Connecticut Department of Energy & Environmental Protection

2020-2025 Quality Management Plan for Environmental Programs Funded by The U.S. Environmental Protection Agency

State of Connecticut
Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

http://www.ct.gov/deep

Signature Page

Connecticut Department of Energy and Environmental Protection

2020-2025 Quality Management Plan for Environmental Programs Funded by The U.S. Environmental Protection Agency

Betsey Wingfield
_____   _____12/30/2020_____
Betsey Wingfield, Deputy Commissioner   Date

Nicole Lugli
_____   _____12/22/2020_____
Nicole Lugli, Director, Office of Planning & Program   Date
Development, Quality Assurance Manager

Tracy R. Babbidge
_____   _____12/29/2020_____
Tracy Babbidge, Chief, Bureau of Air Management   Date

Yvonne Bolton
_____   _____12/24/2020_____
Yvonne Bolton, Chief, Bureau of Materials Management   Date
and Compliance Assurance

_____   December 22, 2020_____
Graham Stevens, Chief, Bureau of Water Protection   Date
and Land Reuse

Environmental Protection Agency

_____   _____
Sandra Brownell, Chief   Date
Grants and Program Support Branch, EPA

_____   _____
Nora Conlon, EPA Region 1,   Date
Regional Quality Assurance Unit

Table of Contents

List of Acronyms

Air Management (Bureau)	BAM
Department of Administrative Services	DAS
Department of Energy and Environmental Protection	DEEP
Environmental Protection Agency	EPA
Fiscal Year	FY
Materials Management and Compliance Assurance (Bureau)	MMCA
New England (Region 1 states)	NE
Quality Assurance	QA
Quality Assurance/ Quality Control	QA/ QC
Quality Assurance Project Plan	QAPP
Quality Management Plan	QMP
Quality Management System	QMS
Request for Proposal	RFP
Standard Operating Procedures	SOP
Water Protection and Land Reuse (Bureau)	WPLR

1.0 Background: Introduction to DEEP's Quality Management Plan

The U.S. Environmental Protection Agency (EPA) has developed a mandatory, agency-wide Quality Assurance Program that requires all organizations performing work for EPA to develop and operate management processes for assuring that data or information collected are of the needed and expected quality for the intended use. These requirements apply to all organizations that conduct environmental data operations on behalf of EPA through contracts, interagency agreements, and financial assistance agreements. The goal of a quality management system is to ensure that all environmental data obtained and utilized by DEEP will be scientifically valid, defensible, and of known and acceptable precision and accuracy.

This document is the *Connecticut Department of Energy and Environmental Protection* (DEEP) *2020-2025 Quality Management Plan* (QMP) for Environmental Programs Funded by the U.S. Environmental Protection Agency. EPA requires that DEEP have an approved QMP in place as a condition of receiving grant funding from EPA to support environmental programs. Quality Management Plan guidance is outlined on EPA's website *QMP Requirements*. The QMP documents how DEEP will assess quality control in its environmental programs.

This plan replaces DEEP's previous QMP, which was effective August 2015. The 2020 plan is valid for up to five years by which time DEEP must prepare a new QMP and have it approved by EPA. More information on Quality Assurance and the programs that collect and utilize environmental data can be found on DEEP's website under Quality Assurance, and under the Bureau of Water Protection and Land Reuse: Water Planning and Management Division and Remediation, Bureau of Materials Management and Compliance Assurance, and Bureau of Air Management.

EPA defines a Quality System (QS) as the documented framework of an organization for planning, implementing, documenting, and assessing work performed by the agency, carrying out quality assurance and quality control activities. The Quality Management Plan (QMP) identifies the organizational structure, policy and procedures, functional responsibilities of management and staff, lines of authority, and its processes for planning, implementing, documenting, and assessing all activities conducted under the organization's quality system. EPA has published QMP requirements in the document *EPA Requirements for Quality Management Plans-EPA QA/R2 (March 2001)*, *https://www.epa.gov/quality/epa-qar-2-epa-requirements-quality-management-plans.*

EPA proposes all QMPs to address ten standard Quality System-related elements, however, EPA's QA/R2 states that each organization should evaluate the applicability of these elements to their Quality System. Although this QMP addresses these items, several sections are not tracked by this QMP because they reside in other state agencies are a part of the overall state agency system. Those specific areas would be in Computer Hardware and Software and Documents and Records.
- Management and Organization
- Quality System Components
- Personnel Qualifications and Training
- Procurement of Items and Services
- Documents and Records
- Computer Hardware and Software
- Planning
- Implementation of Work Processes

- Assessment and Response
- Quality Improvement.

DEEP's QMP follows this format in sections 3 through 12. (The "Purpose" sentence at the beginning of each of these sections comes from *R2*.)

The EPA Quality Assurance Branch in the Laboratory Services and Applied Science Division has been performing periodic Quality System assessments of New England state environmental agencies and other regional organizations subject to EPA's QS requirements, using each organization's current QMP as the primary reference for determining whether an agency such as DEEP is adhering to its stated Quality System-related policies and procedures.

Quality Management Plans must be reviewed annually, and the results of the review documented and sent to EPA. *EPA New England QA has established certain annual Quality System documentation requirements* in conjunction with the general annual review requirement. This plan will be posted on DEEP's public website (http://www.ct.gov/deep/) once it has been approved.

DEEP's Quality Assurance Program:

Quality
Assurance

Quality
System (QS)

Quality
Management
Plan (QMP)

Quality
Assurance
Project
Plans
(QAPPs)
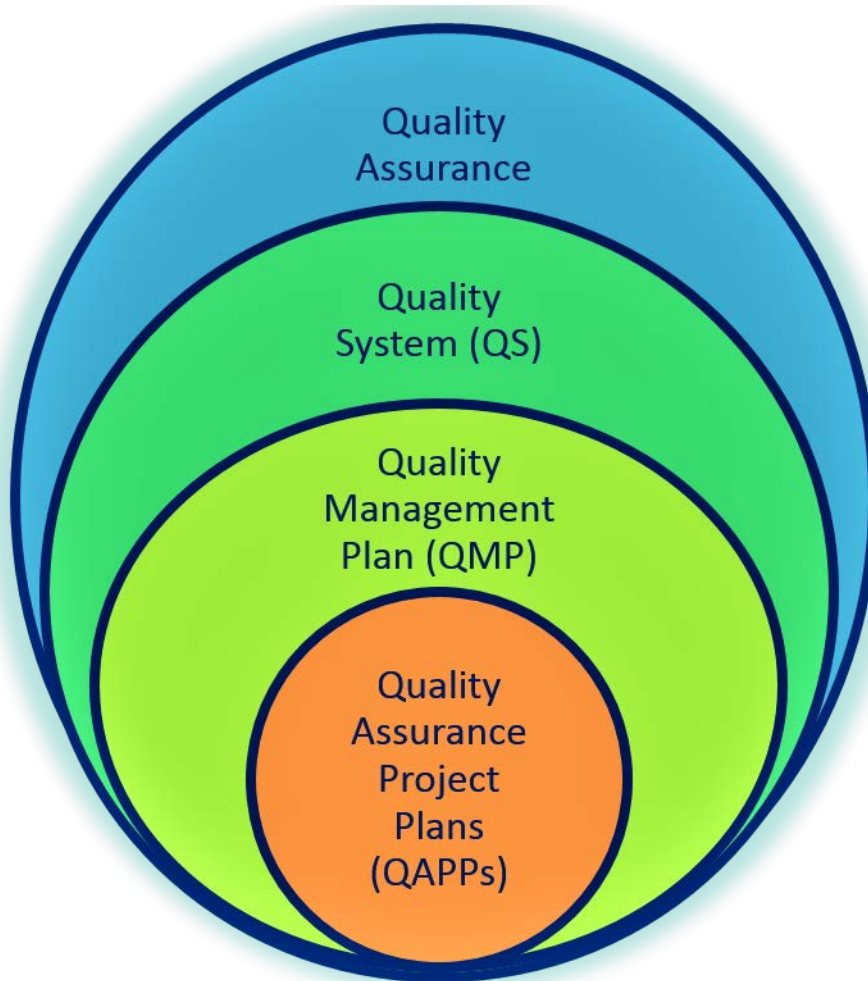
2.0 Introduction to DEEP's Quality System

DEEP established a decentralized Quality System prior to 2002 to meet EPA's Quality System requirements. Emphasis is on the program and project level where staff prepare and review Quality Assurance Project Plans (QAPPs) and submit these to EPA for review and approval. QAPPs are documents that describe the technical activities and procedures in the collection of data, to ensure the results satisfy the stated performance criteria. The Quality Management Plan is the umbrella document, under which individual projects are conducted.

The following is a summary of the characteristics of DEEP's planned Quality System:

- The system will apply specifically to environmental programs funded by EPA which acquire, generate, compile, or use environmental data and technology.

- Within those programs, system implementation will focus initially on the work undertaken through projects that require QAPPs. This includes projects that have QAPPs in development, under review, or approved and in effect at DEEP at any given time.

- Management and staff in the Environmental Quality Branch Bureaus of Air Management (BAM), Materials Management and Compliance Assurance (MMCA), and Water Protection and Land Reuse (WPLR) will have the primary responsibility and authority for ensuring that projects within their bureaus that require QAPPs have such plans developed and approved by EPA and are managed in accordance with those plans (see Section 3 for a complete description of DEP's organization). Bureau managers and staff will also have the primary responsibility and authority for ensuring that other aspects of DEEP's Quality System are managed in accordance with DEEP's approved Quality Management Plan.

- Each of the three Bureaus will use QA Bureau Contacts to assist with implementing DEEP's Quality System. The Director of the Office of Planning and Program Development (OPPD) is the Quality Assurance Program Manager, and a staff member within the OPPD serves as the Quality Assurance Coordinator. The Coordinator's role is to update management plans, communicate with staff on training needs and on updating QAPP table, conduct annual assessment of the Quality Management Plan and report to EPA, attend New England Quality Assurance meetings, assist in the organization of DEEP's QAPP database, and provide training materials to the bureaus within the agency.

- The Quality Assurance Program Manager, Quality Assurance Coordinator, and quality assurance bureau contacts are identified in the annual Quality Systems Update that is provided to EPA in January of each year. To complete the annual update, the QA Coordinator discusses QAPP updates, communicates with staff on their internal training efforts, and discusses if there are additional training needs. These meetings can be held in person or through email. The QA Coordinator may visit the air monitoring stations and reviews notes from some of the internal meetings, such as the Remediation Roundtable. The Remediation Roundtable is a public forum where there is an exchange of ideas and information on the various site cleanup programs. A webpage is maintained with information on these meetings. The Water Monitoring Program also maintains a webpage to disseminate information about the monitoring of rivers, lakes, streams, and beaches in Connecticut. The Bureau of Air Management contacts assist in implementing the quality system by ensuring that all air monitoring activities conducted under EPA grants are performed in accordance with the EPA-approved QAPPs and SOPs. The Field Operations Monitoring and Data Management groups have regular joint staff meetings, typically monthly, to review issues related to monitoring and data quality assurance, including SOPs and new initiatives. Any

new or revised QAPP or SOP are sent to EPA Region 1 contacts annually by the first of November.

- The Quality System objectives for the 2020-2025 period are as follows:
  ,
  -Report any changes to the organizational structure of the Bureaus of Air Management, MMCA, and WPLR.
  - Continue Lean- Process Improvement,
  -Coordinate with EPA to offer EPA QAPP development training for DEEP staff,
  - Sponsor QMP and Quality System awareness training in conjunction with approval of the 2020-2025 DEEP QMP,
  - Support professional development through training, both in the collection and use of data as well as in quality assurance
  -Increase awareness of DEEP's Quality System to staff and relevance on requiring data collection that is of valid and sound science.
  - Develop and maintain a status matrix of pending and active QAPPS on Microsoft Office SharePoint with updates reported to EPA NE QA annually,
  -Disseminate self-assessment forms to bureaus
  -Update or renew DEEP's Quality Assurance Policy Directive, first established in 2009 by Commissioner Klee.

3.0 Management and Organization

Purpose – To document the overall policy, scope, applicability, and management responsibilities of the organization's quality system.

<u>Mission</u>

The Connecticut Department of Energy and Environmental Protection is charged with conserving, improving, and protecting the natural resources and the environment of the state of Connecticut as well as making cheaper, cleaner and more reliable energy available for the people and businesses of the state. The agency is also committed to playing a positive role in rebuilding Connecticut's economy and creating jobs – and to fostering a sustainable and prosperous economic future for the state.

The overarching goals of the agency are to:
- Integrate energy and environmental policies and programs in a more systematic, proactive, and coherent manner to provide a better structure for decision-making and to build a sustainable and prosperous economic future.
- Bring down the cost of electricity to make Connecticut more competitive, promote energy efficiency, and encourage the development and use of clean energy technologies.
- Unleash a renewed spirit of innovation for pollution control, conservation of natural resources, and management of Connecticut's parks and forests.

<u>Statement of DEEP's Policy on Quality Assurance</u>

The Connecticut Department of Energy and Environmental Protection has issued a formal policy statement regarding Quality Assurance that includes references to EPA and DEEP's first Quality Management Plan. This policy statement exists as an official DEEP Directive.

As stated in the Directive, DEEP's quality assurance policy maintains that all environmental data collected, generated, and processed is scientifically valid; of known precision and accuracy; sufficiently complete and representative for the intended purpose; comparable to data collections and analyses similar in scope and purpose; and legally defensible, as may be necessary for the intended purpose. The data and information used as a basis for environmental program decisions, *i.e.*, establishing environmental quality standards, emissions limitations, permit limits and resource management plans, shall be in a form that may be clearly and understandably presented to the public.

The Quality Assurance Policy Directive (2009) is included here. This directive is also available to DEEP staff online through the agency's intranet website.

Department of Environmental Protection DIRECTIVE

(MANUAL CODE: 3130, D1)

SUBJECT: Quality Assurance Policy

PURPOSE: The mission of the Department of Environmental Protection (DEEP) is to preserve and enhance the environment for all of Connecticut's people. It is important to the success of our mission that staff use consistent and appropriate practices for data collection and analysis to provide a firm base for environmental program decisions. This directive informs staff of the standard of quality for environmental program data collection and use and provides guidance on appropriate actions to meet this standard.

POLICY: DEEP's quality assurance policy maintains that all environmental data collected, generated, and processed is scientifically valid; of known precision and accuracy; sufficiently complete and representative for the intended purpose; comparable to data collections and analyses similar in scope and purpose; and legally defensible, as may be necessary for the intended purpose. The data and information used as a basis for environmental program decisions, *i.e.*, establishing environmental quality standards, emissions limitations, permit limits and resource management plans, shall be in a form that may be clearly and understandably presented to the public.

PROCEDURE:
1. Quality Management Plan.
The *Quality Management Plan (QMP)* provides guidance to agency staff when establishing and maintaining consistent and appropriate quality assurance, quality control and quality improvement for environmental data collection and analysis. DEEP developed the QMP as a means of documenting how it will plan, implement, and assess the effectiveness of quality assurance and quality control operations as applied to environmental programs funded by the United States Environmental Protection Agency (EPA). Staff involved with environmental data operations for EPA-funded programs shall be familiar with and consult the QMP and conform their activities to its guidance. The QMP is available on DEEP's website.
2. Bureau Quality Assurance Management Lead.
The Air Management, Materials Management and Compliance Assurance, Water Protection and Land Reuse Bureaus have each assigned Quality Assurance Bureau Contacts to address QMP compliance efforts for their respective bureaus. DEEP's Quality Assurance Coordinator will coordinate the Bureau efforts to maintain consistent practices among programs and Bureaus.
3. Written Plans and Guidance.
DEEP's data quality management efforts will follow written plans and guidance, which each EPA-funded program must generate. All staff data operations shall conform to the appropriate plan and guidance documents.
4. State and Federal Laws and Requirements.
The DEEP quality assurance system will be maintained in accordance with applicable state and federal laws and rules, standards, guidance, contractual requirements, and sound management practices.

Issued by: /S/Commissioner Robert Klee
Special Instructions: Replaces directive 3130 D.1 dated 4/14/05.
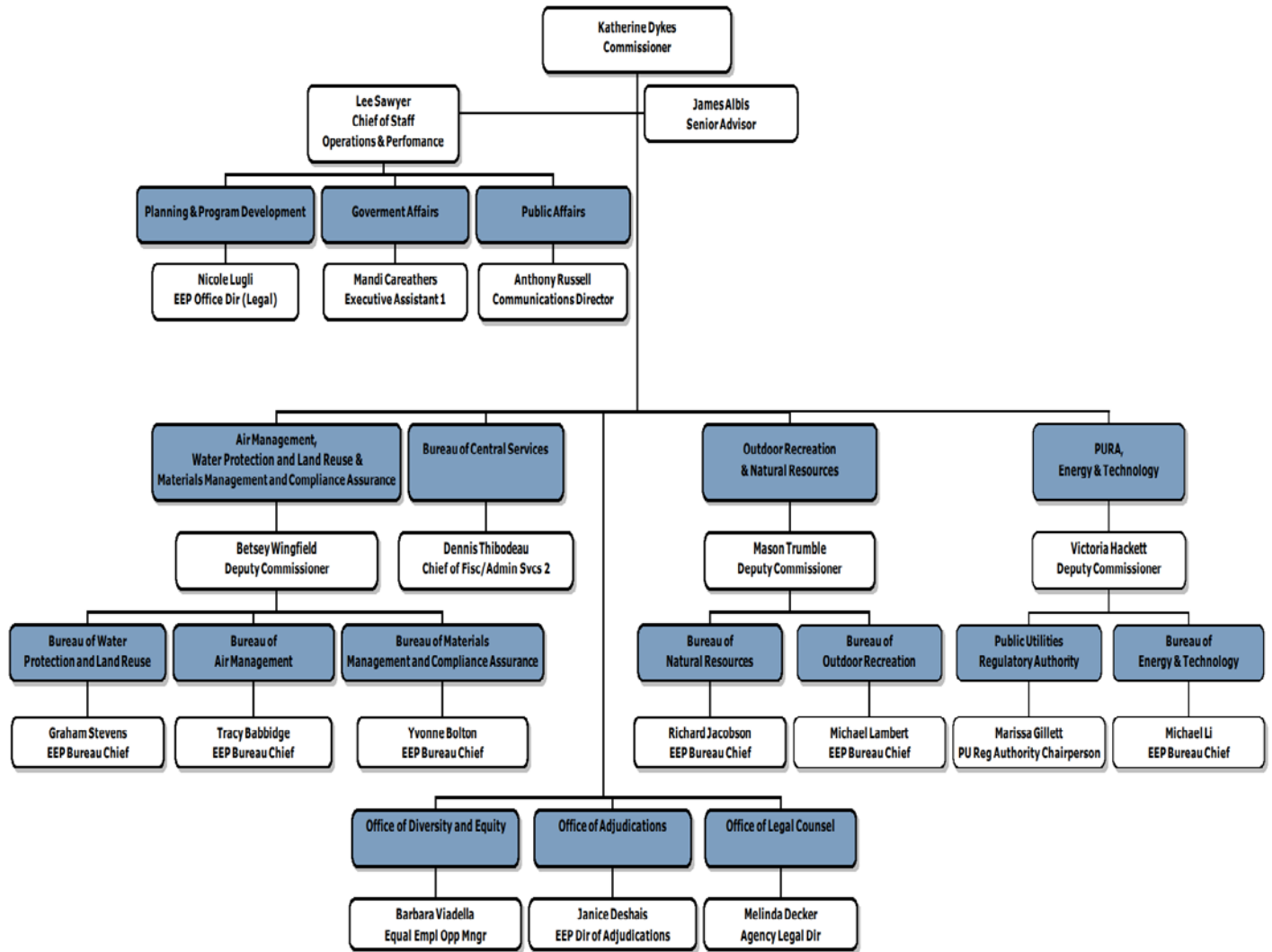**Distribution:** Electronic

Organization

DEEP has been described as a "super agency" because its mandate includes responsibilities that in other states are often handled by multiple agencies. The agency's basic organizational structure reflects its scope of duties. An organizational chart of DEEP's basic structure, reproduced from DEEP's public website, is included on the following page.

DEEP has three main branches, Environmental Quality, Environmental Conservation and Energy. The Environmental Quality Branch includes the Bureaus of Air Management, Materials Management and Compliance Assurance, and Water Protection and Land Reuse. The Environmental Conservation Branch includes the Bureaus of Natural Resources and Outdoor Recreation. The Energy Branch includes the Bureaus of Energy Technology (BETP) and Policy and the Public Utilities Regulatory Authority (PURA).   Branches are led by appointed Deputy Commissioners who report to the Commissioner. Each bureau, in turn, is headed up by a Bureau Chief and consists of multiple divisions managed by division directors. The typical division consists of multiple programs or similar subunits, each with its own supervisor and staff. Most divisions also include one or more assistant directors or equivalent positions; as the name implies, assistant directors typically report to division directors, but there is much variation as to where they fit into the organization.

In addition to the three main branches, DEEP organizational structure includes the Office of the Commissioner, which consists of the Offices of Chief of Staff, Planning and Program Development, Adjudications, Diversity and Equity, and Legal Counsel. These offices provide administrative management, staff assistance, and ancillary service to aid the Commissioner and Bureau Chiefs in their efforts to carry out the mission of the agency. The Planning and Program Development is tasked with general oversight of Quality Assurance. In addition, the Bureau of Central Services provides a wide array of services including Information Management, Engineering and Field Support, Financial Management, Human Resource Management and Purchasing.

A more comprehensive set of current organizational charts for the agency can be found on DEEP's website *https://portal.ct.gov/DEEP/Human-Resources/Org-Charts/Organizational-Charts.* The DEEP programs that are directly subject to EPA's quality system requirements are all within the Environmental Quality Branch (Bureaus of Air Management, Materials Management and Compliance Assurance, and Water Protection and Land Reuse. In addition, programs within the Commissioner's Office provide support services that are relevant to the QMP.

Department of Energy and Environmental Protection

Katherine Dykes
Commissioner

Lee Sawyer
Chief of Staff
Operations & Perfomance

James Albis
Senior Advisor

Planning & Program Development

Goverment Affairs

Public Affairs

Nicole Lugli
EEP Office Dir (Legal)

Mandi Careathers
Executive Assistant 1

Anthony Russell
Communications Director

**Air Management,
Water Protection and Land Reuse &
Materials Management and Compliance Assurance**

Bureau of Central Services

**Outdoor Recreation
& Natural Resources**

**PURA,
Energy & Technology**

Betsey Wingfield
Deputy Commissioner

Dennis Thibodeau
Chief of Fisc/Admin Svcs 2

Mason Trumble
Deputy Commissioner

Victoria Hackett
Deputy Commissioner

**Bureau of Water
Protection and Land Reuse**

**Bureau of
Air Management**

**Bureau of Materials
Management and Compliance Assurance**

**Bureau of
Natural Resources**

**Bureau of
Outdoor Recreation**

**Public Utilities
Regulatory Authority**

**Bureau of
Energy & Technology**

Graham Stevens
EEP Bureau Chief

Tracy Babbidge
EEP Bureau Chief

Yvonne Bolton
EEP Bureau Chief

Richard Jacobson
EEP Bureau Chief

Michael Lambert
EEP Bureau Chief

Marissa Gillett
PU Reg Authority Chairperson

Michael Li
EEP Bureau Chief

Office of Diversity and Equity

Office of Adjudications

Office of Legal Counsel

Barbara Viadella
Equal Empl Opp Mngr

Janice Deshais
EEP Dir of Adjudications

Melinda Decker
Agency Legal Dir

Quality Assurance Roles

Quality Assurance Program Manager:
Director of the Office of Planning and Program Development (OPPD) is the Quality Assurance Program Manager and reports to the Chief of Staff. As illustrated in the previous organizational chart, the Office of Planning and Program Development is within the Office of the Commissioner. It is separate and distinct from the Branch of Environmental Quality. This interdisciplinary office is uniquely suited to coordinate quality assurance due to the emphasis on planning, cross-division coordination, finance, information management, information technology and human resources. The Director manages the Performance Partnership Agreement with the EPA.

Quality Assurance Coordinator:
An Environmental Analyst in the Office of Planning and Program Development serves as the QA Coordinator and reports to the OPPD Director for Quality Assurance issues. The Coordinator's role is to update management plans, conduct annual assessment of the Quality Management Plan and report to EPA, attend New England Quality Assurance meetings, assist in organization of QAPP database and provide training materials to the bureaus within the agency.

Project Managers:
Project Managers are identified in the individual QAPPs. Project Managers are responsible for submitting QAPPs, QAPP amendments, revisions and overseeing project activities.

Environmental Data Programs

The two tables on the following pages represent DEEP's environmental data programs that are funded by EPA and that are subject to EPA's Quality System requirements, either by virtue of being part of the current Performance Partnership awarded to DEEP from EPA, or because they are funded by separate EPA grants that contain specific Quality Assurance language.

EPA program grants to CT DEEP combined under the Performance Partnership Grant (PPG)

    - Titles and Authorities from the CT DEEP/EPA Region 1 Environmental Performance Partnership Agreement (PPA).
    - Lead DEEP Bureau and Division from multiple sources.

Federal Program Title/

Federal Authority	Lead DEEP Bureau	Lead DEEP Division
- Air pollution control 　[Clean Air Act (CAA) - Section 105]	Air Management	Bureau Chief
- Water pollution control 　[Clean Water Act (CWA) Section 106]	MMCA /WPLR	Permitting & Enforcement Water Planning & Management
- Non-point source management 　[CWA Section 319]	WPLR	Water Planning & Management
- Safe Drinking Water Act (SDWA) 　[Underground Injection Control SDWA Section 1443b]	MMCA	Permitting and Enforcement
- Hazardous waste management 　[Resource Conservation and Recovery Act (RCRA) Section 3011]	MMCA	Engineering and Enforcement
- Underground storage tanks 　[Solid Waste Disposal Act (SWDA) Section 9010 (USTs enforcement)]	MMCA	Emergency Response and Spill Prevention
- Polychlorinated Biphenyls (PCB) 　[Toxic Substances Control Act (TSCA)]	MMCA	Emergency Response and Spill Prevention
- Pesticides 　[Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)]	MMCA	Engineering and Enforcement

MMCA = (Bureau of) Materials Management & Compliance Assurance; WPLR = (Bureau of) Water Protection & Land Reuse; BCS= Bureau of Central Services

Additional EPA program grants to CT DEEP that contain specific language related to Quality Assurance
  (typically, a section under "Programmatic Conditions" that references QAPPs and the agency's QMP)

  - Titles and Authorities, Funding Amounts, and Notes from the CT DEEP Bureau of Financial and Support Services, Financial Management Division.
  - Lead DEEP Bureau and Division from multiple sources.

Federal Program Title/

Federal Authority	Lead DEEP Bureau	Lead DEP Division
- Air Fine Particulate Ambient Monitoring CAA, Sec. 103	Air Management	Planning and Standards
- Superfund, Pre-Remedial Comprehensive Environmental Response Compensation Liability Act (CERCLA) Sec. 104	WPLR	Remediation
- Superfund, Remedial CERCLA Sec. 104(d)(1)	WPLR	Remediation
- Brownfields Response Program CERCLA Sec. 128(a)	WPLR	Remediation
- Water Quality Planning CWA, Sec. 604(b)	WPLR	Water Planning & Management
- Long Island Sound Study CWA, Sec. 604(b) CWA, Sec. 119(d)	WPLR	Water Planning & Management
- Non-point source management CWA Section 319	WPLR	Water Planning & Management
- Total Maximum Daily Loads (TMDL) Support CWA Sec. 104(b)(3)	WPLR	Water Planning & Management
- Leaking Underground Storage Tank (LUST) Trust SWDA Sec. 2007(f)(2) & 8001 (a) & (c)	MMCA	Emergency Response and Spill Prevention
- LUST Prevention Assistance Agreement SWDA Sec. 901	MMCA	Emergency Response and Spill Prevention
-Pollution Prevention -Pollution Prevention Act of 1990, Sec.6605	BCS	Office of Planning and Program Development

4.0 Quality System Components

Purpose – To document how an organization manages its quality system and defines the primary responsibilities for managing and implementing each component of the system.

EPA's *Requirements for Quality Management Plans* document (R2) lists the following as standard components of any organization's Quality System:
- Quality system documentation
- Annual reviews and planning
- Management assessments
- Training
- Systematic planning of projects
- Project-specific quality documentation
- Project and data assessments.

DEEP has identified three additional components of its Quality System:
- Standard agency policies and procedures
- Agency integrated information systems
- Continuous Process Improvement (Lean)

Standard Components

Quality system documentation:
DEEP's Quality Management Plan is the agency's basic Quality System documentation. The agency's Quality Assurance Coordinator prepares the QMP and circulates it for review within the Bureaus of Air Management, Materials Management and Compliance Assurance, and Water Protection and Land Reuse.

Annual reviews and planning:
The Office of Planning and Program Development discusses updates on QAPPs, training and training needs with QA staff and completes annual Quality System reports. The Quality Management Plan would be updated as needed.

Management assessments:
The Quality Assurance contacts in each bureau are responsible for maintaining QAPPs and discussing changes and updates with their staff. One of DEEP's objectives is to disseminate a standardized self-assessment form to each bureau to be used for updates for the Office of Planning and Program Development.

Training:
The DEEP current administration has a strong commitment to staff training and professional development. Agency resources have been committed to staff training, including the formation of an agency-wide Professional Development Team, whose mandate includes coordinating necessary training for staff. This training supports EPA's ten standard quality system-related elements (section 1). Specifically, this training includes development of skills related to process improvement, organization, project management, supervisory capabilities, and decision-making.

For QAPP-specific training, individual program and project managers are principally responsible for determining staff training needs and seeing that those training needs are met.

Systematic planning of projects:
Managers and staff responsible for DEEP's environmental programs should be familiar with the planning that is recommended in conjunction with the development of Quality Assurance

Project Plans. Specifically, they should be familiar with the EPA document *Guidance on Systematic Planning using the Data Quality Objectives Process – QA/G4*, https://www.epa.gov/quality/guidance-systematic-planning-using-data-quality-objectives-process-epa-qag-4.

Project-specific quality documentation:
Individual Quality Assurance Project Plans constitute DEEP's basic project-specific quality documentation. They should be prepared and submitted for approval whenever required by EPA and revised as necessary to remain accurate and up to date.

Project and data assessments:
Consistent with DEEP's decentralized Quality System structure, individual Project Managers are responsible for assuring that project and data assessments called for in individual QAPPs are carried out and documented, and corrective steps taken when necessary. The QA Agency coordination is kept apprised of progress on QAPPs from Bureau contacts.

Additional Components

Standard agency policies and procedures:
Wherever practical, DEEP will use existing mechanisms, such as standard agency policies and procedures, to further the objectives of its Quality System. These standard policies and procedures are documented throughout this QMP. DEEP also uses continuous process improvement or Lean, to develop and implement SOPs throughout the agency.

Agency integrated information systems:
DEEP utilizes the permit tracking system SIMS, the Site Information Management System. SIMS evolved out of DEEP's participation in EPA's One-Stop initiative. As the name implies, the vision behind SIMS is to eventually integrate all agency information associated with a particular site of interest to the agency (such as a facility with active permits from different programs) within a single information system available to all DEEP staff and eventually the public. Of relevance to Quality Assurance is the Ambient Water Quality Data Exchange project.

DEEP's website contains access to DEEP's Environmental Quality Records Center. Datasets are available to the public under a variety of categories such as for air sampling, toxic release inventory, and results for radioactivity. The Chief Data Officer from the Office of Policy and Management, a position established in 2018, is responsible for the use and management, analytics, and coordination, of the datasets posted on the website. Due to COVID 19, access to DEEP's records center is not available to the public, and request are fulfilled through an online form. A list of data records from the three bureaus is included on this website.

DEEP continues to invest in Geographic Information Systems technology which plays an important role in the mission of protecting and preserving the environment. DEEP develops and maintains large amounts of spatial map and file data. Access to data sets are found on DEEP's website. Recent updates include the Natural Diversity Database, Aquifer Protection Areas, Ground Water Quality Classification and Surface Water Quality Classification. GIS is maintained under the Office of Information Management.

DEEP has also invested in electronic monitoring reporting. This system started with water discharge monitoring and will be extended to other programs. Electronic reporting allows for better quality data from permittees by using smart forms and eliminating paper to electronic database transcription errors.

Continuous Process Improvement (Lean):

LEAN is a core value at DEEP with an emphasis upon addressing the needs of DEEP's customers. This growth strategy includes efficiency, effectiveness, timeliness, accessibility, and transparency. Since 2008 DEEP has undertaken close to 80 process improvement projects and trained 60% of employees on LEAN skills.

In addition to a focus on streamlining processes and developing SOPs, within the last several years, DEEP has proposed long-term innovations, such as electronic-government (E-gov) and statutory and regulatory recommendations. Since 2011, DEEP has been one of the original members of the Statewide Process Improvement Steering Committee in response to Connecticut General Statute 4-68za. The committee has fourteen members spanning all areas of the Executive Branch of state government.

Annual Quality System Objectives:

These are referenced in Section 2 and throughout this plan.

DEEP will continue Lean-Process Improvement, which results in continuous improvement of quality systems, including SOP development and streamlining.

5.0 Personnel Qualification and Training

Purpose – To document the procedures for assuring that all personnel performing work for an organization have the necessary skill to effectively accomplish their work.

<u>General Personnel Qualifications</u>

The Department of Administrative Services (DAS) is the lead state agency for all personnel-related policies and procedures. Within DEEP, the Human Resources Division in the Bureau of Central Services is the lead office for personnel-related policies and procedures. DEEP, as an executive branch state agency, must adhere to an extensive set of laws, regulations, and other policies and procedures that control the hiring, ongoing employment, and promotion of its employees.

All executive branch employees have standardized job titles (often referred to as class titles or positions) and all job titles have associated Job Descriptions. DAS develops and publishes these generic Job Descriptions for all classified positions within the executive branch. The descriptions include "Example of Duties," and "Minimum Qualifications Required." Job Descriptions for similar groups of classes are periodically reviewed and revised, typically by a committee that includes representatives from agencies that employ significant numbers of staff in those classes. <u>Example of a Connecticut State Government Job Description</u>, https://www.jobapscloud.com/CT/auditor/ClassSpecs.asp#E

When DEEP receives approval to fill a particular position, the appropriate program or division staff prepare a Job Announcement, which is then reviewed by Human Resources and published on the DAS website. Job Announcements identify the name of the classified position to be filled and provide a "Description of Duties," "Experience and Training" requirements, and other elements that pertain to the job being advertised. The content of these individual Job Announcements must be consistent with the information and requirements contained in the generic DAS Job Descriptions, but the details are much more specific, as they are tailored to the requirements of particular jobs. The Job Announcement format allows DEEP to specify more detailed hiring requirements related to "Experience and Training," and "Special Requirements."

<u>Agency Training Policy</u>

DEEP issued a 2008 directive related to training, accessed through DEEP's intranet in Manual Code 5541.

The basic policy reads as follows:

> **POLICY:** The Department is committed to employ and retain talented staff by supporting and providing meaningful on-the-job and other training opportunities so employees may continuously improve their performance and contribute to the agency's mission of protecting the environment and conserving natural resources. To accomplish this goal, the Department's Human Resources Division, in conjunction with the Office of Affirmative Action, has developed a comprehensive staff and organization development program.

Additional excerpts from the directive:

- Supervisors and employees are encouraged to work together to design the most appropriate training plans for the individuals' job duties, skills, abilities, and career goals.

15

- Managers and supervisors are encouraged to support employees' attendance and on-the-job application of both mandatory and elective training relating to their primary job responsibilities, logical career progressions, upward mobility, lateral, or other opportunities, job enrichment, legal requirements, or certification or licensure maintenance requirements.

- Employees are strongly encouraged to take personal responsibility for their own education, training, and career growth through active participation in various development opportunities both within and outside the Department, including financing some of the programs themselves.

- At a minimum, supervisors and managers are strongly encouraged to discuss employees' staff development issues during required annual performance appraisal reviews per current agency procedures and collective bargaining agreements.

- Within one week of receiving proof of completion of training, employees should submit copies of their certificates of completion or other attendance documents to DEEP Human Resources for inclusion in their personnel files, computer databases, and their bureau/office training contacts' records, if applicable.

The directive also states that DEEP employees "are allowed up to 35 to 40 hours a year (depending on contractual work week hour totals) to pursue career development opportunities."

DEEP and the state publicize and make available certain training opportunities for DEEP employees, and managers and staff can seek out other training that's relevant to their work. Examples of training promoted by DEEP or the state include:

- A selection of "In-Service" classes offered through a partnership between DAS and the Connecticut Community College System.

- Information technology training offered by a group of commercial providers on contract with the state Department of Information Technology (DOIT). DEEP staff can take regularly scheduled classes conducted by these vendors at a reduced rate or set up custom classes. DEEP has an information technology training facility at its Hartford headquarters and New Britain field location.

- Training coordinated by DEEP's Health and Safety unit, including classes "required by a specific OSHA, EPA, FRA or other Regulation" or required "under the General Duty Clause of the OSHA Act."

- Lean training is offered to all DEEP staff, and to date greater than 650 staff have taken the basic training and forty staff members have received advanced Lean training.

- The Professional Development Team surveys DEEP staff for training needs and coordinates subsequent professional development training, including areas such as communication and project management.

- Other DEEP sponsored training. DEEP periodically sponsors training on a variety of subjects. Announcements about upcoming agency-sponsored training opportunities typically are made via email.

Funds for most training and associated professional development must come from program or division budgets, grants, union funds, etc. Some divisions within DEEP include training as a line item in their individual annual budgets, but there is no agency requirement to do this. As necessary and as a part of the agency-wide professional development initiative, the agency pays for certain training with cross-agency relevance, rather than requiring individual programs to provide funding.

Personnel Qualifications and Training for Environmental Programs

Project Managers for individual environmental data projects are responsible for identifying and adhering to any necessary special training or certification requirements associated with a project subject to EPA's Quality System requirements. The required format for a standard Quality Assurance Project Plan includes a specific element within the "Project Management" section named called "Special Training/Certification" which should be used to document any such needs.

DEEP Quality System Objectives: - Sponsor QMP and Quality System awareness training in conjunction with approval of the 2020-2025 DEEP QMP. Coordinate with EPA to offer EPA QAPP development training for DEEP staff.

6.0 Procurement of Items and Services

Purpose – To document the procedures for purchased items and services that directly affect the quality of environmental programs.

General Procurement Process

DEEP, as an executive branch state agency, must adhere to an extensive set of laws, regulations, and other policies and procedures in any situation where it intends to pay another party to deliver a product or perform some kind of service. Objectives behind these practices are intended to encourage open and fair competition, safeguard the state's financial resources, eliminate any opportunity for favoritism, and promote certain government policies.

Procedures for the procurement of items and services can be divided into three basic categories:
- The purchase of any kind of information technology (IT) equipment and service, including procurements that require Requests for Proposals (RFPs) or procurements that require negotiating and approving a contract.
- The purchase of all other standard goods and services (typically referred to as "buying off contract," meaning the ability to take advantage of an existing state contract).
- The procurement of one-of-a-kind, non-IT-related items and services. Such procurement may require an RFP. It may require approving a contract or similar document. Included in this category are grants awarded by DEEP and formal agreements between DEEP and other state agencies and other government entities that involve funding originating with DEEP.

Authority for the purchase of IT equipment and services by executive branch agencies resides with the Bureau of Energy and Technology Policy (BEST).

Authority for the purchase of all other goods and services by executive branch agencies resides with the Department of Administrative Services (DAS). DAS delegates some purchasing authority to individual agencies such as DEEP.

Within DEEP, the authority for the procurement of standard goods and services lies with the Purchasing Unit, part of the Bureau of Central Services. The Purchasing Unit processes all approved agency purchase requests. Additional authority for the procurement of IT-related goods and services exists within the Office of Information Management.

The DEEP authority for processing contracts and grants issued by DEEP lies with the Financial Management Division of the Bureau of Central Services. As with purchase requisitions, Individual program staff draft contract details. The draft contract language is approved by a division director or designee and then processed by the Financial Management Division. All contracts, regardless of the dollar amount, must be reviewed and signed by the Commissioner or appropriate Deputy Commissioner. All contracts are subject to some level of review by other state agencies.

Every request to procure an item or service undergoes a formal review and approval process within DEEP. For many types of requests this process has been automated as part of the "Core-CT" state information management system (see below). The steps of the review and approval process vary depending on factors such as the cost and type of item or service being requested, and the number of vendors considered qualified to provide the item or service. At a minimum, purchase requests must be reviewed and approved by division directors or their designees to ensure that they accurately represent the item or

service needed by the program unit. Expensive or complex procurement proposals are typically subject to multiple review and approval steps and often require the involvement of other state agencies. These additional steps are designed to ensure that the request is complete and accurate, that it can be paid for, and that it adheres to agency and state policies and standards. The request can be approved, denied, or modified at any step in the review and approval process.

Records of all goods and purchases requested, approved, and purchased through the Core-CT system are retained in the system. DEEP staff with appropriate system access privileges can access this information. However, certain supplemental information associated with purchase requests may only exist in hardcopy form.

Responses to solicitations typically take the form of vendor responses to bid solicitations (RFPs) or responses to grant announcements. Requests for Proposals (RFPs) must state the general criteria to be used to evaluate bid responses and should include all relevant technical and quality requirements. In cases when an RFP is used for procurement, a committee is formed for the purpose of reviewing the responses and making an award recommendation, using written score sheets with entries that correspond to the evaluation criteria. When an RFP is used for the solicitation of environmental data in the Water Monitoring Program, the data quality is described for labs for benthic macroinvertebrates and diatoms. For water chemistry, WPLR evaluates the laboratory SOPs and data quality procedures in the Memorandum of Understanding with the laboratory. The Air Bureau does not typically use contractors for ambient data monitoring activities covered by the performance partnership agreement with EPA. One exception is the Performance Evaluation Program, which is administered by EPA and covered under their QAPP. Solicitations for materials or equipment include specifications to ensure that QAPP requirements are met, such as NIST certification for gaseous standards, EPA certification for monitoring methods, or performance-based requirements for instrument accuracy and precision.

The Water Planning and Land Reuse Bureau follows the guidance for QAPP development provided by EPA, the EPA QA/G-5. If a QAPP requires outside laboratory services, WPLR may include certain requirements in the QAPP such as a curriculum vitae for the laboratory directors, lab SOP, or a separate, attached lab SOP.

<u>Procurement of Items and Services for DEEP Environmental Programs</u>

Project Managers for individual environmental data projects are responsible for identifying and adhering to any necessary special requirements for purchased items or services associated with a project subject to EPA's Quality System requirements.

7.0 Documents and Records

Purpose – To document appropriate controls for quality-related documents and records determined to be important to the mission of the organization.

Overview - Documentation and the EPA Quality System

Documentation is a key element of EPA's Quality System requirements and guidance. This is most evident in the agency's requirement for both EPA and external organizations to prepare and maintain Quality Management Plans and Quality Assurance Project Plans, but the importance of documentation extends to many other aspects of the system.

General Records Management Policies and Procedures

DEEP, as an executive branch state agency, must adhere to a set of laws, regulations, and other policies and procedures that control how it manages documents and records, both paper and electronic. The Office of the Public Records Administrator, part of the Connecticut State Library, is the lead state agency for all policies and procedures related to public records. The State Freedom of Information Commission also plays a role in establishing policies and procedures related to public records (http://www.ct.gov/foi/site/default.asp). Within DEEP, the lead office for policies and procedures related to public records is the Division of Information Technology within the BCS.

DEEP manages its public records through its Records Retention program and several Records Retention directives. DEEP's Records Retention Program directive includes the agency's basic Records Retention policy, which states the following: "In accordance with the Connecticut General Statutes 11-8 and 11-8a, employees of the Department of Environmental Protection may not destroy any public record without prior approval from the Office of the Public Records Administrator."

DEEP has a designated Records Management Liaison Officer (RMLO) located in OIM and approximately two dozen "Sub RMLOs" representing all major agency programs or divisions, who function as liaisons between their units and the agency RMLO.

In addition to the primary Records Retention Program directive, several other relevant directives exist:
- Access to the DEEP Records Center located at 79 Elm Street, Hartford, CT
- Photocopying DEEP records from bureaus/programs in the DEP Records Center
- Purging Records Prior to Filing and Storage.

The "DEEP Records Center," mentioned above, is a facility managed by OIM that houses many types of DEEP records and makes them available to the public and DEEP staff in a secure environment. While the records stored at the Records Center are mostly paper documents at the present time, DEEP has begun the ambitious initiative of electronically scanning the Center's contents and making the documents available to the public and DEEP staff through an automated Document Management System.

Document and Record Management for Environmental Data Projects

Project Managers for individual environmental data projects are responsible for managing QAPPS and all other documents and records associated with individual environmental data projects. The required format for a standard QAPP includes a specific element within the "Project Management" section called "Documents and Records," which should be used to document how such materials should be managed.

8.0 Computer Hardware and Software

Purpose – To document how the organization will ensure that computer hardware and software satisfies the organization's requirements.

General Management of Information Technology and Systems

The general management and oversight of computer hardware and software resources within DEEP is shaped by a set of policies and procedures specific to DEEP, additional state government policies and procedures, and corresponding organizational structures and authorities. There are no specific current initiatives that focus exclusively on the computer hardware and software needs of DEEP environmental programs covered by this Quality Management Plan.

The Office of Information Management (OIM) oversees DEEP's information technology infrastructure and information management resources.

The Bureau of Enterprise Systems Technology (BEST) is Connecticut's lead state entity that provides quality information technology (IT) services and solutions to state agency customers. BEST, also in its capacity as lead IT agency for the state, has authority for the purchase of IT equipment and services by executive branch agencies. It delegates some purchasing authority to individual agencies such as DEEP. BEST manages a wide range of state contracts that typically are used by agencies such as DEEP to purchase common hardware and software.

All proposed computer hardware and software purchases originating within the agency must be reviewed and approved by OIM. Most of the hardware and software purchased by DEEP conforms to standards established by DEEP or BEST. It is OIM's responsibility to evaluate proposed hardware and software products.

Basic Infrastructure

Every permanent, fulltime DEEP employee based at DEEP headquarters and selected field offices is equipped with a minimum level of basic, standardized information technology.

Many environmental programs within DEEP make extensive use of standard client software such as MS Word, Excel, and Access. Due to COVID, much of the staff at DEEP are teleworking and utilizing Office 365. There is much additional software used within parts of the agency, beyond these standard client tools. Some is standardized, while other software is specific. Examples of standard software include the suite of GIS products from ESRI and publishing software from Adobe.

Hardware and Software for DEEP Environmental Programs

Project Managers for individual environmental data projects are responsible for identifying hardware and software needed in conjunction with a project subject to EPA's Quality System requirements. The required format for a standard Quality Assurance Project Plan includes a specific element within the "Data Generation and Acquisition" section named called "Data Management." Within this element, project managers are to include any required computer hardware and software needed for the project.

9.0 Planning

Purpose – To document how individual data operations will be planned within the organization to ensure that data or information collected are of the needed and expected quality for their desired use.

Overview – Project Planning and the EPA Quality System

Documented, systematic project planning is arguably the most important element of EPA's vision of a Quality System as it is applied to environmental programs. EPA strongly promotes the policy that a thorough planning exercise should precede any project that acquires, generates, compiles, or uses environmental data. The results of this planning should be documented accurately and completely in a Quality Assurance Project Plan (QAPP), which must then be reviewed and approved by EPA (typically EPA NE QA) before the project begins. QAPPS are typically approved for five years. The processes documented in any approved QAPP must be followed once the project is underway and all QAPPs must be reviewed annually and revised as necessary to reflect any changing conditions related to the project.

EPA's National Quality System program and the EPA New England Quality Assurance Unit both have produced extensive written material designed to guide various aspects of the Quality Assurance project planning process. Relevant EPA websites and individual documents are referenced in different sections of this plan, but the following are some of the key EPA documents related to environmental data project planning as it relates to Quality Assurance and to the development of QAPPs that adhere to EPA's requirements:

EPA Requirements for Quality Assurance Project Plans (QA/R-5) – March 2001 reissued May 2006 http://www.epa.gov/QUALITY/qs-docs/r5-final.pdf

Guidance for Quality Assurance Project Plans (QA/G-5) – December 2002 http://www.epa.gov/QUALITY/qs-docs/g5-final.pdf

Guidance on Systematic Planning using the Data Quality Objective Process (QA/G-4) – February 2006 https://www.epa.gov/quality/guidance-systematic-planning-using-data-quality-objectives-process-epa-qag-4

EPA New England Quality Assurance Project Plan Program Guidance – (Rev. 2, Jan. 09, 2010) http://www.epa.gov/region1/lab/qa/pdfs/QAPPProgram.pdf

The required format for a standard QAPP contains 24 individual elements, divided into 4 groups, as follows (from R-5):
Project Management
       Title and Approval Sheet
       Table of Contents
       Distribution List
       Project/Task Organization
       Problem Definition/Background
       Project/Task Description
       Quality Objectives and Criteria
       Special Training/Certification
       Documents and Records
Data Generation and Acquisition
       Sampling Process Design (Experimental design)
       Sampling Methods
       Sample Handling and Custody
       Analytical Methods

Quality Control
Instrument/Equipment Testing, Inspection, and Maintenance
Instrument/Equipment Calibration and Frequency
Inspection/Acceptance of Supplies and Consumables
Non-direct Measurements
Data Management
Assessment and Oversight
Assessments and Response Actions
Reports to Management
Data Validation and Usability
Data Review, Verification, and Validation
Verification and Validation Methods
Reconciliation with User Requirements

The following definitions are from the Glossary section of EPA's QS website:

Data Quality Objectives Planning Process: A systematic strategic development tool based on the scientific method that identifies and defines the type, quality, and quantity of information needed to satisfy a specified use.

Data Quality Objectives (DQOs): Qualitative and quantitative statements derived from the DQO Planning Process that clarify the purpose of the study, define the most appropriate type of information to collect, determine the most appropriate conditions from which to collect that information, and specify tolerable levels of potential decision errors.

Finally, the term "Graded Approach" is used frequently in EPA QS documentation to refer to establishing an appropriate level of effort when planning for an environmental data project. The following definition is from EPA's QS Glossary:

Graded Approach: The process of basing the level of application of managerial controls applied to an item or work according to the intended use of the results and the degree of confidence needed in the quality of the results.

The EPA New England QAPP Program Guidance document (see previous link) includes the following statement, which includes a reference to using the Graded Approach:

Since the content and level of detail in individual QAPPs will vary according to the work being performed and the intended use of the data, EPA NE supports a "graded approach" when preparing QAPPS. In other words, the amount of documentation and level of detail will vary based upon the complexity and cost of the project. Appropriate consideration should be given to the significance of the environmental problem to be investigated, the environmental decision to be made, and the impact on human health and the environment.

Planning for Environmental Data Projects

Project Managers for individual environmental data projects are responsible for conducting the necessary planning for projects subject to EPA's Quality System requirements and documenting the results of the planning in a Quality Assurance Project Plan.

DEEP Quality System Objective: - Update and maintain a status matrix of pending and active QAPPS, and post it on DEEP's intranet website, with updates reported to EPA NE QA annually. This is intended as a basic management tool.

10.0 Implementation of Work Processes

Purpose – To document how work processes will be implemented within the organization to ensure that data or information collected are of the needed and expected quality for the desired use.

<u>Work Process Implementation and the EPA Quality System</u>

EPA promotes Standard Operating Procedures (SOPs) and similar procedures as a valuable set of tools to be used by all organizations that carry out environmental programs subject to EPA's Quality System requirements.

At DEEP, there are Standard Operating Procedures for many of the tasks performed within WPLR, BAM, and MMCA. The Water Planning and Land Reuse Bureau relies on SOPs for training procedures for their permit program and for utilizing SIMS, a permit tracking software used throughout the agency. As an example for quality assurance, WPLR developed an SOP for the Long Island Sound Ambient Water Quality Monitoring Program that details how samples are taken, for what purpose, the laboratory work involved, and equipment, supplies, and procedures. When the document is updated it is signed by the QA coordinator for the bureau and the staff involved with the project. When an SOP is not developed for a QAPP, the procedures for that QAPP are outlined directly in the document. Each program is responsible to update the QAPPs for their work and for self-assessments.

For the Bureau of Air Management, a yearly review and update of all QAPPs is performed by one or more QA engineers, to be submitted to Region 1 EPA by November 1. A list of revisions is uploaded to the EPA SharePoint web portal. If there are major revisions the entire document is uploaded as well. The EPA coordinator examines the changes and can reply with questions at that time. The EPA coordinator will then approve final revisions.

As a result of Lean, there have been numerous programs within the agency that have developed or streamlined SOPs. Decisions about the development, use, documentation and distribution of SOPs and related methods are made at the bureau, division, or program level. In the Air Bureau, LEAN was used as part of EGovernment, to find a way to provide an online interface for reporting air pollution emissions from Title V sources, in accordance with the Clean Air Act. This interface is system is called "EMIT." In MMCA, LEAN was used for improving the process of taxonomy and develop record retention schedules.

In other areas of the agency not involved with Quality Assurance, LEAN was used to develop an online permitting process, assist with updates to the Connecticut Environmental Policy Act regulations, and facilitate the pre-application process.

<u>DEEP Environmental Data Project Work Process Implementation</u>

Project Managers for individual environmental data projects are responsible for developing standard operating procedures and/or referencing existing procedures to be used in conjunction with a project subject to EPA's Quality System requirements. The required format for a standard Quality Assurance Project Plan includes a section called "Data Generation and Acquisition" in which SOPs and methods are to be documented. (See Section 9 for list of individual QAPP elements.)

DEEP Quality System Objective: Continue to develop Standard Operating Procedures (SOPs) through the DEEP Lean process.

11.0 Assessment and Response

Purpose – To document how the organization will determine the suitability and effectiveness of the implemented quality system and the quality performance of the environmental programs to which the quality system applies.

Overview - Assessments and the EPA Quality System

In the context of Quality Systems, EPA defines an assessment as "a general evaluation process used to evaluate the performance, effectiveness, and processes of a management and/or technical system, e.g., peer review, surveillance, and audits." (From the "Glossary of Quality-Related Terms" section of EPA's QS website.) EPA considers formal assessments to be a key component of Quality Systems. As the above definition states, EPA promotes the use of assessments for two types of systems: management systems, such as Quality Systems, documented through QMPs, and technical systems, such as environmental data projects, documented through QAPPS.

DEEP Quality System Assessments

As noted in Section 4, DEEP units conduct a variety of reviews and assessments that relate to data quality and quality assurance, and some Quality System self-assessment does occur at the bureau level. The introduction of Quality System objectives, introduced in Section 2 and discussed in more detail in Section 12, is designed to provide a mechanism for improving the agency's Quality System. One objective is to create and disseminate a standardized self-assessment form for bureau chiefs to provide to their managers and be utilized by QA staff. The intention is to have these forms submitted annually to the Office of Planning and Program Development to be used for annual reporting requirements.

For the Bureau of Air Management, self-assessments include regularly scheduled in-house audits of instrumentation and periodic procedure audits. Current SOPs for audits have been submitted to EPA Region 1. Analyzer and sampler audit results are submitted to EPA's Air Quality System on a quarterly basis. Procedure audit results, observations, recommendations, and corrective action reports are submitted to air monitoring field operations supervisor. Additionally, the BAM air monitoring program performs daily automated 3-point accuracy checks (zero, mid-range and span-range) for all gaseous monitoring analyzers. All out of specification findings and resolution activities are documented on internal logs. On a quarterly basis, DEEP and EPA review compliance of the quarterly data report with QAPP data quality objectives.

As noted in Section 1, EPA NE QA has begun to conduct periodic assessments of DEEP's Quality Systems, starting in 2008. Other EPA offices may also conduct assessments from time to time. One significant regular assessment carried out by EPA NERL is the technical system audit (TSA) that focuses on DEEP's air monitoring program. Clean Air Act regulations require such assessments to be performed at least every three years.

DEEP Environmental Data Project Assessments

Project Managers for individual environmental data projects are responsible for documenting all planned assessments for projects subject to EPA's Quality System requirements and ensuring that they are completed, and the results reported. The required format for a standard Quality Assurance Project Plan includes a specific element within the "Assessment and Oversight" section named "Assessments and Response Actions" (see Section 9), which should be used to document all planned assessments.

EPA NE QA Reporting Requirements for Assessments

As discussed in Section 1, EPA NE QA has established certain content requirements for the "Annual Reporting of Quality System Progress," a document that organizations must submit in conjunction with the general requirement to review and update Quality Management Plans annually. One of the requirements covers assessments. Specifically, DEEP must report on annual activity associated with the following categories of assessments:

- Quality System Assessments of DEEP
- Quality System Assessments of Other Organizations (conducted by DEEP)
- Technical Assessments
- Project and Data Reports Assessed

State Assessments

The State Office of the Auditors of Public Accounts (APA) regularly audits DEEP. In addition, several staff offices within the Connecticut General Assembly, as well as the APA, have the authority to carry out special audits of selected DEEP operations at any time. While these assessments touch on a wide range of operations and issues, including DEEP's financial policies and procedures, they may include the review of some aspects of the agency's operations that relate to its Quality System.

APA is a legislative agency of the State of Connecticut whose primary mission is to conduct audits of all State agencies. The most common type of audit conducted by the APA is a "statutory audit." APA conducts such audits at DEEP and all other Executive Branch agencies on a continuous two-year cycle corresponding to Connecticut's fiscal year.

In the "Condition of Records" section of each report, the Auditors document "various areas in need of attention and corrective actions." Recommendations are included for each such area. DEEP is also given the opportunity to respond to each recommendation in writing prior to the issuance of the final report and that response is included in the report.

As mentioned, the APA also carries out reviews of certain specific state agency programs, contracts, financial accounts, etc. Several staff offices of the Connecticut General Assembly also review agency programs and activities on a case-by-case basis. These reviews may be part of the ongoing legislative process of studying how state government works and proposing the introduction of new programs, the expansion of agency responsibilities, the reorganization or elimination of existing programs, etc. Two such offices are:

- Office of Program Review and Investigations, reporting to Legislative Program Review and Investigations Committee
- Office of Legislative Research

12.0 Quality Improvement

Purpose – To document how the organization will improve the organization's quality system.

Quality System Improvement at DEEP

As introduced in Section 2 and detailed throughout this document, annual Quality System objectives are to be a key part of DEEP's Quality System and the primary mechanism used to improve the system. The criteria for developing these objectives is to identify Quality System-related issues, requirements, processes, or activities that share the following characteristics:
- impact multiple environmental programs
- should be addressed in a consistent manner across programs
-can be addressed in a way that improves agency decision-making and increases agency efficiency, and
-can be addressed in a reasonable timeframe and with reasonable staff and financial resources.

The QS objectives will be considered part of the QMP once they have been approved.

Other Agency Initiatives Related to Process Improvement

LEAN is a core value at DEEP with an emphasis upon addressing the various needs of our diverse customers. This is a critical growth strategy that provides efficiency, effectiveness, eliminates waste, and improves timeliness, accessibility, transparency, and predictability. DEEP is also taking advantage of innovative technology solutions to create efficiencies and improve customer service through "eGov" initiatives.

Quality Improvement for DEEP Environmental Data Projects

Project Managers for individual environmental data projects are responsible for identifying project-oriented data quality issues that must be corrected, plus related processes or activities that should be improved. QAPPs will document the assessments that should be carried out as one basic mechanism for identifying quality issues (see Section 11). Project Managers are expected to take the necessary steps to correct all identified data quality issues. They are also responsible for modifying the QAPP when resulting changes to the project warrant it.

The following statement is from DEEP's 2002 QMP. It should remain as a central tenet of the agency's approach to quality assurance.

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