Water Programs
Quality Management Plan

Alaska Department of Environmental Conservation
Division of Water
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Date: Revision 6
August 19, 2010

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Quality Management Identification and Approval Form

Approval for Implementation:

Title: Water Programs Quality Management Plan, State of Alaska Department of Environmental Conservation, Division Water, Water Programs.
(This Water Program Quality Management Plan (WPQMP) is hereby recommended for approval and commits the Water Programs to follow the elements described within.)

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Table of Contents

Introduction

This Water Program Quality Management Plan (WPQMP) contains an outline of the systematic approach to quality assurance adopted in the Water Programs, Water Division, Alaska Department of Environmental Conservation (ADEC). The Water Program Quality System is a structured and documented management system, which describes the policies, objectives, principles, organization authority, responsibilities, accountability, and implementation plan for ensuring quality in its work processes, products (items) and services. This WPQMP was developed to document how Water Program staff will consistently plan, implement, and assess the effectiveness of quality assurance and quality control operations. It 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. Due to its broad scope, the resource and scheduling implications of the WPQMP are significant. The Water Programs will continue to phase in any requirements outlined in this WPQMP, which do not currently exist, such as Water Program Procedures and Guidance documents, generic Quality Assurance Project Plans (QAPPs), and Standard Operating Procedures (SOPs).

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* http://www.epa.gov/quality1/qa_docs.html. All organizations conducting environmental programs funded by EPA are required to establish, implement, and document a Quality System (EPA Order 5360.1 A2 (May 2002), EPA 5360 Manual A1 (May 2000) and 40 CFR §30.54). This Water Programs Quality Management Plan (WPQMP) is implemented statewide and ensures 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 WPQMP is to establish Division–wide consistency in the application of quality assurance and quality control practices.

1.0 Management and Organization

1.1 Quality Assurance Policy

The Director of the Division Water is committed to ensuring that all environmental data generated by or on behalf of the Water Programs are suitable for their intended use. The systems and practices presented in this WPQMP provide a framework for ensuring that the quality of all environmental data generated and processed are appropriate for their intended use, are scientifically valid, are of known precision and accuracy, of acceptable completeness, representativeness, and comparability and where appropriate, legally defensible. Implementation of this WPQMP will allow ADEC Water Program Managers

in the Water Division to make decisions based on verifiable environmental data with the assurance that environmental technology has successfully performed its intended role.

ADEC is strongly committed to aggressive quality assurance and quality control practices. This commitment compliments the EPA emphasis given to a comprehensive and coordinated Quality Assurance (QA) Program. The ADEC Water Program is developing and integrating QA practices into data collection and measurement activities within its purview. These Quality Assurance and Quality Control (QA/QC) practices are designed to generate and process data of known and appropriate quality in a cost-effective manner.

The Water Program strives to implement its Quality Assurance Program, which includes the following:

- All water programs generating, using, or requiring the collection of environmental data will follow the requirements outlined in this WPQMP.
- Management and staff will establish the intended use(s) for environmental data and the level of data quality necessary to support decisions prior to initiation of data collection efforts.
- All new environmental data generated by ADEC will be of known and documented quality using a systematic planning process.
- Acceptable and effective QAPPs and when appropriate SOPs will be developed and implemented. The Water Program has adopted the EPA requirements for project-specific QAPPs. See *EPA Requirements for Quality Assurance Project Plans, EPA QA/R5, March 2001* http://www.epa.gov/quality1/qa_docs.html and its companion document, *EPA Guidance for Quality Assurance Project Plans, EPA QA/G-5, December 2002*http://www.epa.gov/quality1/qa_docs.html.
- All environmental data generated will be of known quality. This quality, and associated level of effort, will meet the needs of the intended use of the data as stated in the individual QAPP. This WPQMP is the "umbrella" document under which project-specific QAPPs will be developed.
- Project-specific QAPP documents will be submitted to the designated Water Quality Assurance Officer (WQA Officer) for approval prior to any new environmental data collection activity. Technical and administrative authority for all QA/QC matters is the WQA Officer. The WQA Officer reports to the Water Programs Manager in matters of QA/QC (Appendix 12.1.1: Organization Chart). The designated WQA Officer will be the focal point for interaction between EPA's Regional QA/QC Program and the ADEC Water Program.
- Data quality information will be documented and available.
- Regular technical assessment audits will be conducted of program sections and projects involving environmental data collection to ensure they comply with QA/QC requirements. Deficiencies highlighted in these assessments will be addressed in a timely manner. These audits may be conducted internally or by an outside party.
- Management will define personnel and training requirements. Adequate resources to support the Water Program Quality System efforts will be provided to accomplish

objectives for all environmental data collection programs, projects, and tasks. As ADEC's partner in Water Quality, EPA supplies some of the resources to support the Water Program Quality System through the Cooperative Agreement process.

- Management will provide and support QA training. This training may be achieved through internal training and/or external sources to staff at all levels to ensure that QA/QC requirements and responsibilities are understood and implemented at all stages of projects. Some of the training needed to support the Water Program Quality System will come from EPA.

1.2 Organization Chart

The Division of Water has four Water Programs that are involved in data collection or management: *Water Quality Standards, Assessment and Restoration, Cruise Ship, Wastewater Discharge Authorization, and Compliance and Enforcement* (Appendix 12.1.1: Organization Chart). Projects undertaken or administered in these programs, which generate, use, or require the collection of environmental data, must have approved QAPPs. The Water Division has adopted the QAPP requirements in *EPA Requirements for Quality Assurance Project Plans, EPA QA/R5.* These requirements resulted from a national consensus on how to develop and implement QAPPs, (ANSI/ASQC E4), and are being followed at the federal, state, and local level.

Projects that require approved QAPPs in *Water Quality Standards, Assessment and Restoration Program* include routine and special water monitoring projects led by ADEC staff or its subcontractors. An example is the Environmental Monitoring and Assessment Program (EMAP).

Monitoring projects in *Non-Point Source Water Pollution Control Section* include any monitoring projects that involve data generation or compilation. Possible projects include non-point source grant projects funded by EPA under Section 319 of the Clean Water Act and TMDL, forestry, stormwater, and wetlands projects. ADEC staff may participate in, lead, manage, or access these types of monitoring projects.

Projects in the *Wastewater Discharge Authorization Program* include all wastewater discharge permit self-monitoring projects and ADEC staff inspection monitoring activities. These projects and others are developed, implemented, and/or administered by ADEC Water Program Managers and their staff. Example types of monitoring include direct measurements or data generation, environmental modeling, compilation of data from literature or electronic media, and data supporting the design, construction, and operation of environmental technology.

The WQA Officer works with the Water Program Managers and their staff to ensure that each data collection project has an approved QAPP, and that data are collected per the approved QAPP.

1.3 Responsibilities and Authorities for Quality Assurance

ADEC Water Division Directors

Name: Lynn Kent, Director
Water Division
Phone: (907) 269-6281

Name: Vacant, Deputy Director
Water Division
Phone:

Responsibilities: Provides overall water policy definition, leadership, and oversight for the Division's Quality System and serves as the overall authority for directing activities in accordance with Department policies and regulations, particularly 18 AAC 70 Alaska Water Quality Standards (as amended through September 19, 2009) 18 AAC 72 Wastewater Disposal (as amended through J December 23, 2009), and 18 AAC 83 Alaska Pollutant Discharge Elimination System (APDES) (as amended through October 31, 2008).

ADEC Water Programs Managers

Name: Sharmon Stambaugh, Manager
Water Quality Programs
Phone: (907) 269-7565

Name: Bill Griffith, Programs Manager
Facilities
Phone: (907) 269-7601

Responsibilities: Provides policy definition, leadership, and oversight for the Water Programs Quality System and serves as the overall authority for directing its activities in accordance with Department regulations and policies. Responsibilities, with respect to quality, include serving as the final authority for resolving quality-related issues, ensuring that the proper training is provided and that resources are available to support the quality approach, and ensuring that the WPQMP is in place and functioning.

ADEC Water Quality Program Managers

Name: Sharon Morgan
Program Manager
Phone: (907) 465-5530

Wastewater Discharge Authorization

Name: Chris Foley — Phone: (907) 269-4632
Program Manager
Compliance and Enforcement

Name: Nancy Sonafrank — Phone: (907) 451-2726
Program Manager
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Name: Marit Carlson-Van-Dort — Phone: (907) 465-5871
Acting Program Manager
Cruise Ship

Name: Greg Magee — Phone: (907) 269-7613
Program Manager
Village Safe Water

Name: Michelle Bonnet — Phone: (907) 465-5158
Program Manager
Water Information Management

Responsibilities: The Program Managers have the primary responsibility for facilitating the development of project-specific QAPPs and conducting data review, inspections and audits of these monitoring projects, within their respective programs.

These sections are:

- APDES permitting (domestic, industrial, and storm water discharges)
- Compliance and Enforcement
- Water Quality Standards, Assessment and Restoration (Assessment and Reporting, Water Quality Standards, Monitoring, Non-point source and Quality Assurance)
- Cruise Ships
- Village Safe Water
- Water Information Management

ADEC Water Quality Assurance Officer (WQA Officer)

Name: Richard Heffern Phone: (907) 465-5305

Responsibilities: Provides Water Program-wide focus on quality management. Ensures that management and staff members recognize their respective QA responsibilities, reporting mechanisms, and methods of dispute resolution. Ensures that staff is knowledgeable about current quality policy, requirements, and guidance. Establishes quality policy in coordination with management. Serves as quality program liaison between the Water Program and the EPA regional office. Maintains resource file of quality-related documents. Coordinates updating the Water Quality Management Plan. Provides EPA with QA mid-year and end-of-year reports as per the Performance Partnership Agreement (PPA).

The WQA Officer approves project-specific QAPPs, reviews and validates/verifies data, and audits projects to ensure compliance with approved QAPPs. The WQA Officer performs system assessments of the Water Program or parts of the Water Program to determine the progress made to become a Quality System and reports these findings to the Water Programs Manager.

Water Quality Programs Project Managers and Staff
Wastewater Discharge Authorization
Compliance and Enforcement
Water Quality Standards, Assessment and Restoration
Cruise Ships

Facilities Programs Project Managers and Staff
Village Safe Water

Water Information Management Project Managers and Staff

Responsibilities: During the planning of grant, permit or other monitoring projects, these individuals are 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, these individuals are responsible for ensuring that the quality of the information generated meets the requirements in the approved QAPPs.

Specifically, these individuals are responsible for the following:

- Primary responsibility for facilitating the development, renewal and implementation QAPPs according to EPA QA/R-5 requirements, by providing technical assistance and training to permittees, grant recipients, consultants, federal, state and local government representatives, tribes, and ADEC water monitoring staff.
- Review, approve and sign, if acceptable, final QAPP, along with the ADEC WQA Officer.
- Review data as they become available and provide technical assistance, as necessary, to ensure compliance with approved QAPP.
- Working with the Water Information Management staff, assure that applicable data become part of the ADEC statewide AWQMS (Ambient Water Quality Monitoring System)in an acceptable manner.
- Enter data into the State permitting and compliance system DROPS (Discharge Results and Online Permitting System) and/or the EPA-hosted ICIS/NPDES (Integrated Compliance Information System – National Pollutant Discharge Elimination System).
- With the assistance and guidance of the WQA Officer, assesses and audit projects to ensure compliance with approved QAPPs.

2.0 Quality System Description and Implementation

The Water Program Quality System provides a framework for planning, implementing, documenting, and assessing work conducted within the Water Program. The purpose of this system is to enable the Water Programs to generate the type and quality of information required to fulfill its environmental mission.

The foundation of this Quality System is management's commitment to quality as described in this WPQMP. The ADEC Water Program Quality Program reflects management's philosophy, and stands as a guiding principle for all environmental data collection activities. It states that all personnel have responsibility for quality, and with management support, will continually strive to build quality into work processes, products, and services. Management provides policy definition, leadership, and oversight for its Quality System. Management is responsible for allocating resources, so that the Water Program Quality Program can be implemented.

2.1 Quality Assurance Project Plans (QAPPs)

Water Program Managers and their staffs (Project Managers and other Water Program staff) are responsible for facilitating implementation of project-specific QAPPs in the field and in the laboratory.

Project Managers in the four Water Programs are the lead staff in the development and implementation of Water Program monitoring projects, in the development and administration of grants, and in the development and maintenance of wastewater discharge permits. As such, the Project Managers are the lead staff ensuring that each site-specific project QAPP follows the EPA QA/R-5 requirements and ADEC Division of Water QA Guidance documents adopted by the Water Program.

The WQA Officer is available to provide training and technical assistance to Project Managers, other Water Program staff, grant and permit recipients, consultants, etc., during all phases of the QAPP, from development through implementation and validation. The WQA Officer can provide technical assistance in development of project objectives and data quality indicators, appropriate sampling and analytical methods, and other aspects of the QAPP. A final draft QAPP will be reviewed by the WQA Officer and the Project Manager If the document is acceptable, both sign the approval page, along with the grantee or permittee project manager and project quality assurance officer. By signing, all parties agree that the QAPP will be followed during project implementation.

Any self-monitoring, water quality monitoring, or a water quality special study performed as a condition of an APDES permit will follow the same QAPP requirements. The Department will prioritize reviews of QAPPs required under an APDES permit that do not require Department approval. The Department's intent is to provide comments within 30 working days. If an APDES permit requires Departmental approval of a QAPP, the WQA Officer will provide comments within the timeframe established in the APDES permit.

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ADEC Water Program Project Managers for ADEC water monitoring projects, grants, or permits are the first points of contact as data are delivered to the Water Program. Whenever problems occur with monitoring protocols or elements of the approved QAPP, Project Managers discuss and resolve these problems in coordination with the WQA Officer when needed. Major modification of an approved QAPP requires that all signers approve/sign the modification. Minor modification of an approved QAPP only requires that ADEC and the Project Manager agree to the modification and notify all members listed in the QAPP Distribution List.

The goal of the Water Program is to make data verification and validation a major component of each QAPP. Data review, verification, and validation will be the responsibility of the permittees, grant recipients, consultants, and contractors, etc. Water Program Project Managers and the WQA Officer will review and validate data and audit

projects with approved QAPPs as needed to ensure that these projects are following the requirements of the respective QAPP. ADEC Project Managers will provide the WQA Officer with copies of project data and/or summary reports as requested. The WQA Officer will strive to audit 5% of Water Program projects with approved QAPPs. However, with the increase demand for QAPP review/approvals due to ADEC's assumption of the APDES)Program, the WQA Officer will generally prioritize the need for QAPP review/approvals of monitoring plans above program audits. The WQA Officer and the Water Project Manager, if possible, will accompany the grantee and/or permittee project managers and/or their QA officers during monitoring events and/or lab analyses. These audits will ensure that the monitoring is carried out in accordance with the QAPP. The recommendation isthat these audits include data review, verification, and validation. Any deviations from the approved QAPP must be dealt with in a timely manner,and recorded as appropriate by ADEC staff and the grantee or permittee.

2.2 Dispute Resolution

For those situations in which technical issues regarding QA are in dispute (such as the applicability of the Quality System requirements or the application of QA/QC procedures, assessments, and corrective action), resolution should be sought at the lowest management level practicable. All parties should make every effort to resolve disputes through discussion and negotiation. If unsuccessful, final resolution is made by the Water Programs Manager.

2.3 Types of Environmental Data Generated

Quality management controls are required wherever data generation or data collection occur. To ensure data quality, the Water Program requires oversight of its own water monitoring projects and of grant and permit monitoring projects. Coordination is required within ADEC between the WQA Officer and Project Managers responsible for project-specific QAPPs.

Types of environmental monitoring data include:

- Monitoring data collected by Citizens' Environmental Monitoring Groups under Section 319 (CWA) and other grants.
- Research data collected by non-profit environmental groups and universities under Section 319 and other grants.
- Baseline data collected by prospective permittees and monitoring data collected by permittees as required by wastewater discharge permits.
- Data collected by Water Program staff as baseline data, inspection, compliance, or complaint response data.
- Data collected by ADEC or its contractors to answer environmental questions to assist ADEC to make sound policy decisions, change regulations, etc.

Water Program staff are trained to perform baseline monitoring activities, make facility inspections. and respond to water quality complaints.

Generic guidance is being developed for writing water and wastewater monitoring QAPPs. QAPP guidance is being developed to cover three categories of water/wastewater monitoring projects: Tier 1, Tier 2 and Tier 3. The respective tiers relate to the data quality required to support the monitoring project. Tier 1 monitoring data is appropriate for screening assessment work and is not intended for comparison to state and federal water quality standards. Tier 2 monitoring data is intended for comparison to federal and state water quality standards. As such, Tier 2 data requires significant more QA/QC data to support data validity determinations. Most ADEC Water Program monitoring data falls under Tier 2 monitoring data quality. Tier 3 monitoring data is reserved for probable legal enforcement cases where data must withstand rigorous legal challenge to data validity. Few monitoring projects are expected to fall within the Tier 3 category.

In addition to the 3-tiered QAPP guidance structure, Tier 1, 2, and 3 QAPP review checklists are being developed to aid the QAPP reviewer by ensuring all necessary components of a QAPP are adequately defined before final approval.

A Generic Tier 2 QAPP (draft) was developed for water and wastewater monitoring to lead staff, grantees, and permittees through the process of writing an approvable project specific QAPP. The Generic Tier 2 QAPP provides types of specific monitoring criteria (EPA water/wastewater approved methods of analysis, detection limits, accuracy, precision, data completeness and sample representativeness, sample preservation and holding times, project descriptions, etc) that need to be included before the WQA Officer approves the plan. Similar Generic Tier 1 and Tier 3 QAPPs will be developed at a later date. This and other guidance documents can be found on the ADEC webpage at http://dec.alaska.gov/water/wqapp/wqapp_index.htm.. Only the most current documents are posted.

2.4 Technical Functions – Environmental Monitoring, Sampling, and Measurements

To ensure a Quality System, appropriately qualified and trained personnel must perform all sampling and monitoring activities. These activities are conducted by ADEC grantees, permittees, subcontractors, and others or by ADEC staff who perform baseline, inspection, compliance, and complaint-response monitoring. Technical functions may include sampling, testing, shipping/transporting, evaluating, validation, and verification of data.

Project QAPP implementation can include the following:

QAPP - A QAPP may either be project-specific or generic. A project-specific QAPP is developed by the grantee, permittee, contractor, Water Program Project Manager, or

Water Program staff with technical assistance from the WQA Officer, if necessary. A QAPP is signed by the Project Manager, the Project Quality Assurance Officer, the ADEC Project Manager, and WQA Officer. A QAPP for an APDES permit is signed, dated, and approved by the Project Manager and the Project QA Officer. An APDES QAPP selected for review and approval by ADEC is signed by the ADEC Project/Permit Manager and the Water Quality Assurance Officer when approved.

The Water Program develops generic QAPPs to cover routine monitoring activities such as domestic wastewater discharges, inspections of permitted facilities, and monitoring for baseline, compliance or complaint response. Generic QAPPs will have an associated fill-in-the-blank short site-specific QAPP form for each specific monitoring event.

Sampling Equipment – Field kits and lab equipment. Equipment will be calibrated and in working order. Kits will be fully stocked and reagents will be up-to-date. Expired reagents will be disposed of properly.

Custody Documents - Includes chain-of-custody forms, receipt for sample forms, and sample tags. Chain-of-custody or transmission forms are usually provided by contracted laboratories.

Field Log Books and Field Notes- Log Books are bound, page-numbered books. Field notes can be individual event sheets. Log books and data sheets contain a detailed record of what, when, where (including site maps), why, 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 logbook or on the field notes. In addition, a photographic log may be maintained.

Field Photographs - A visual record of site conditions, processes, samples, and sample source will be taken by appropriate personnel.

Standard Operating Procedures (SOPs) for sampling, field and analytical measurements – These are procedures used for routine activities. SOPs may be incorporated into or referenced in the QAPP. ADEC Project Managers are responsible for ensuring that procedures are understood and followed in the field and laboratory and that deviations from these procedures are documented.

Laboratory Standard Operating Procedures –
These are the standard procedures used by laboratories to accomplish laboratory operations. All monitoring projects implemented by ADEC staff, ADEC grantees, permittees, and contractors follow methods approved in Alaska Water Quality Standards, 18 AAC 70, unless noted in the QAPP or site-specific QAPP checklist. Each contracted laboratory has its specific SOPs)documents. When a contracted laboratory is used for analyses, its Quality Management Plan (QMP) will be referenced in the project-specific QAPP. The WQA Officer keeps all QMPs on file.

The ADEC Project Managers ensure that data quality indicators are clearly stated in the QAPP regarding the method detection levels required to meet the project-specific objectives. The WQA Officer ensures that the most current analytical procedures are available for use and that outdated and/or revised procedures are removed from use. Laboratories will submit QC sheets to the ADEC Project Manager in addition to analytical data results. APDES permittees will maintain QC data used to validate all permit required reported monitoring data and have available to DEC upon request for a minimum of 5 years. When data quality objectives are not met, laboratories will provide ADEC and the permittee with information about these anomalies, as well as a discussion regarding the appropriate QA/QC corrective actions taken.

Data Quality Requirements 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 precision, accuracy, and data completeness required by the QAPP. The selection of field and laboratory analytical test methods and appropriate detection and reporting levels are the responsibility of the Water Program Project Managers, with assistance when necessary from the WQA Officer. The methods selected must be those approved in the Alaska Water Quality Standard regulations, 18 AAC 70, unless otherwise pre-approved by the ADEC Project Manager and WQA Officer and noted in the QAPP or QAPP site-specific Checklist, and must be based on the purpose for the sample(s) as stated in the QAPP. Other parameter requirements can be found in 40 CFR 136.3.

Data Quality Indicators –
These can include but are not limited to the following: blanks, standard reference materials, QC check samples, replicates, spikes, and matrix spike duplicates.. The QAPP will define for each measurement parameter/method the following minimum data acceptance criteria: precision, accuracy, detectability, and data completeness.

Analytical Results –
The ADECProject Managers, with assistance when necessary from the WQA Officer, 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 and is responsible for ensuring that data results are received in a manner consistent with the Water Program Statewide Database.

Laboratory Records –
As analyses are completed, it is the responsibility of the contracted laboratory personnel to review, verify, and validate these data. The laboratory supervisor must review and approve the data results file before it is sent to ADEC Project Managers and to ADEC grant/permit recipients or consultants. The laboratory will submit QC information sheets, along with data results, and will provide information to ADEC regarding

deviations from data quality objectives. Completed chain-of-custody or transmission forms will also be provided to ADEC. ADEC may require that the laboratory provide the following information: observations and interpretations made during analyses by the analyst, records of when and how analyses were performed, and permanent records of raw analytical results produced by various instruments.

2.5 Technical Support

Technical support for technical functions is provided by administrative staff and includes management, health and safety training, document and record management and information retrieval, and computer hardware and software administration.

2.6. Operational Policies, Procedures, Guidance, and Tools

The Water Program Quality System for environmental monitoring, sampling, and measurement activities include:

- Water Program Quality Management Plan (WPQMP).
- ADEC & Water Program Regulations, particularly 18 AAC 70 Alaska Water Quality Standards, , 18 AAC 72, Wastewater Disposal, 18 AAC 83, APDES, and EPA Methods 44 CFR §136.3.
- Water Program internal guidance documents.
- ADEC Water Program web pages for each Water Program.
- EPA and ADEC Quality Assurance Guidance Documents.
- Water Program Quality System Planning Processes.
- Water Program Quality System Implementation Processes.
- Water Program Technical Assessment Reviews.
- Management System Reviews.
- Mid-year and end-of-year QA reports to EPA per the PPA.
- Generic and project-specific QAPPs.

2.7 Water Program Quality Assurance Guidance Documents

The ADEC Water Program began its formal Quality Assurance Program in July 1999. Since that date, the designated WQA Officer has worked with Water Program staff and grantees, permittees, and others to develop project-specific and generic QAPPs, which follow EPA requirements QA/R-5. The WQA Officer has developed several QA guidance documents and generic QAPPs for ADEC staff, its consultants, grantees and permittees. These documents are:

- *Elements of a Tier 1 Water Quality Monitoring Quality Assurance Project Plan, February 23, 2009*
- *Tier 1 Quality Assurance Project Plan (QAPP) Review Checklist, February 23, 2009*
- *Elements of a Tier 2 Water Quality Monitoring Quality Assurance Project Plan, January 15, 2010*

- *Tier 2 Quality Assurance Project Plan (QAPP) Review Checklist, January 15, 2010*
- *Generic Tier 2 Water Quality Monitoring QAPP Rev 1, July 14, 2010*
- *Any Town, Inc. Wastewater Treatment Facility Quality Assurance Project Plan, December, 2002*
- *Generic Quality Assurance Project Plan for Water Program Staff Sampling and Analysis Activities, May 16, 2003*
- *Water Program QAPP Sampling Plan Checklist Rev. 1.1, May 16, 2003*
- *Generic Quality Assurance/Quality Control Plan for Sampling and Analysis of Treated Sewage and Graywater from Commercial Passenger Vessels, January 15, 2004.* This QAPP for small cruise ships is currently under revision.
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The Quality Assurance guidance documents are found on the ADEC webpage as described on Page 15 of this document. The WPQMP, guidance documents for developing QAPPs, and generic QAPPs are available on the webpage. New documents are added as developed, and these principal tools are reviewed and updated annually to address changes in the Quality System. The WQA Officer, in coordination with the Water Program Managers, is responsible for this annual review.

The ADEC Water Program participates in the development of generic QAPPs and QMPs for citizen environmental groups and grantees. Traditionally, these parties meet annually at the Alaska Forum on the Environment Conference to discuss best sampling and analyses methods for monitoring and modify existing sampling and analyses procedures, as necessary. The ADEC Water Program's intent is to ensure that appropriate QAPP and QMP controls are in place and in practice.

The ADEC Water Program provides technical assistance to tribal groups in developing generic and project-specific QAPPs and QMPs. Data from all water quality monitoring projects will become part of the STORET database (See below for STORET discussion).

3.0 Personnel Qualifications and Training

All Water Program personnel involved in data generation, use, and compilation will have adequate education, training, and experience both in the area of their technical expertise and in QA/QC procedures to meet their designated responsibilities. All others who collect data, such as contractors, grantees, and permittees, will possess adequate experience and knowledge to perform satisfactorily all assigned duties.

3.1 Training Policy

The Water Program's policy is to provide training for management and staff that ensures that the statutory, regulatory, and professional requirements of each staff position are adequately fulfilled. Each position within the Water Program is evaluated to determine what level of education, experience, and training is necessary to carry out the duties of

the position in an effective manner. When a vacancy is filled, criteria are established for selecting a qualified individual to fill the vacancy.

Education level, training, work experience, oral presentations, publications, and membership in professional organizations are documented and maintained in personnel files.

QA/QC training for Water Program Managers and staff will be developed by the WQA Officer in coordination with the Water Program Managers. QA/QC training will be documented and records kept on file by the WQA Officer.

3.2 Training Processes and Documentation

Trained professionals perform environmental monitoring tasks such as sampling, field and laboratory measurements, instrument calibration, and data review, verification and validation.

Training courses offered to Water Program staff include, but are not limited to, Quality Assurance/Quality Control, Development of Water Quality Monitoring Programs, Statistics, Water Quality Standards and Monitoring, Permit Writing, Grant Writing, Non-Point Source Pollution Control, Enforcement, Computer Technology, Safety, and Supervision. Water Program staff attend EPA's Water Quality Standards Academy, Permit Writers Course, and Whole Effluent Toxicity (WET) training. The presenters chosen to present training courses come from government agencies, private industry, and universities.

The mechanism to identity Water Program training needs, provide training opportunities, and documenting the training received is as follows. Each fiscal year, all Water Program staff prepare individual work plans which include travel and training plans, along with estimated budgets. Water Program Managers build the Water Program annual budget using information from staff. Additionally, each employee receives periodic performance evaluations in which employee qualifications and training needs are discussed. Employee personnel files include records of employee qualifications and training received.

The WQA Officer receives annual training in QA/QC Processes. The WQA Officer is responsible for setting up a QA/QC training program for Water Program staff. In addition to formal training conferences and workshops, the WQA Officer continually works with Water Program staff to ensure that all data generated and/or utilized by ADEC Water Program staff meet the requirements of this WPQMP.

4.0 Procurement of Items and Services

4.1 Non-Professional Items and Services – Review & Approval

Procurement ranges from procuring general supplies to computer hardware and software. Stock request forms are available to all staff. These forms have fields, such as financial coding areas, which delineate requirements. Stock requests must have the signatures of the individuals granted spending approval authority.

ADEC's Division of Information and Administrative Services (DIAS) provides hardware and software computer services to ADEC Divisions. The Division Water, Water Quality Programs, receive desktop and server support from DIAS' Network Services group and software development and database integration support from DIAS' Integrated Databases group. Purchase of computer hardware and software must have the signed approval of DIAS.

4.2 Professional Services and Contracts

Whenever a Professional Services Contract is required, the Department follows the requirements of the ADEC *Professional Service Contract Manual, September 2000.*

In addition, in July 2010 two commercial analytical laboratories were included in the term contractor program. This approach provides streamlined processing for requesting and obtaining analytical support.

The Environmental Health Lab (EHL) in Anchorage is a resource that can provide specialized analytical services for the Department. For example, the AKMAP project has submitted fish samples for metals analysis to the EHL. The WQA Officer also works closely with the Environmental Health Drinking Water laboratory certification officer for microbiologicals to provide technical assistance regarding QA assessments of microbiological labs within Alaska. Due to the short holding time requirements for microbiologicals, only laboratories within Alaska are used to analyze microbiological samples using EPA-approved methods for water/wastewater analysis.

The Non-Point Source Water Protection and Restoration Section, which administers Section 319 of the Clean Water Act pass-through grants from EPA, has responsibility for grant professional services and contracts. Although these grants are exempt from the state procurement processes, the annual EPA Performance Partnership Grant to ADEC requires that anyone receiving federal EPA funds must comply with all federal laws, regulations, and guidelines related to these funds. The Non-Point Source Water Protection and Restoration Section staff administer this grant program in Alaska. The Alaska Clean Water Actions (ACWA) coordinates the water quality priorities of the state agencies: ADEC, Alaska Department of Fish and Game (ADF&G), Alaska Department of Natural Resources (ADNR), and Alaska Department of Commerce, Community and Economic Development (ADCCED). The ACWA grant process is described in the ADEC, Division of Water, ACWA webpage: http://www.state.ak.us/dec/water/acwa/acwa_index.htm. Online application is possible.

The Non-Point Source Water Protection and Restoration Section also develops and administers contracts that often involve collection of data. Contractors are required to prepare QA plans in accordance with the Water Programs' QAPP preparation guidance and acquire approval from the WQA Officer and the ADEC project manager prior to beginning data acquisition.

5.0 Documentation and Records Management

Hard copy files (paper files) of *Water Quality Assessment and Monitoring* projects, *Non-Point Source Water Protection and Restoration* grant and contracted projects, and *Wastewater Discharge Permit* projects, and other projects are filed in the office where the Project Manager works. Grant files contain the complete record of the grant administration. Wastewater discharge permit files include the process of permit development and may include monitoring and enforcement information.

The intent of the Division Water is to use permanent computer database files for water quality monitoring, grant, and permit data results to the extent possible. The Wastewater Discharge Authorization Program uses the Discharge Results & Online Permitting system (DROPS) to track permitted facilities, discharge monitoring report (DMR) data and other required reports, and compliance and enforcement data. The DROPS system uploads DMR data to EPA's ICIS-NPDES system via the Exchange node and will upload additional data families (facility and permit information, for example) as ICIS-NPDES becomes ready for these data transfers.

Originally, all ambient (not permitted discharge data) water quality data generated or collected was to be entered into the Alaska STORET (STORage and RETrieval) database after QA protocols were followed. Projects that require data collection develop QAPPs in accordance with EPA Quality Assurance Project Plan Requirements, EPA *QA/R-5*. Each QAPP defined protocols related to data collection and reporting. The QAPP served as the vehicle to populate STORET with specific project-related minimum data requirements, including QA/QC collection and analysis information required of STORET for establishing a project.

EPA is phasing out support for local STORET. Given the high level of complexity of STORET data entry and the resultant small number of data sets actually entered in Alaska's STORET, ADEC replaced STORET with the Ambient Water Quality Monitoring System (AWQMS). This system was developed by a consortium of states and EPA in Region 8 and was provided to Alaska at no cost. AWQMS is operating in production in Alaska with ambient water quality monitoring data currently entered in AWQMS and uploaded to National STORET via AWQMS.

AWQMS was implemented in Alaska in 2009 and 2010 with its first use in production occurring early in 2010. As such, it is still in its early stages of use ADEC staff and

grantees are currently being trained in the quality requirements for AWQMS data uploads and in the upload processes with the commitment by ADEC that ADEC-generated and grantee-generated data in 2010 will be entered in AWQMS.

6.0 Computer Hardware and Software

6.1 General

ADEC maintains an information technology staff within the Division of Information and Administrative Services. These staff install and maintain computers with updated Microsoft Office and other standard software. Additionally, these staff are responsible for the development and maintenance of the Exchange network that provides a standard mechanism and "node" for transferring data between ADEC, EPA, and other partner systems.

The Water Division maintains an additional Water Information Management section responsible for developing and maintaining the custom database management systems used within the Division of Water. These include permit and water quality data systems, financial tracking systems, web-based systems for permit application and permit search, and other smaller software applications.

6.2 Quality Assurance - Data Management

Ambient Water Quality Monitoring Data
Quality Assurance/Quality Control (QA/QC) of data management begins with the raw data and ends with a defensible report, preferably through the computerized transmission of raw data. Increased capability to communicate has resulted in quantum increases in data management requirements. Water Program Project Managers require grantees, contractors and permittees to use error-checking data entry templates that incorporate AWQMS compatible formats and protocols. To ensure that water quality data are made available to ADEC in AWQMS-compatible formats, Project Managers provide technical assistance to their permittees, grantees, contractors, and consultants.

Data can be uploaded to AWQMS without a full QA/QC review in order to facilitate use and capture of the data. Such data will not be given a status in AWQMS of QA "accepted" until it has been through a full ADEC QA review. Similarly, data in National STORET can be flagged with a "rejected" QA status if the QA does not pass ADEC requirements.

The data is reviewed by the ADEC WQA Officer for data to receive an "accepted" status. The WQA Officer, ADEC Project Manager, grantee if applicable, and Water Information Management programmer responsible for AWQMS work in close collaboration as the data is QA'd and loaded.

APDES-required *data.* Under the APDES program, ADEC is required to enter facility, permit, compliance, and DMR data into ICIS-NPDES. This data is either entered directly into the ICIS-NPDES national system or entered into the internal ADEC system DROPS and flowed to ICIS-NPDES. Per the Program Description for the APDES program, Section 10.3.5, ADEC enters all available Required ICIS-NPDES Data Elements (RIDE) into DROPS and/or ICIS-NPDES.

ADEC data entry staff follow the QA/QC procedures as outlined in the 1992 Permit Compliance System Quality Assurance Guidance manual. These procedures include, but are not limited to, review of draft Quarterly Non-Compliance Reports to flag data entry errors, consultation with EPA Region 10 data entry staff on data quality, comparison of data in ICIS-NPDESand DROPS after flowing to assure accurate data flow, and comparison of hard copy DMRs with data entered in the systems.

6.3 Mixing Zone Modeling Software

In addition to software programs such as Excel, which are used to build data spreadsheets, mixing zone models are used in the *Wastewater Discharge Authorization* Program. Examples include *Visual Plumes* for marine discharges and *CORMIX* for river discharges. A permit applicant requesting a mixing zone must provide the Department with all available evidence reasonably necessary to make a mixing zone decision (18 AAC 70.260). When a mixing zone model is submitted, *Wastewater Discharge Authorization* staff review the model assumptions and the validity of the data used to build the model. If these assumptions and data meet Department criteria, the model is approved and used in the permitting process.

7.0 Planning & Implementation of Work Processes

7.1 Water Program Planning

Annual planning for the Water Program occurs prior to the end of the fiscal year when managers and staff submit their annual work plans and projected budgets. Periodically during the year, Water Program Managers meet to discuss goals, objectives, and work strategies. The *Non-Point Source Water Protection and Restoration Section* holds one to two meetings annually. Database training sessions also provide the opportunity for database planning.

Senior Water Program staff participate in statewide monthly teleconferences and the Non-Point Source Section and Wastewater Discharge Authorization Program each have semi-monthly teleconferences.

The WQA Officer works with the Water Program Managers to set goals and objectives for QA/QC. Mid-year and end-of-year PPA reports to EPA include QA/QC progress reports and future goals.

7.2 Specific Project Planning - QAPP Processes

Within each of the four Water Program sections, intensive, systematic planning occurs at the development phase of each project-specific QAPP. All projects that generate, use, or compile monitoring data require an approved QAPP. Project Managers for environmental monitoring projects, grant projects, and wastewater projects use the guidance documents and generic QAPP documents developed by the WQA Officer. The WQA Officer uses the applicable QAPP review checklist to ensure that all appropriate 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*. To achieve the ultimate goal of producing a defensible data set, the objectives of the project must be very clear, and the sample design must attempt to answer the questions posed in the project objectives. The sampling and analytical protocols must be correct, and data management must include accuracy and security. Elements of an approvable QAPP, as specified in EPA QA/R-5, must include the following, if applicable:

- title and signatory pages
- distribution list
- project description
- project objectives
- data quality indicators
- list of the recipients of data and/or reports
- the experimental design
- sampling methods requirements
- analytical methods, detection, and reporting limits required
- the quality control requirements in the field and laboratory
- instrument testing, inspection, maintenance, and calibration requirements
- data management, validation, and verification requirements
- list of the number, frequency and types of assessments, such as peer review, management system reviews, technical systems reviews, technical systems audits, performance evaluations, and audits of data quality

Each QAPP fully describes the project's QA/QC assessments, and how QA/QC problems are to be addressed. QAPP documents must provide the protocol that the ADEC staff, grantee, permittee, or contractor must follow should QA/QC problems arise. The QAPP specifies the required notification procedures for quality problems that arise. If necessary, the WQA Officer is brought into the discussions to resolve problems. Should the approved QAPP require major modification, all QAPP signers must sign the modified document.

8.0 Assessment and Corrective Response

8.1 Water Program – Review, Assessment, and Corrective Action

The Water Programs will undergo periodic external audits to ensure achievement of the QA objectives expressed in the WPQMP. Contractors or EPA, who is mandated to audit state agency Quality Systems once every three years, may perform these audits. External audits will determine the adequacy of, and adherence to, the WPQMP policies within all the Water Program sections and their project-specific QAPPs.

Following an external audit, the Water Programs Manager, the Managers of the four Water Programs and the WQA Officer will review the recommendations provided by the outside auditor and evaluate these recommendations. Audit results, recommendations, and QA improvements will be reported to EPA. The Water Program Manager decides what recommendations are to be included in an updated WPQMP, as well as the implementation schedule.

The WQA Officer provides a level of independent management oversight by periodically conducting Water Program management systems reviews. These reviews provide an independent qualitative assessment to determine whether the WPQMP Quality System, policies, procedures, and practices adequately address generating the type and quality of data required. Management supports the WQA Officer in the efforts to assess situations, identify the problems/issues, and recommend appropriate solutions. Assessment results are described in QA reports to EPA. The Water Program Manager decides which recommendations are to be included and implemented in the subsequent WPQMP update.

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

All Water Program staff involved in data generation, use, and compilation are responsible for overseeing the quality assurance activities within their purview. This includes identifying and responding to quality assurance problems and needs. It is important that appropriate corrective action is taken promptly to resolve program and project-specific problems. Program Managers and the WQA Officer must be kept informed of all Water Program and project-specific problems, needs, and corrective actions.

To ensure that the policies of the WPQMP are implemented, the WQA Officer, along with the Project Manager, is responsible for the review and approval of project-specific QAPPs. The QAPPs will be reviewed for adequacy and modified as necessary. The WQA Officer will strive to meet a 30 working day turnaround time in the review of draft QAPPs.

The WQA Officer and Project Manager will assess specific projects in two ways: site inspections and data review. The WQA Officer will accompany the ADEC Project Manager and/or the grantee or permittee project manager or quality assurance officer on routine monitoring events. Although the contracted laboratory and/or grantee or permittee is responsible for the verification and validation of all field and laboratory data under their purview, the Project Manager will spot check all data for projects within the realm of responsibility. The WQA Officer will strive to review and verify project-specific data for 5% of projects that have ADEC-approved QAPPs.

On-site inspections and data verification will ensure that the requirements of the approved-QAPP are met and will uncover any QA/QC problems. The ADEC Project Manager and the WQA Officer will work with the ADEC staff, permittee, grantee, or contractor to resolve all QA/QC problems in a timely manner. No new grants or permits will be issued to the party involved until the QA/QC problems have been resolved.

Assessments are based on the following:

Quality Assurance Project Plan - Before the project begins, the WQA 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. Findings of deficiencies or inadequacies are discussed with the ADEC staff, grantee, permittee, contractor, management, and technical experts, as necessary. Decisions are made as to how to proceed based on the findings.

Quality Control Indicators - Project staff use quality control indicators to identify problems with sampling and/or analytical procedures and to highlight results outside the required Data Quality Objectives. 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. Problems identified 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 appropriateness to meet the project objectives. The procedures used and the documents generated are evaluated for adherence to the approved QAPP and EPA and ADEC policies and procedures.

Reports - The preparation of the interim and final project reports and 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, permittee or contractor. It summarizes the project and presents observations, monitoring and measurement results. The Project Manager is responsible

for ensuring that the data and observations are internally consistent, and that they 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 is responsible to ensurethat relevant documents are in the file, and that the file is secure, in accordance with the Department policies and procedures.

Statewide Data Base – Project Managers and the WQA Officer work directly with the Statewide Data Base Section Chief to ensure that all data which enters the statewide data base meets the QA requirements described in the WPQMP.

9.0 Quality Improvement

Quality improvement can occur if each Water 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 WQA 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 WQA Officer and Project Managers begins with the Quality Improvement process. At the project level, the ADEC Project Manager coordinates with ADEC staff, grantees, permittees, and contractors to ensure 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 project implemenation, ADEC Project Managers interact with ADEC staff, grantees, permittees, and contractors to ensure that QA/QC problems are identified and solved. This happens as data are reviewed, validated, and verified and during field and laboratory inspections and audits.

The WQA Officer reports on QA/QC progress in the mid-year and end-of-year PPA reports. These reports include the products and processes of the previous fiscal year, the QA progress made, identifies problems, and recommends improvements in the Water Program Quality System.

EPA recommends that the WPQMP be reviewed and updated at least every three years. ADEC will update the WPQMP at least that often. The WQA Officer will annually review and assess the Water Program and make recommendations for improvements. If acceptable, these recommendations will be incorporated into the subsequent WPQMP. Outside audits of the Water Programs will also allow ADEC to determine how well the WQMP quality assurance policies are being implemented.

10.0 References

Alaska Wastewater Disposal, *18 AAC 72, Amended December 23, 2009.*

Alaska Pollutant Discharge Elimination System Program, *18 AAC 83, Amended October 31, 2008.*

Alaska Water Quality Standards, *18 AAC 70, Amended September 19, 2009*

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

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

EPA Performance Partnership Grant *FY00 CDFA66.605*

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

EPA Order 5360.1 A2, EPA 5360 Manual A1 *and* ***40 CFR 30.54***

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

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 – The ADEC staff Project Managers are the lead staff in the development and implementation of Water Program monitoring projects, in the development and administration of grants, and in the development and implementation of wastewater discharge 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 Water 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.

SQL –Standard Query Language– a database software program developed by Microsoft..

STORET (short for STOrage and RETrieval) - is a repository for water quality, biological, and physical data and was developed by EPA for use by states and the public.

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

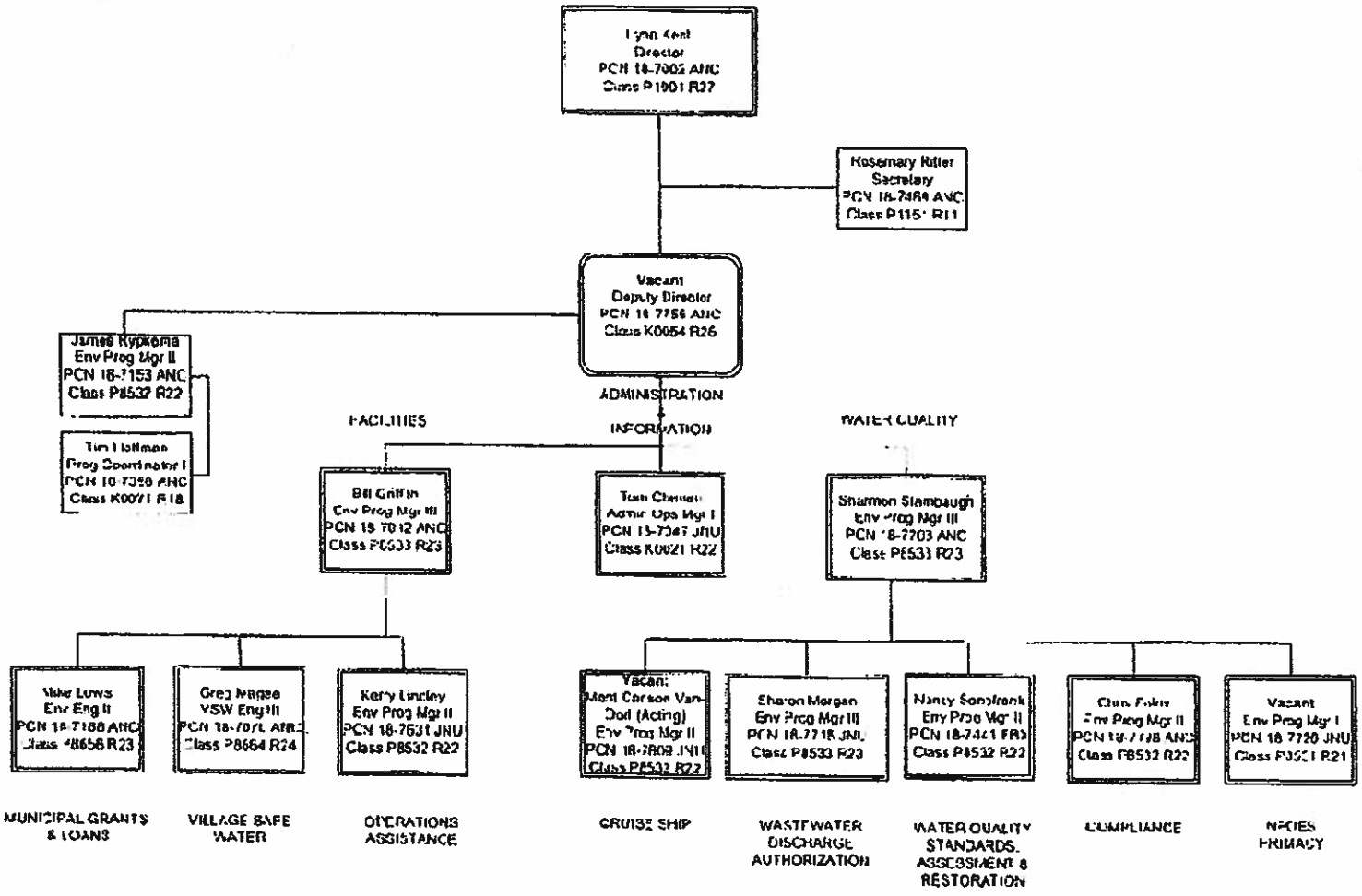
12.0 Appendix

12.1 QA Responsibility

12.1.1 Organization Charts

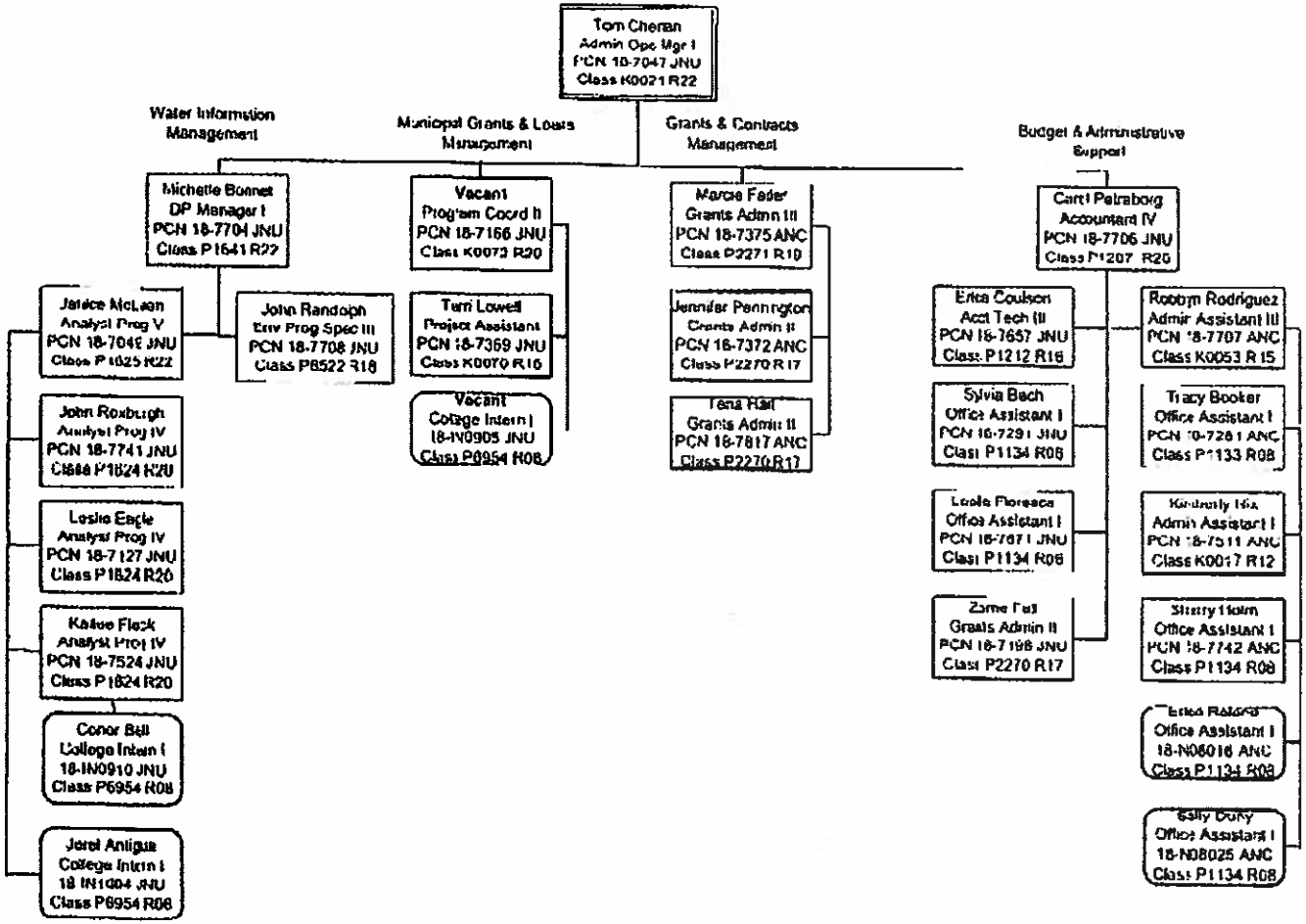
STATE OF ALASKA
ENVIRONMENTAL CONSERVATION
DIVISION OF WATER

Submitted by: Lynn Kent, Director
Effective 7/23/2010



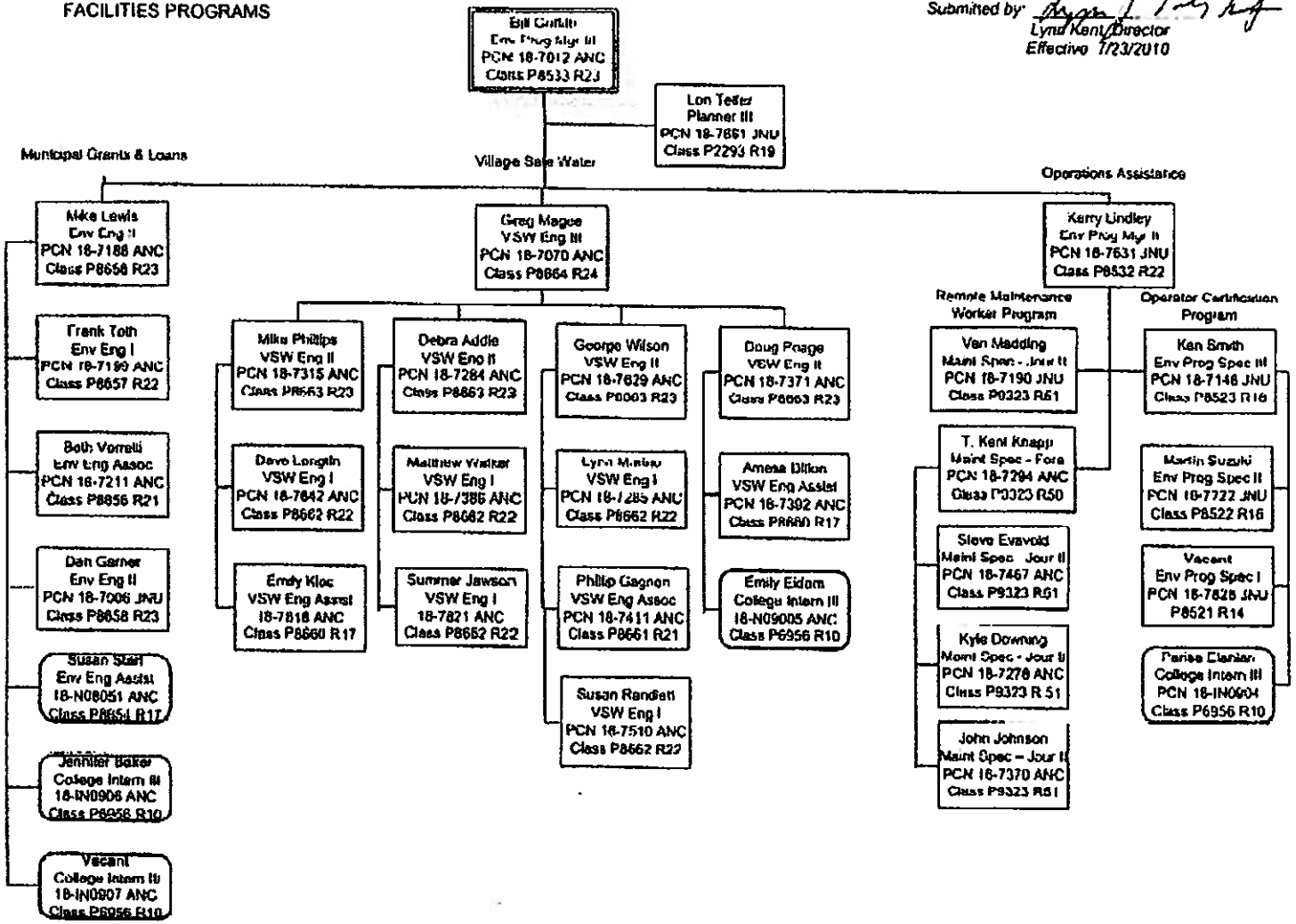
STATE OF ALASKA
ENVIRONMENTAL CONSERVATION
DIVISION OF WATER
ADMINISTRATION and INFORMATION PROGRAMS

Submitted by: Lynn Kent, Director
Effective 7/23/2010



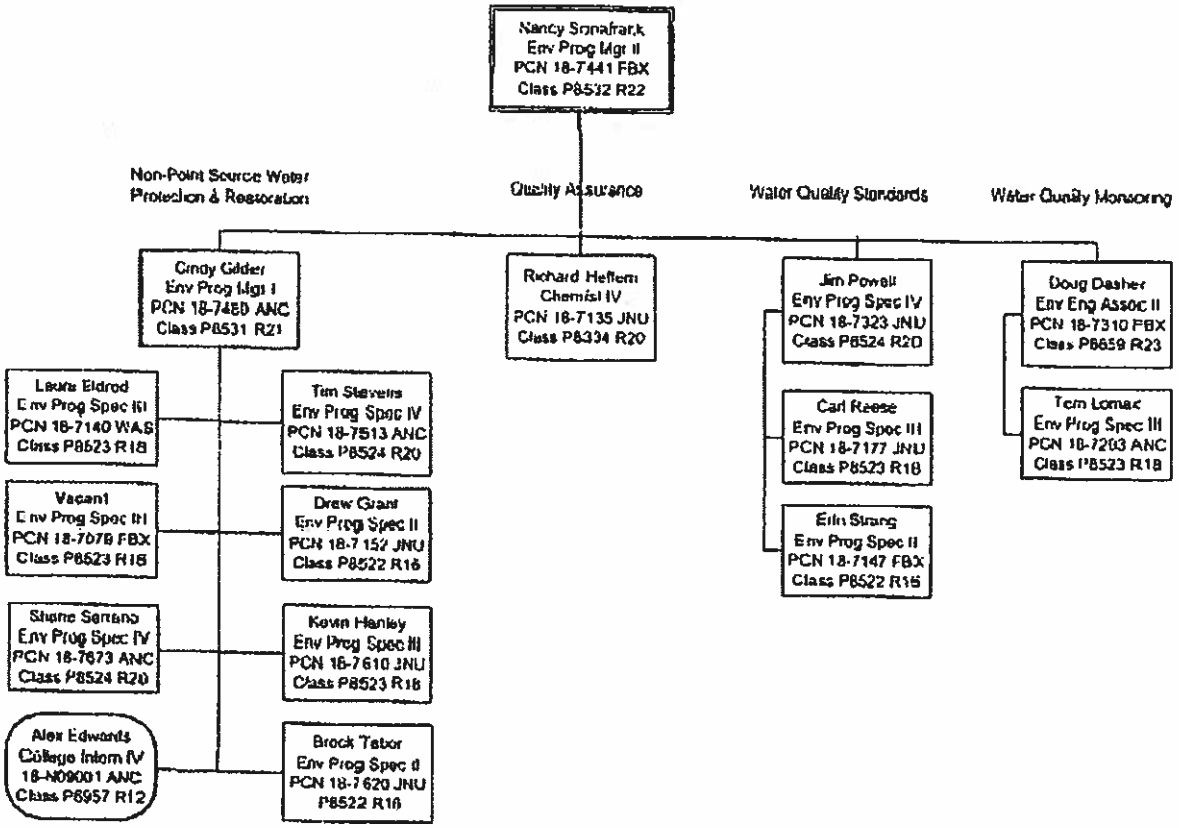
STATE OF ALASKA
ENVIRONMENTAL CONSERVATION
DIVISION OF WATER
FACILITIES PROGRAMS

Submitted by: Lynn L. Kent
Lynn Kent, Director
Effective 7/23/2010



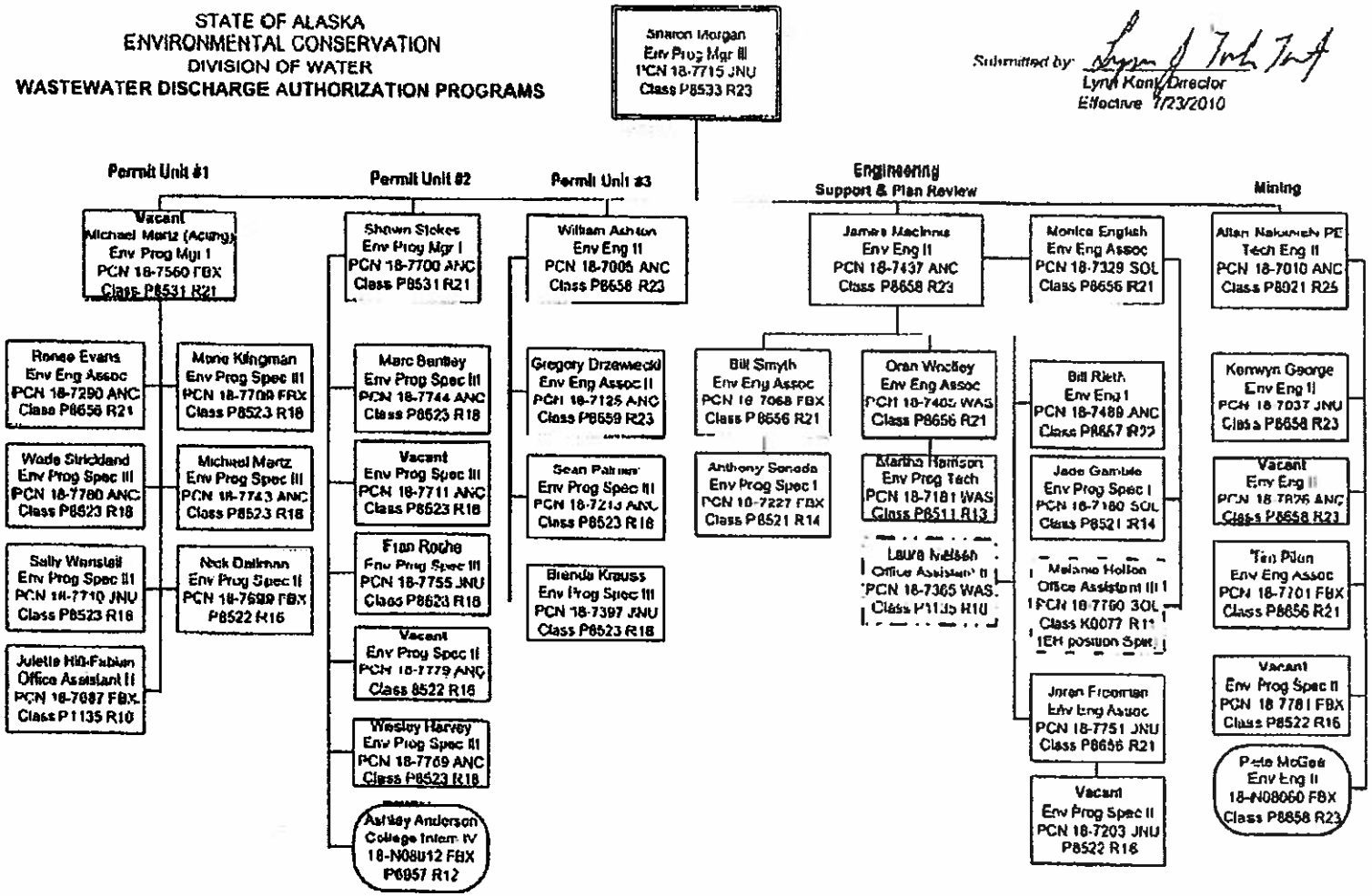
STATE OF ALASKA
ENVIRONMENTAL CONSERVATION
DIVISION OF WATER
WATER QUALITY STANDARDS, ASSESSMENT AND
RESTORATION PROGRAMS

Submitted by: Lynn Kent, Director
Effective 7/23/2010



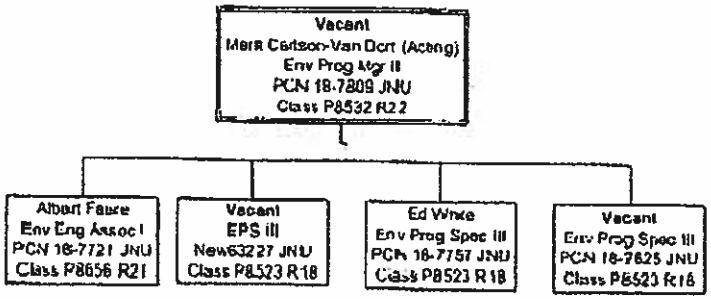
STATE OF ALASKA
ENVIRONMENTAL CONSERVATION
DIVISION OF WATER
WASTEWATER DISCHARGE AUTHORIZATION PROGRAMS

Submitted by: Lynn Kent, Director
Effective 7/23/2010



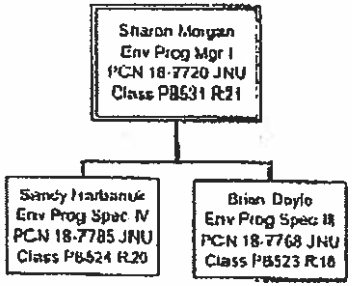
STATE OF ALASKA
ENVIRONMENTAL CONSERVATION
DIVISION OF WATER
CRUISE SHIP PROGRAM

Submitted by: Lynn J. Kent
Lynn Kent, Director
Effective 11/23/2010



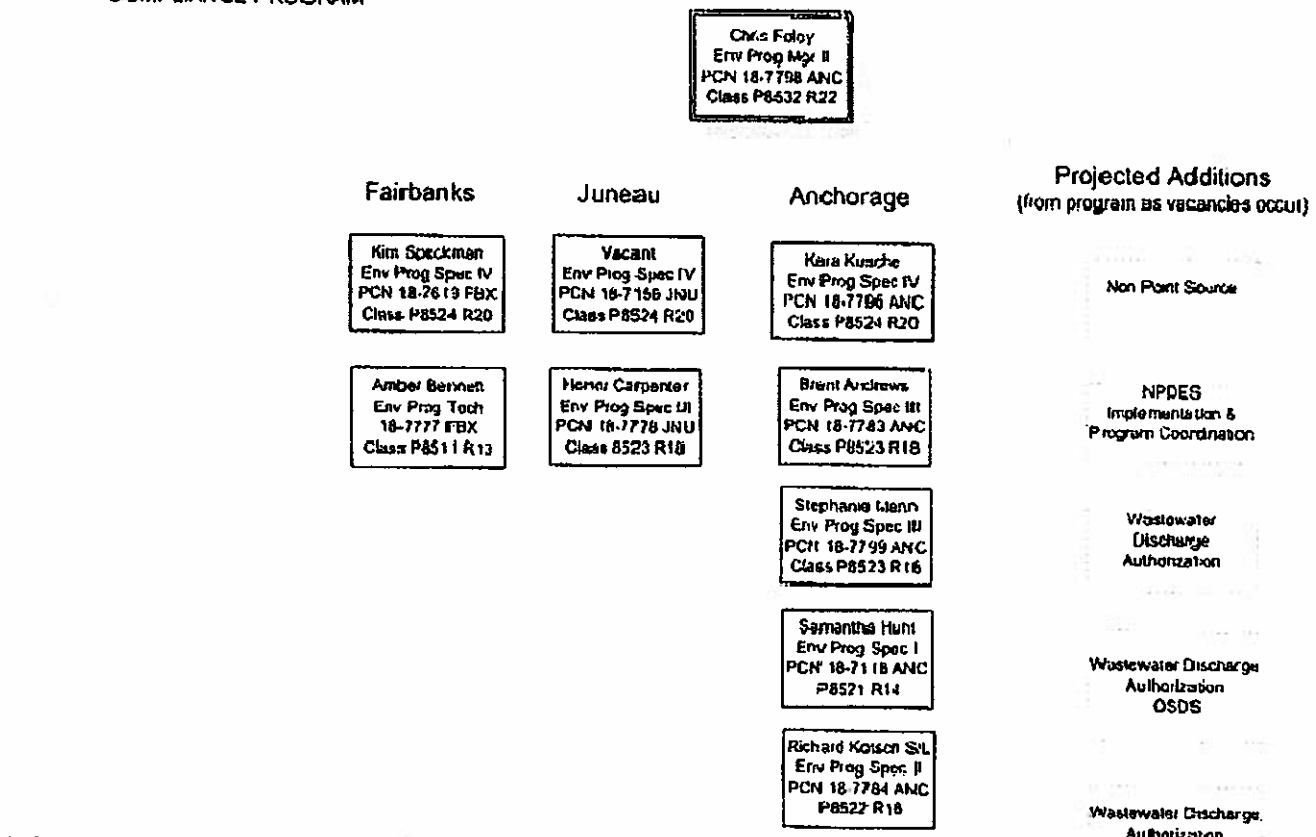
STATE OF ALASKA
ENVIRONMENTAL CONSERVATION
DIVISION OF WATER
NPDES PRIMACY

Submitted by: _____
Lynn Kent, Director
Effective 4/21/2010



STATE OF ALASKA
ENVIRONMENTAL CONSERVATION
DIVISION OF WATER
COMPLIANCE PROGRAM

Submitted by: Lynn Kent, Director
Effective 7/23/2010



NOTE: - All filled positions report directly to the Program Manager