform all assigned duties.

3.1 Training Policy

The Division of Air Quality provides training for AM&QA management and staff that meets the statutory, regulatory and professional requirements for each position. The Air QA Officer in coordination with the AM&QA Program Manager will periodically set up QA and QC training for managers and AM&QA staff. Employees from other programs in the Division of Air Quality will be invited to participate in some of these training opportunities. This training will be documented in the employee's personnel training file.

Each position within the AM&QA Program is evaluated to determine level of education, experience and training necessary to effectively carry out the duties of the position. When a vacancy is to be filled, established criteria are used to select a qualified replacement. Employees education level, training, work experience, oral presentations, publications, membership in professional organizations, and more are documented and maintained in personnel files.

3.2 Training Processes and Documentation

The AM&QA program uses trained professionals to perform environmental monitoring tasks such as sampling and field and laboratory measurements.

Training courses available to AM&QA staff include but are not limited to QA, QC, Ambient AQ Standards and Monitoring, Meteorological Monitoring, Computer Modeling, Grant Writing, Computer Technology, Safety, Supervision, Hazardous Materials Training, and more. Some training classes are provided through:

- U.S. EPA's Air Pollution Training Institute (APTI)
- U.S. EPA's Office of Air Quality Planning and Standards (OAQPS)
- U.S. EPA Quality System
- American Society for Quality (ASQ)
- Air & Waste Management Association (AWMA)
- Western States Air Resources Council (WESTAR).

The mechanism for identifying AM&QA Program training needs, for providing training opportunities, and for documenting the training received is as follows:

- Each fiscal year AM&QA staff prepare individual work plans which include travel and training plans, along with estimated budgets.
- The AM&QA Program Manager builds the AM&QA Program annual budget using information from staff.
- Each employee receives periodic performance evaluations where employee qualifications and training needs are discussed.

The Air QA Officer is required to maintain his/her expertise in QA and QC Processes. The Air QA Officer works with the AM&QA Program Manager to set up QA/QC training for AM&QA staff and others in the Division as appropriate and necessary. In addition to formal training, conferences and workshops, the Air QA Officer works with staff to ensure that all ambient air quality data generated and/or used by Air Quality Division staff meet the requirements of this QMP.

4.0 PROCUREMENT OF ITEMS AND SERVICES

4.1 Non-Professional Items and Services – Review & Approval

Procurement items include general supplies, computer hardware and software, field and laboratory analytical equipment, field and laboratory parts and supplies, calibration standards, and chemical reagents, etc. Requisition forms are available to all staff for procuring these items. These forms require specific information for procurement to occur, such as financial coding, item description, recommended vendor, costs, delivery date and signatory approval by the individual granted spending approval authority.

ADEC's Division of Administrative Services (DAS) provides hardware and software computer services to all ADEC. Purchase of computer hardware and software must have the signed approval of DAS Information Services staff.

4.2 Professional Services and Contracts

Whenever a Professional Services Contract is required, ADEC uses documents found on the State of Alaska Department of Administration General Services Division web page and on the Department's Division of Administrative Services S:\ drive. All forms and procedures are

consistent with the State of Alaska Division of Administrative Services contractual criteria. Table 4.2-1, *ADEC Professional Services and Contractual Procedures/Forms*, lists contractual forms and procedural documents used. ADEC Air Quality staff work within the current departmental procurement processes to obtain professional services. State and local air agencies are required to follow the appropriate ADEC AM&QA QAPP and federal QA guidance (40 CFR 50, 53, 58) when using federal air monitoring grants.

Table 4.2-1 ADEC Professional Services and Contractual Procedures/Forms

Item #	Agency	Document Title	Document Description
1	SOA	RFPShell.doc	Request for Proposal Form
2	SOA	RFQ.doc	Request for Quotation Form (02-110)
3	SOA	SAF.doc	Standard Agreement Form for Professional Services (02-093)
4	SOA	ATPSC.FRM2	Amendment to Professional Services Contract (02-112)
5	SOA	AK BusLicenseProof.doc	Proof of Alaska Business License Form
6	SOA	Appendix B1.doc	Indemnity and Insurance (02-093 B-1 Rev 06-14)
7	SOA	Appendix B2.doc	Indemnity and Insurance (02-093 B-2 Rev 06-14)
8	SOA	Appendix D.doc	Compensation
9	SOA	Basis of Selection.xls	
10	SOA	ITB0908.doc	Invitation to Bid Brief Description
11	SOA	ITB1.doc	Invitation to Bid forms
12	SOA	B-ITBlog.doc	Invitation to Bid Log
13	SOA	B-Amend2.doc	Amendment to Invitation to Bid
14	SOA	ITB4.doc	Standard Terms and Conditions for High Technology Contracts
15	SOA	ITB3.doc	Invitation to Bid Standard Terms & Conditions
16	SOA	WRITAG.doc	Invitation to Bid Written Determinations
17	ADEC	Instructions for contracts less than $5000.doc	
18	ADEC	PSC Flow Chart $5000 – $50000.doc	
19	ADEC	PSC flow Chart Less $5000.doc	
20	ADEC	ECAP Form 8-13.xls	
21	SOA	Matrix Formal.doc	RFP Process Formal Procurement Matrix
22	SOA	Matrix Informal.doc	Small Procurement Matrix
23	EPA	MBE WBE Goals for ADEC Fed Grants.pdf	
24	ADEC	Notice of Intent to Award Letter.doc	
25	ADEC	Process of a contract1.doc	
26	ADEC	RAPADEC.doc	Request for Alternate Procurement
27	SOA	RAPDOA.doc	Request for Alternate Procurement form (02-100)

5.0 DOCUMENTATION AND RECORDS MANAGEMENT

Hard copy files (paper files) of Ambient Air Quality Monitoring projects and PSD Ambient Air Quality and Meteorological Monitoring projects are kept in the project manager's office. The Division of Air Quality AM&QA program intends to use permanent electronic files for ambient air quality and meteorological monitoring results.

Validated State and Local Air Monitoring Stations (SLAMS), NCore and most Special Purpose Monitoring (SPM) ambient air quality monitoring data are reported to the AM&QA AQS database manager. The database manager verifies submitted data and electronically reports quarterly results to EPA's national Air Quality System (AQS) database. All data are retained on the State's data server.

The Division of Air Quality maintains a hard copy of the Division's Air Records Retention Schedule #183200 in the Anchorage, Juneau and Fairbanks offices. The Division of Air Quality follows this retention schedule. AS: Alaska Statute, Management & Preservation of Public Records, may be found at:
http://archives.alaska.gov/pdfs/records_management/schedules/dec/air/183200.pdf

Records management and preservation is defined in AS: Alaska Statute, Management & Preservation of Public Records http://www.legis.state.ak.us/basis/statutes.asp#40.21.

The disposition of state records must be in accordance with 4 AAC 59 and records management policies and procedures. These regulations, policies/procedures, applicable forms, etc. may be found at: http://archives.alaska.gov/records_management/records_management.html?panel=1

6.0 COMPUTER HARDWARE AND SOFTWARE

6.1 General

ADEC maintains an information technology staff within the Division of Administrative Services. The staff installs and maintains computers with updated Microsoft Office software.

6.2 Quality Assurance - Data Management

Quality Assurance/Quality Control (QA/QC) of data management begins with the raw data and ends with a defensible report, preferably through the computerized messaging of raw data. ADEC is moving towards improving quality assurance of the data management process to produce reports that contain secure, complete and defensible data sets. This approach requires the elimination of data input errors which is key to generating defensible data sets. The design of the data input screen helps to minimize input errors by being intuitive and user friendly. It must also be error checked by the staff entering the data as well as the second level reviewer.

Figure 6.1 and 6.2, AM&QA Data Management Flow Charts provide a visual summary description of the data flow/management process.

Figure 6.1 AM&QA Data Management Flow Chart – State & Local Alaska Air Monitoring

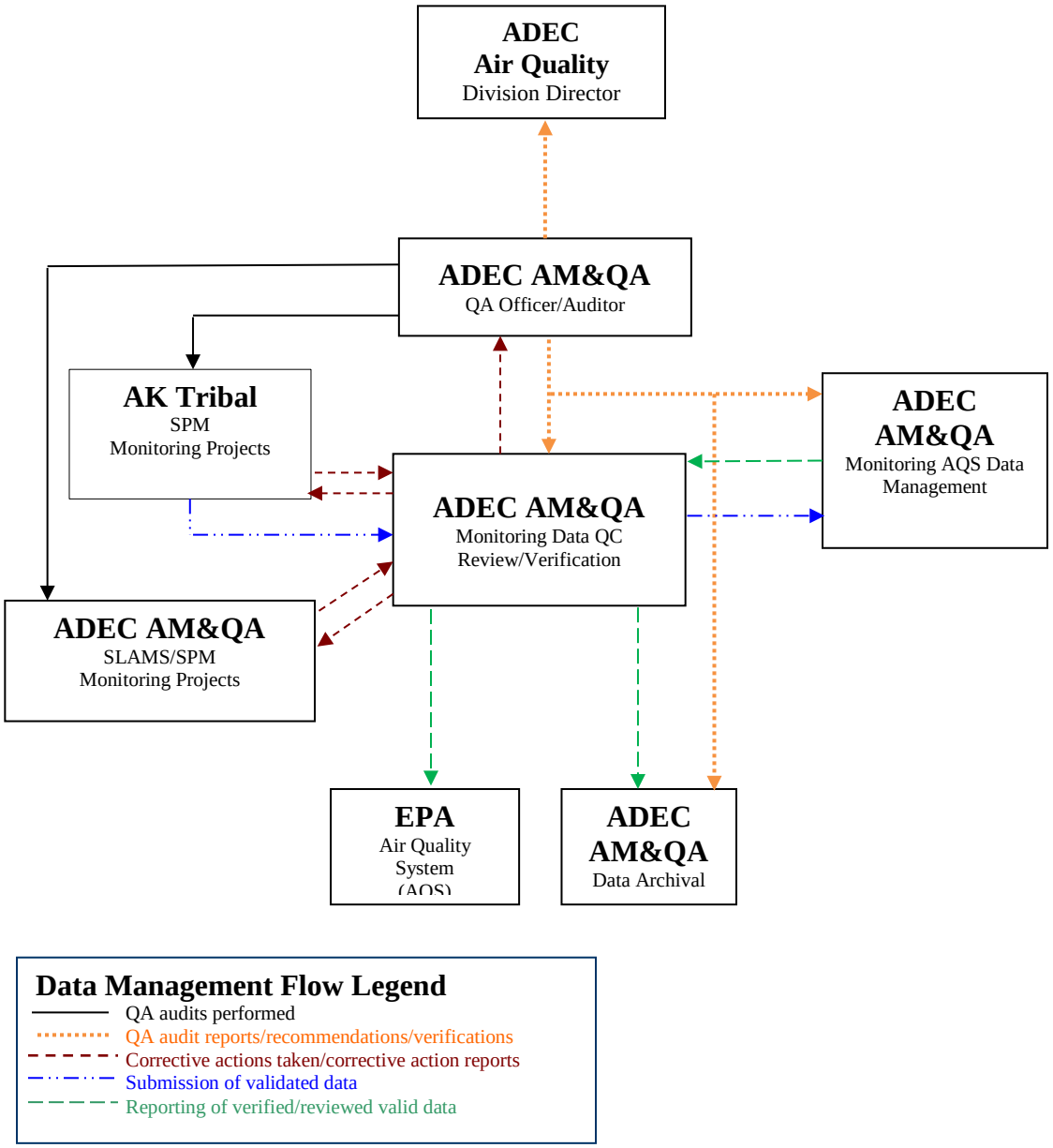
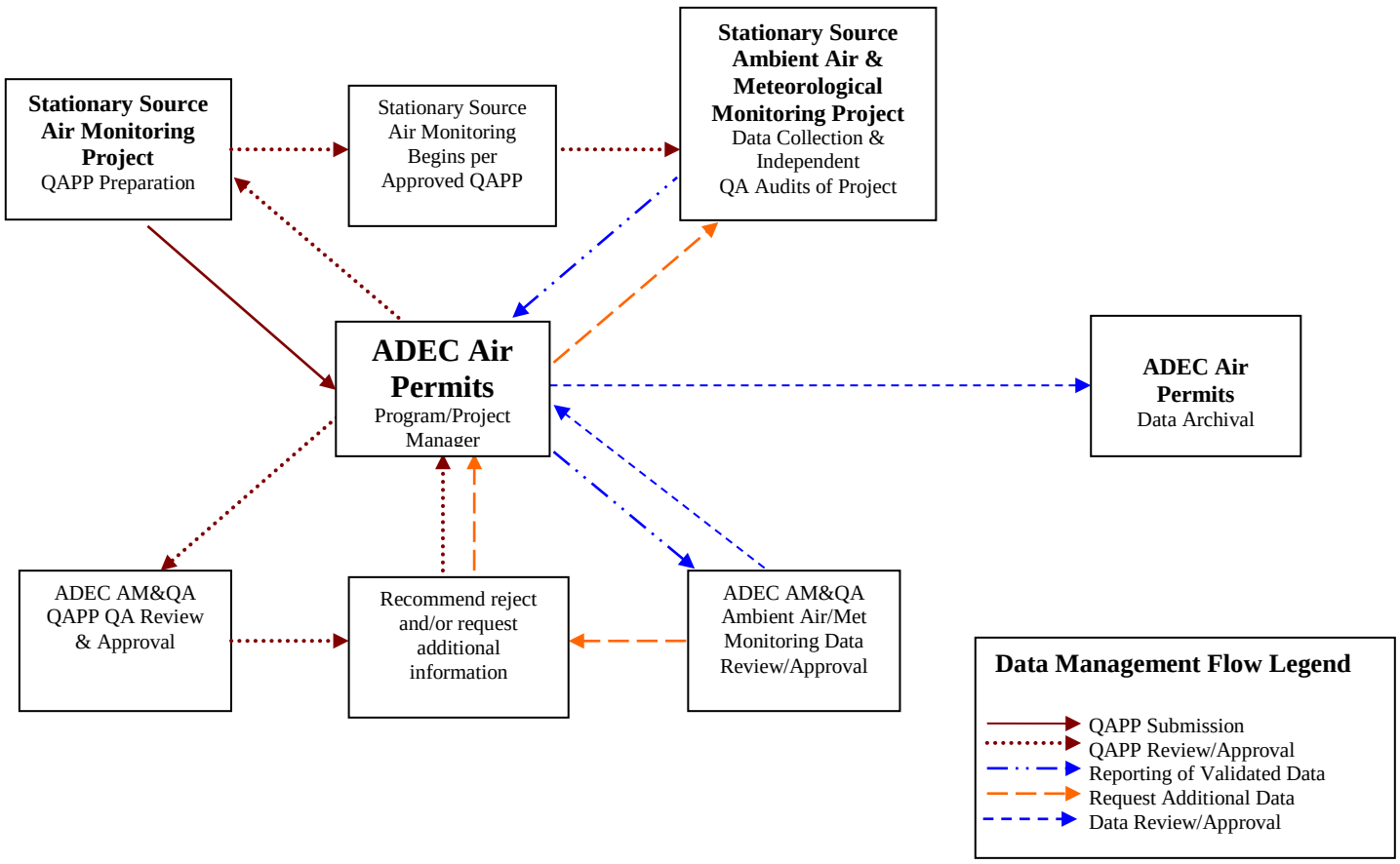


Figure 6.2 AM&QA Data Management Flow Chart - Industry Air Monitoring



7.0 PLANNING & IMPLEMENTATION OF WORK PROCESSES

7.1 Monitoring & Quality Assurance Program Planning

Annual planning for the overall Air Monitoring & Quality Assurance (AM&QA) Program occurs prior to the end of each fiscal year when managers and staff submit their annual work plans and projected budgets. Periodically during the year, the Division of Air Quality Program Managers meet to discuss respective goals, objectives and work strategies. The AM&QA Program conducts frequent meetings via teleconference to discuss the status of current and future monitoring projects.

The Air QA Officer works with Air Permits and AM&QA staff to set QA/QC goals and objectives for the program.

Project managers in coordination with the Air QA Officer follow the EPA Data Quality Objectives (DQO) process to develop specific DQOs for each monitoring project. The DQO process contains the following steps and is fully discussed in the EPA document, *Guidance on Systematic Planning Using the Data Quality Objectives Process EPA QA/G-4* https://www.epa.gov/sites/production/files/2015-06/documents/g4-final.pdf:

- Define the problem
- Identify the goal of the study
- Identify information inputs
- Define the boundaries for the study
- Develop the analytical approach
- Specify performance or acceptance criteria
- Develop the plan for obtaining data

7.2 Specific Project Planning - QAPP Processes

All federally supported projects which generate, use or compile monitoring data require an approved QAPP. Project managers use the guidance documents and generic QAPP documents developed by the Air QA Officer. The Air QA Officer uses *ADEC's Ambient Air Monitoring QAPP Checklist* (http://dec.alaska.gov/air/am/QAPP%20Checklist%2007_25_07.pdf) to ensure all QAPP elements are included in each project-specific QAPP document.

A good QAPP addresses the *who, what, why, when, where* and *how* of a project, with emphasis on the *why* and *how*. It is a road map for successfully carrying out a project and ensuring the collection of valid data. The ultimate goal of a project is to produce a defensible data set. Therefore, project objectives must be clear and the sample design must meet project objectives. The sampling and analytical protocols must be correct, and data management must include accuracy and security. Elements of an approvable QAPP must include the following, if applicable:

- Title and Approval Sheet
- Table of Contents

- Distribution List
- Project/Task Organization
- Problem Definition/Background and Project Objectives
- Project/Task Description
- Quality Objectives and Criteria for Measurement of Data
- Special Training/Certifications
- Documents and Records
- Sampling Process Design
- Sampling Methods
- Sample Handling and Custody
- Analytical Methods
- Quality Control (QC)
- Instrument/Equipment Testing, Inspection and Maintenance
- Instrument/Equipment Calibration and Frequency
- Inspection/Acceptance of Supplies and Consumables
- Non-direct Measurements
- Data Management
- Assessments and Response Actions
- Reports to Management
- Data Review, Validation, & Verification Requirements
- Validation and Verification Methods
- Reconciliation with User Requirements

Each project QAPP fully describes the QA and QC assessments and how potential problems are to be addressed. QAPP documents must provide the protocol for problem identification, notification and corrective action that must be followed should quality problems arise. If necessary, the QA Officer is brought into the discussions to resolve problems. Should the approved QAPP require significant modification, all QAPP signers must sign the modified document.

Standard Operating Procedures (SOPs) augment project QAPPs. SOPs provide specific uniform directions for conducting routine operations (e.g., monitoring methods, instrument operations, laboratory procedures, data validation procedures, etc.) such that data collected in accordance with these procedures will yield data of known and acceptable quality. ADEC's long standing SOPs were approved by EPA several years ago and are in the process of being revised to reflect changes in equipment and federal requirements. Additional SOPs are being developed as ADEC implements new trace-level monitoring methods/procedures into its routine ambient air monitoring activities. These SOPs are available on the ADEC AM&QA web site, http://dec.alaska.gov/air/am/am_sops1.htm.

8.0 ASSESSMENT AND CORRECTIVE RESPONSE

8.1 AM&QA Program – Review, Assessment and Corrective Action

EPA is mandated to audit state agency Quality Systems once every 3 years. The AM&QA Program will undergo periodic external audits to ensure achievement of the Quality Assurance objectives expressed in the Air Quality Management Plan. EPA or contractors may perform these audits. External audits will determine the adequacy of, and adherence to, the Air QMP policies for Quality Assurance within the AM&QA and project-specific ambient air monitoring QAPPs.

External audit results and recommendations are reported to ADEC's Division of Air Quality Director and to EPA. Following an external audit, the AM&QA Program Manager and Air QA Officer will review and evaluate the provided recommendations. The AM&QA Program Manager and the Division of Air Quality Director decide what recommendations are to be included in updated Air Quality Management Plans and the implementation schedule.

The Air QA Officer provides management oversight by periodically conducting program management reviews. These reviews provide an independent qualitative assessment of whether the AM&QA Program's Air Quality Management Plan Quality System, policies, procedures, and practices adequately generates the type and quality of data required. Management supports the Air QA Officer in the efforts to assess situations, identify the problems and issues and recommend solutions. Assessment results are described in the Air QA Officer Quality Assurance reports to ADEC Division of Air Quality Director and EPA. The Air Quality Division Director in consultation with the AM&QA Program Manager decides which recommendations will be included and implemented in the subsequent Air QMP update.

8.2 Quality Assurance Project Plans – Review, Assessment and Corrective Action

All staff involved in data generation, compilation and use are responsible for overseeing the quality assurance activities within the realm of their responsibilities. This includes identifying and responding to quality assurance problems and needs. Program Managers and the Air QA Officer must be kept informed of all AM&QA Program and project-specific problems, needs and corrective actions. Corrective action must be taken promptly to resolve program and project-specific problems. The Air QA Officer developed a Corrective Action Form available to all Air Program staff involved in ambient air and meteorological monitoring Quality Assurance activities. Quality Assurance Project Plans will be reviewed for adequacy and modified as necessary.

The Air QA Officer and Project Manager(s) assess specific projects through site inspections, performance audits, technical systems audits and data reviews. The Air QA Officer may accompany the ADEC Project Manager, grantee, permittee project manager, or quality assurance officer on routine monitoring events to conduct project assessments. The contracted laboratory, or grantee, or permittee, is responsible for verification and validation of all field and laboratory data. However, ADEC Project Managers and/or the Air QA Officer will spot check project data

for projects within their realm of responsibility to guarantee data quality. The ADEC Project Manager and/or Air QA Officer or his designee will review and verify project-specific data for at least 5% of projects with ADEC-approved QAPPs. All data and reviews are retained for at least five years on the State's data server.

On-site inspections and data verification ensure approved QAPP requirements are being met, and uncover any quality assurance or quality control problems. The ADEC Project Manager and the Air QA Officer will work with the ADEC monitoring staff, permittee, or grantee, to resolve all quality assurance and quality control problems in a timely manner.

Assessments are based on the following:

Quality Assurance Project Plan –
Before the project begins, the Air QA Officer and the Project Manager use the QAPP to evaluate the adequacy of facilities, equipment, supplies, personnel and existing procedures to meet project objectives and identify the data quality indicators. Deficiencies or inadequacies are discussed with the ADEC monitoring staff, the grantee, permittee, management and technical experts, as necessary. Decisions on how to proceed are based on the findings.

Quality Control Indicators –
Project staff use quality control indicators to identify problems with sampling and analytical procedures and to highlight anomalous results. Quality control indicators can include blanks, standard reference materials, QC check samples, replicates, spikes and alternative methods. QAPPs will describe the precision, accuracy, completeness, comparability and representativeness required. Identified problems are documented in the project file. Corrective action is subject to the same technical assessment as the original procedures.

Project Review/Assessment –
As each project is concluded, the Project Manager evaluates it for completeness, accuracy, and whether it met project objectives. The procedures used and the documents generated are evaluated for adherence to approved QAPP, EPA and ADEC policies and procedures.

Reports –
The preparation of the interim and final project reports, assembly of the project file and database are important milestones in the assessment process. These documents and database files provide the information necessary to make environmental management decisions based on sound science.

Project Report –
Preparation is the responsibility of the Project Manager and/or the grantee or permittee. It summarizes the project and presents observations, and the monitoring and measurement results. The Project Manager is responsible for ensuring the data and observations are internally consistent and meet QAPP project objectives.

Project File –
This file is the repository of documents related to the project, including both field and laboratory records. The Project Manager must ensure relevant documents are in the file. The file must be secured in accordance with ADEC policies and procedures.

EPA AQS Database –
Project Managers and the Air QA Officer work directly with the ADEC Air Quality System (AQS) Data Base manager to ensure that all data which enters the EPA AQS data base meets the QA requirements described in the Air QMP.

9.0 QUALITY IMPROVEMENT

Quality Improvement can occur if each AM&QA Program staff member becomes aware of quality problems and discusses these problems and their resolution with appropriate management staff. Action then is necessary from management to commit to quality improvement. The Air QA Officer will be consulted or informed of action taken to improve quality.

The process of constant assessment and review at the project-specific QAPP level by the Air QA Officer and Project Managers begins the Quality Improvement process. At the project level, the ADEC Project Manager coordinates with the grantees, permittees and AQ monitoring staff to assure that the QAPP has all the required elements and is signed by all parties. This document sets the standard that the project must meet. During projects, AQ Project Managers interact with grantees, permittees and monitoring staff to ensure that quality assurance and quality control problems are identified and solved. This happens as data are reviewed, validated and verified, and during field and laboratory inspections and audits.

The AM&QA Program Manager with support from the Air QA Officer reports on QA/QC progress in the ADEC-EPA Performance Partnership Grant (PPG) and/or single source funded grant reports as required. These reports include the products and processes of the previous fiscal year, QA progress, problems, and recommended improvements.

EPA recommends Quality Management Plans be reviewed and updated at least every 3 years. The Air QA Officer and the AM&QA Program Manager will annually review and assess Alaska's ambient air quality monitoring Quality System and make recommendations for improvements. If acceptable, these recommendations will be incorporated into the subsequent Air QMP. Outside audits of the AM&QA Program will also allow ADEC to determine how well the Air QMP quality assurance policies are being implemented.

10.0 REFERENCES

ADEC Professional Service Contract Guidance*, Amended 2015*

Alaska Ambient Air Quality Standards Regulations, 18 AAC 50.10*, Amended September 26, 2015*

Quality Assurance Project Plan for the State of Alaska Air Quality Monitoring Program*, Feb 2010*

ANSI/ASQC E4 Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs*, 1994*

EPA Uniform Federal Policy for Implementing Environmental Quality Systems; Evaluating, Assessing and Documenting Environmental Data Collection/Use and Technology Programs*, EPA-505-F-03-001, March 2005*

EPA Requirements for Quality Management Plans*, EPA QA/R-2, March 2001*

EPA Performance Partnership Grant

EPA Guidance for Quality Assurance Project Plans, *EPA QA/G-5, December 2002*

EPA Requirements for Quality Assurance Project Plans*, EPA QA/R-5, March 2001*

40 CFR 50, National Primary and Secondary National Ambient Air Quality Standards (NAAQS)

40 CFR Part 53, Ambient Air Quality Reference and Equivalent Methods

40 CFR Part 58 Ambient Air Quality Surveillance

11.0 DEFINITION OF TERMS

Data Quality Indicators – sampling and/or analytical procedures used to highlight anomalous results. They can include blanks, standard reference materials, QC check samples, replicates, spikes, and alternative methods.

Environmental Data – Any measurements or information that describes environmental processes or conditions, or the performance of engineered environmental systems

Project Managers – ADEC staff Project Managers are the lead staff in the development and implementation of ambient air quality monitoring projects, in the development and administration of grants, and in the development and implementation of air quality control permits. As such, these Project Managers are the lead staff ensuring that each project Quality Assurance Project Plan follows the EPA QA/R-5 requirements adopted by the Division of Air Quality, Monitoring & Quality Assurance Program.

Project Objectives – The overall objectives (reasons) for which the environmental monitoring samples are collected and analyzed.

Quality Assurance - addresses the planning of environmental projects, implementation of work activities, assessment of the process, and the results and feedback to the process.

Quality Control - includes the scientific observations made and experimental results generated during the project.

Quality Management Plan – a document that describes the quality system in terms of the organizational structure, functional responsibilities of management and staff, lines of authority, and required interfaces for those planning, implementing and assessing all activities conducted.

Quality System – a structured and documented management system describing the policies, objectives, principles, organizational authority, responsibilities, accountability, and implementation plan of an organization for ensuring quality in its work processes, products (items) and services. It provides a framework for planning, implementing, documenting, and assessing work conducted by the organization and for carrying out required quality assurance and quality control activities.

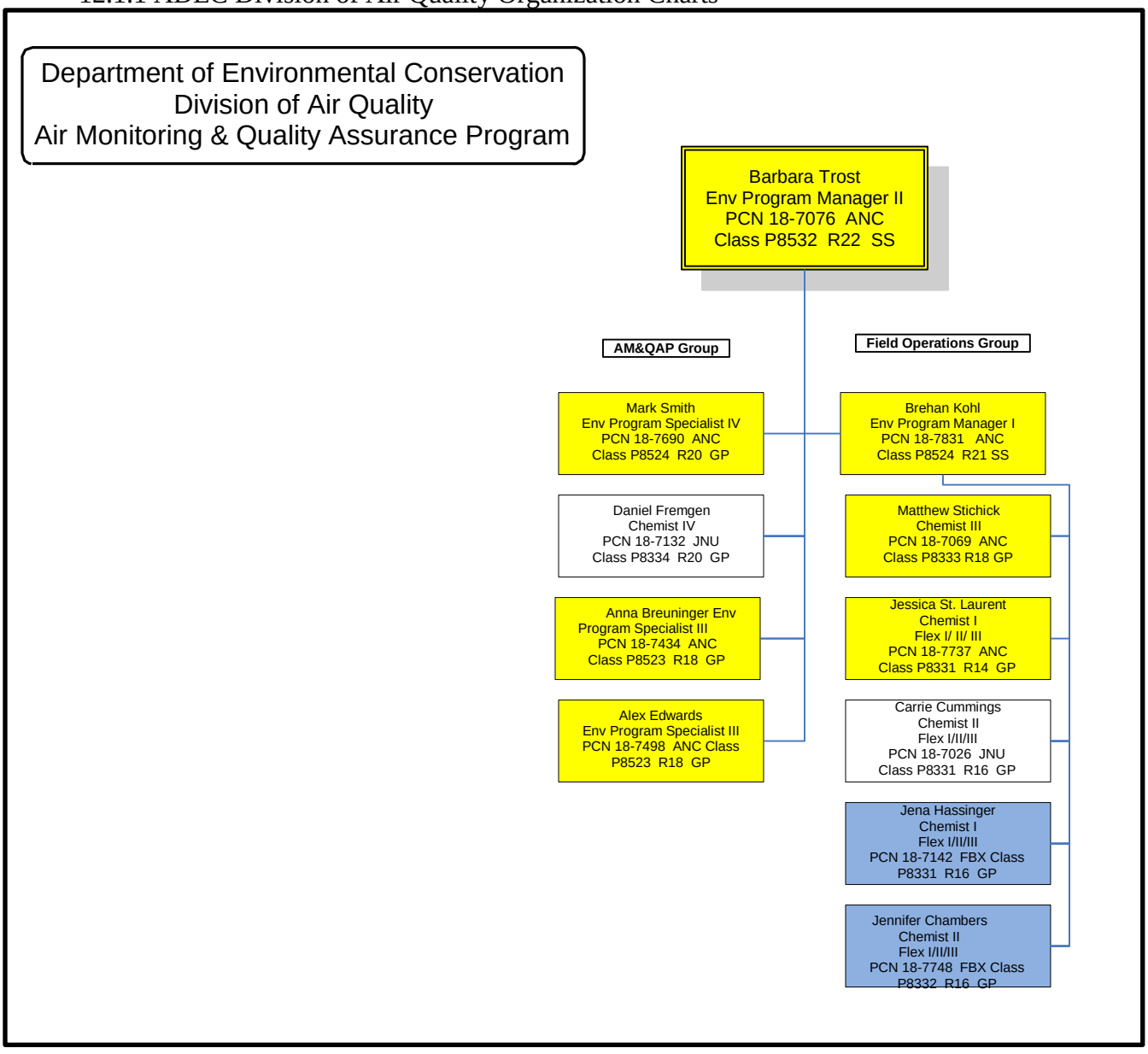
AQS – Air Quality System, a national repository for ambient air quality data developed by EPA for use by EPA, states, local agencies and tribes.

Technical Assessment Audit – The process used to measure the conformance of a measurement system to the criteria assigned.

12.0 APPENDICES

12.1 QA Responsibility

12.1.1 ADEC Division of Air Quality Organization Charts



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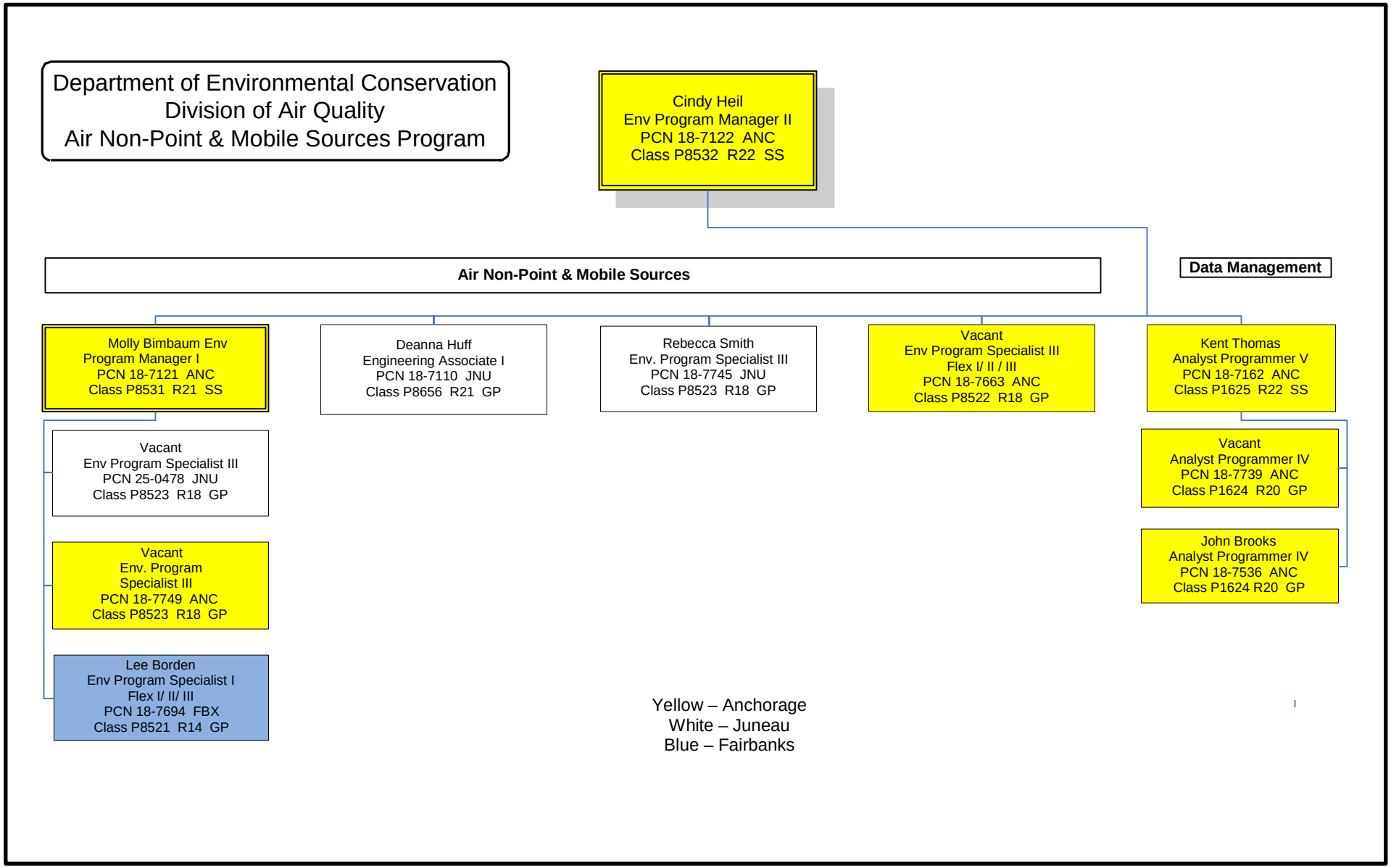
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Class P1624 R20 GP
John Brooks
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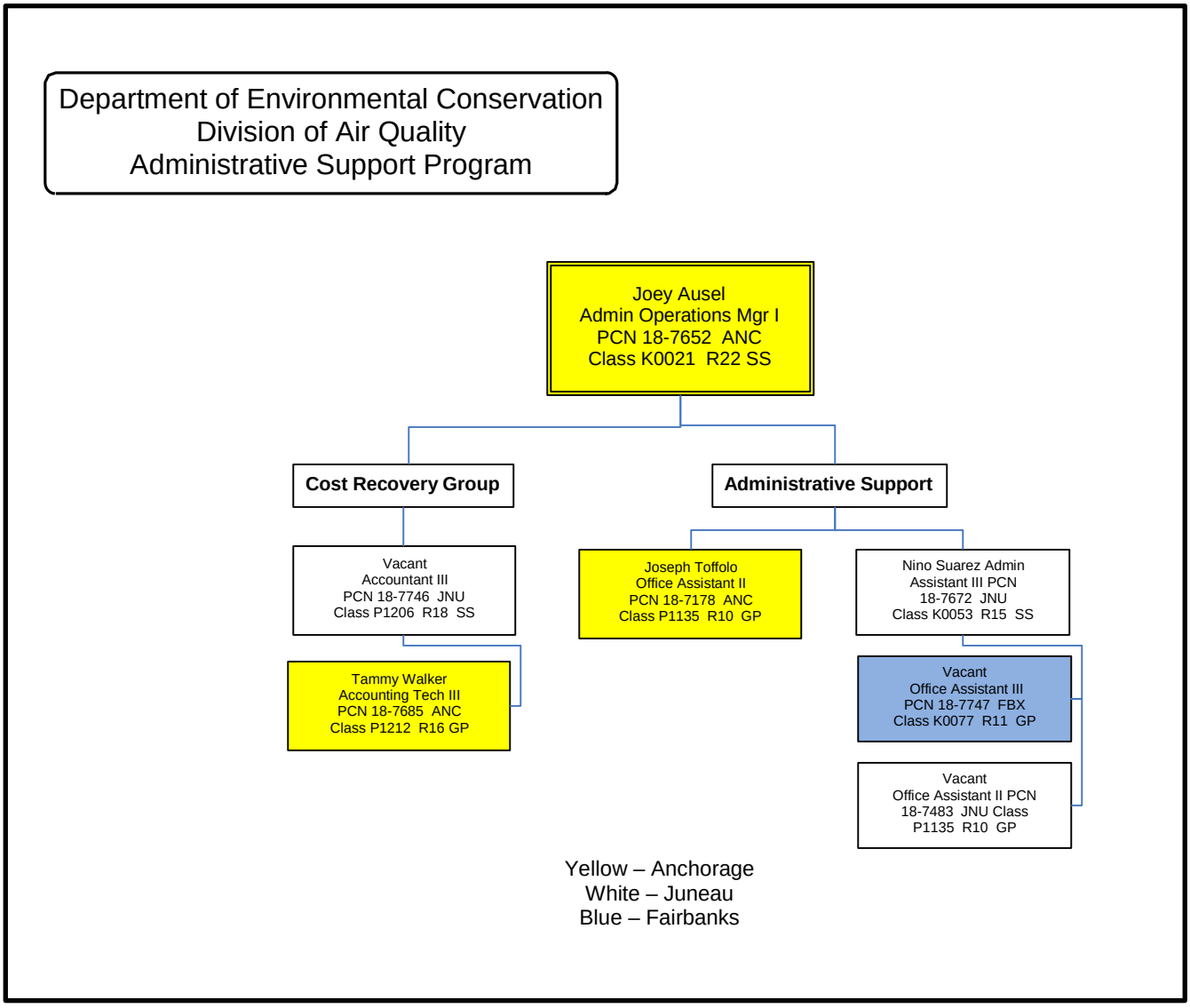
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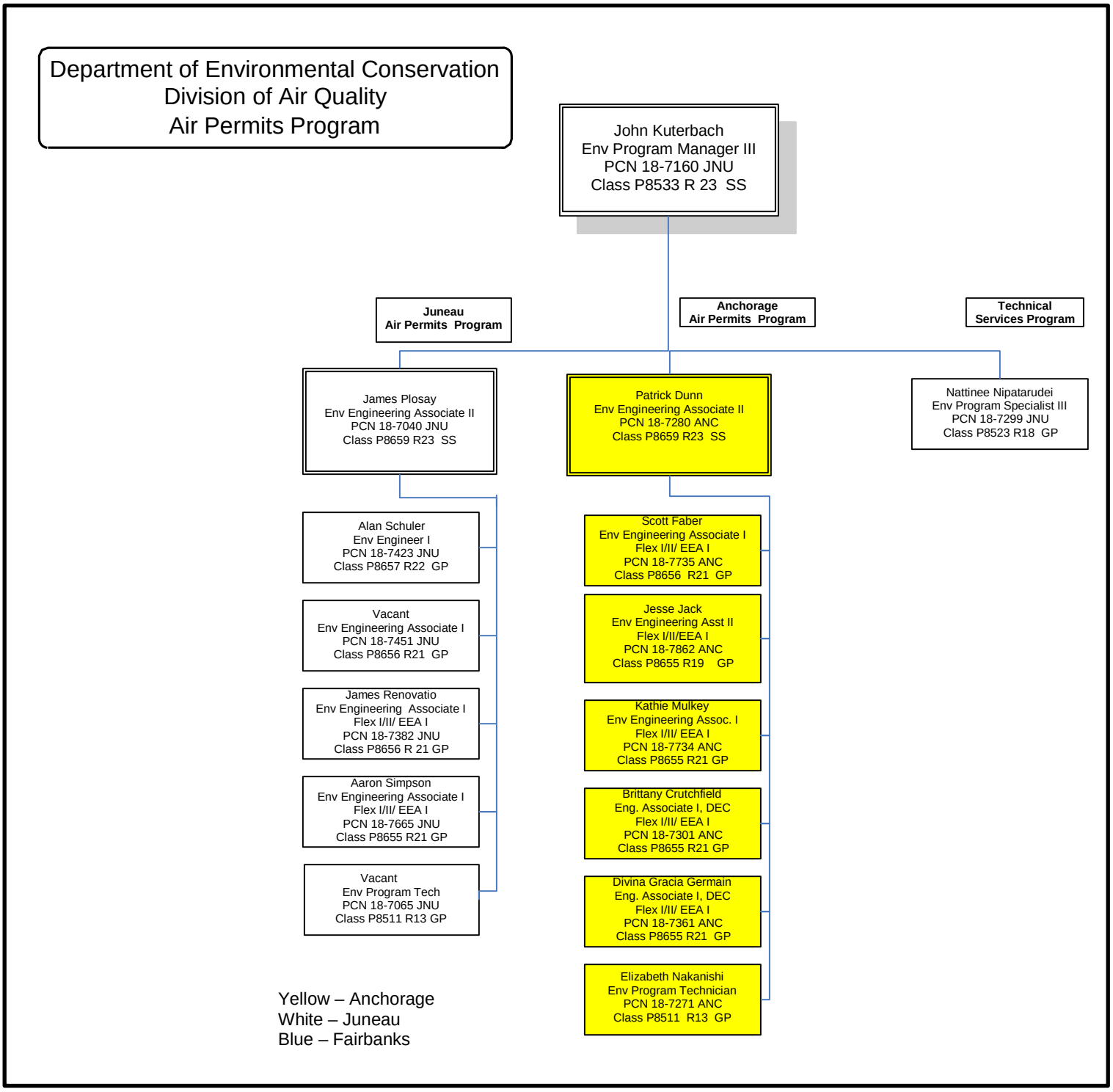
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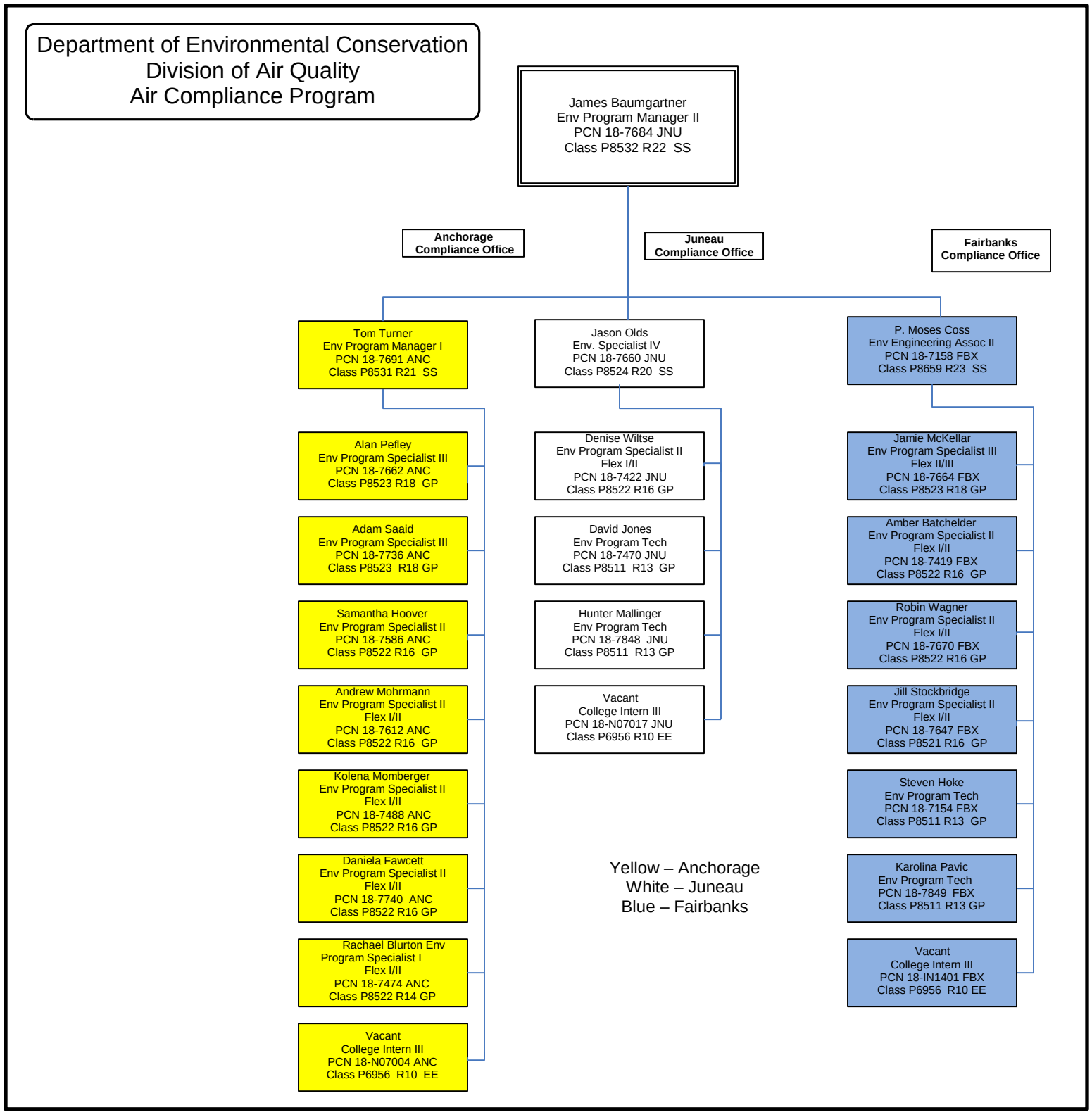
Blue – Fairbanks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Flex I/II
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Class P8522 R16 GP
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PCN 18-7470 JNU
Class P8511 R13 GP
Hunter Mallinger
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PCN 18-7848 JNU
Class P8511 R13 GP
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Yellow – Anchorage
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Jamie McKellar
Env Program Specialist III
Flex II/III
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Amber Batchelder
Env Program Specialist II
Flex I/II
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Robin Wagner
Env Program Specialist II
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Jill Stockbridge
Env Program Specialist II
Flex I/II
PCN 18-7647 FBX
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Steven Hoke
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Class P8511 R13 GP
Karolina Pavic
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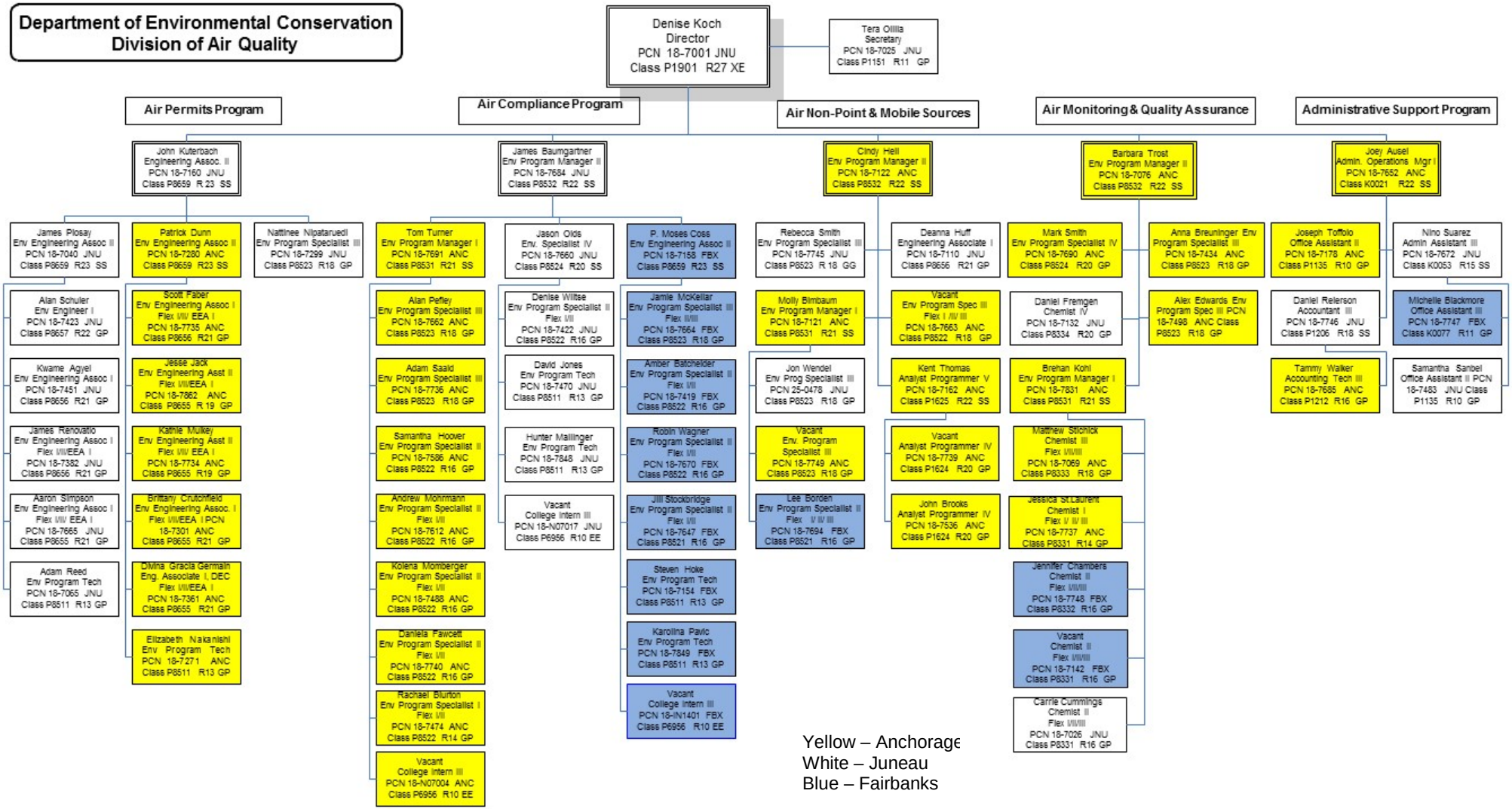
Class P8511 R13 GP
Vacant
College Intern III
PCN 18-IN1401 FBX
Class P6956 R10 EE


Department of Environmental Conservation
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Denise Koch
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PCN 18-7001 JNU
Class P1901 R27 XE
Tera Ollila
Secretary
PCN 18-7025 JNU
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Air Compliance Program
Air Non-Point & Mobile Sources
Air Monitoring & Quality Assurance
Administrative Support Program
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Env Engineering Assoc II
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Class P8659 R23 SS
Patrick Dunn
Env Engineering Assoc II
PCN 18-7280 ANC
Class P8659 R23 SS
Nattinee Nipataruedi
Env Program Specialist III
PCN 18-7299 JNU
Class P8523 R18 GP
Tom Turner
Env Program Manager I
PCN 18-7691 ANC
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Jason Olds
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PCN 18-7660 JNU
Class P8524 R20 SS
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Class P8659 R23 SS
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Class P8523 R 18 GG
Deanna Huff
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Class P8656 R21 GP
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Class P8524 R20 GP
Anna Breuninger Env
Program Specialist III
PCN 18-7434 ANC
Class P8523 R18 GP
Joseph Toffolo
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Class P1135 R10 GP
Nino Suarez
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Class K0053 R15 SS
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PCN 18-7422 JNU
Class P8522 R16 GP
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PCN 18-7664 FBX
Class P8523 R18 GP
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Vacant
Env Program Spec III
Flex I /II/ III
PCN 18-7663 ANC
Class P8522 R18 GP
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PCN 18-7132 JNU
Class P8334 R20 GP
Alex Edwards Env
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18-7498 ANC Class
P8523 R18 GP
Daniel Relerson
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Class P1206 R18 SS
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Class K0077 R11 GP
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Class P8656 R21 GP
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Class P8655 R 19 GP
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PCN 18-7736 ANC
Class P8523 R18 GP
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PCN 18-7470 JNU
Class P8511 R13 GP
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PCN 18-7419 FBX
Class P8522 R16 GP
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Class P8523 R18 GP
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PCN 18-7162 ANC
Class P1625 R22 SS
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PCN 18-7831 ANC
Class P8531 R21 SS
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Accounting Tech III
PCN 18-7685 ANC
Class P1212 R16 GP
Samantha Sanbel
Office Assistant II PCN
18-7483 JNU Class
P1135 R10 GP
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Class P8655 R19 GP
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PCN 18-7670 FBX
Class P8522 R16 GP
Vacant
Env. Program
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Class P8523 R18 GP
Vacant
Analyst Programmer IV
PCN 18-7739 ANC
Class P1624 R20 GP
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Flex I/II/III
PCN 18-7069 ANC
Class P8333 R18 GP
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18-7301 ANC
Class P8655 R21 GP
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Class P8522 R16 GP
Vacant
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Flex I/II
PCN 18-7647 FBX
Class P8521 R16 GP
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Flex I/ II/ III
PCN 18-7694 FBX
Class P8521 R16 GP
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PCN 18-7536 ANC
Class P1624 R20 GP
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Class P8331 R14 GP
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Class P8511 R13 GP
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Class P8655 R21 GP
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Flex I/II
PCN 18-7488 ANC
Class P8522 R16 GP
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PCN 18-7154 FBX
Class P8511 R13 GP
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Flex I/II/III
PCN 18-7748 FBX
Class P8332 R16 GP
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PCN 18-7271 ANC
Class P8511 R13 GP
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Class P8522 R16 GP
Karolina Pavic
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PCN 18-7849 FBX
Class P8511 R13 GP
Vacant
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Flex I/II/III
PCN 18-7142 FBX
Class P8331 R16 GP
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Class P8522 R14 GP
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College Intern III
PCN 18-IN1401 FBX
Class P6956 R10 EE
Carrie Cummings
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Flex I/II/III
PCN 18-7026 JNU
Class P8331 R16 GP
Vacant
College Intern III
PCN 18-N07004 ANC
Class P6956 R10 EE
Yellow – Anchorage
White – Juneau
Blue – Fairbanks