



QAPP 101

**Long Island Sound
Community Impact Fund**


Thursday, September 26th, 2024

CENTER FOR
**WATERSHED
PROTECTION**





Agenda

- Welcome
 - Introductions/Icebreaker
 - QAPP 101
 - What is a QAPP?
 - When is a QAPP required?
 - Elements of a QAPP
 - Scoping and Budgeting
 - Q&A and Wrap up
- 

Welcome

About Center for Watershed Protection (CWP)

- **National non-profit** founded in 1992
- **Mission to advance clean water resources** and healthy ecosystems through responsible land and water management

About this Webinar Series

- To provide training and support in the QAPP development process for projects that collect, analyze, or use environmental data.
- Available to anyone in Connecticut or New York, who is part of a non-profit organization, Tribe, or municipality.

Introductions

Presenters

Shahela Begum

Director, Long Island Sound Community Impact Fund

Lisa Fraley-McNeal

Sr. Watershed & Stormwater Research Specialist, Center for Watershed Protection

Deb Caraco

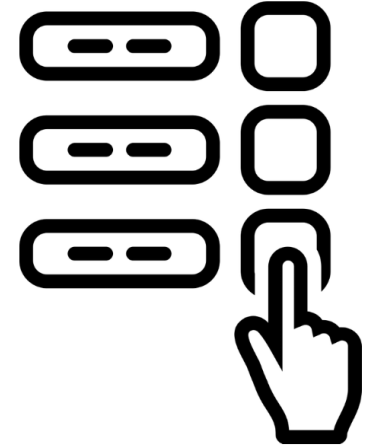
Sr. Watershed Engineer, Center for Watershed Protection

Chris Swann

Watershed Planner, Center for Watershed Protection



Poll Question



How much experience do you have with QAPP writing?

- I have never written a QAPP
- I contributed to writing sections of a QAPP
- I have written a complete QAPP and experienced the review process
- I can write QAPPs in my sleep
- What is this Q app you are talking about?

Icebreaker

Round Robin Introductions

- Share your Name and Organization
- What's your experience with QAPPs?
- What do you hope to gain from today's webinar?

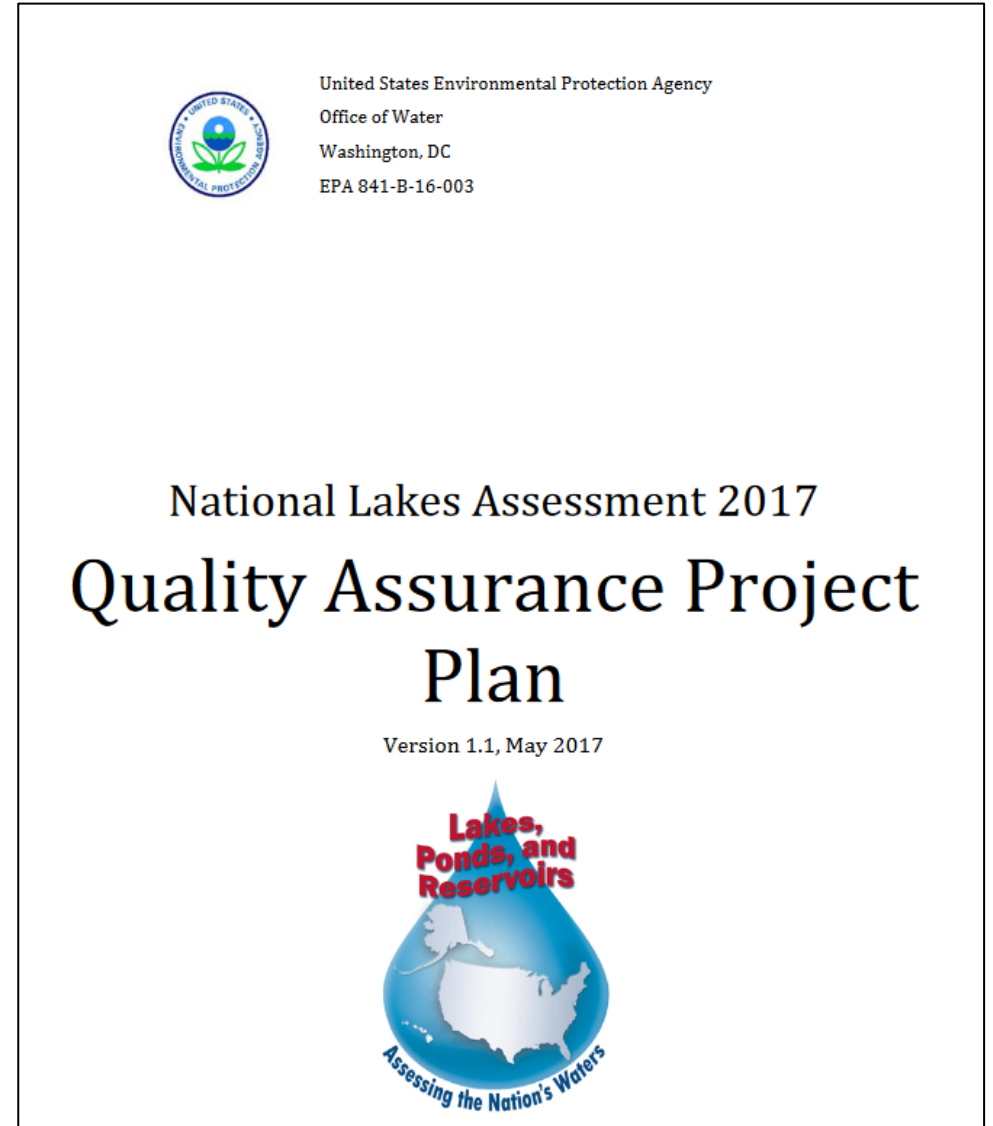


QAPP 101

What is a QAPP?

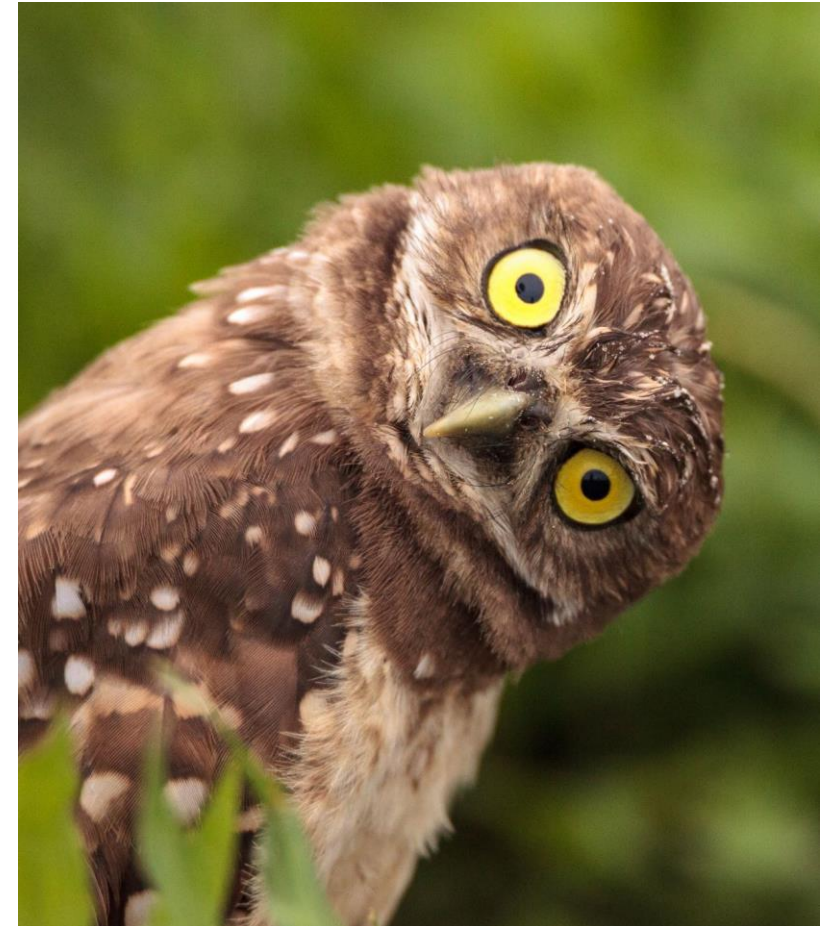
EPA Definition

“A planning document related to a project that describes in comprehensive detail the necessary QAQC requirements and other technical activities that must be implemented to ensure that the results of the work performed will satisfy the stated performance and acceptance criteria.”



So What Is It Really?

- A QAPP is a project-specific QA/QC document.
- Audience is the RAE/ Project staff and contractors.
- Outlines the details of how data is measured and handled.
- Identifies the specific roles of project participants.
- Describes how the project team will ensure that data are “good enough” to meet the needs of the project.
- A QAPP is a living document, that is revised annually.



When Are QAPPs Required?

QAPPs are required for all work performed by or on behalf of EPA involving the collection, production, evaluation, or use of **environmental information** and the design, construction, operation, or application of **environmental technology**.

- **What's Environmental Information?**
 - Data and information that describe environmental processes or conditions.
 - Includes both "Primary" (Collected) and "Secondary" (Existing) data, or Modeled data.
 - Data may be Quantitative (numeric) or Qualitative (Descriptive).
- **What's Environmental Technology?**
 - A term for systems, devices, and their components that
 - Measure and/or Remove pollutants or contaminants, and/or
 - Prevent pollutants or contaminants from entering the environment.



Environmental Information



Environmental Information Types	Description	Examples
Primary Data	New data collection/ creation	Field samples, lab analyses, surveys
Existing/Secondary Data	Existing data	Databases, previous projects, scientific literature, GIS Data
Modeling Data	Data from a predictive system that provides representations of the environment	Pollutant loads estimated by a watershed model. Population projections.

QAPP Basics Review Game: Does it need a QAPP?

Project Examples:

1. A study of the effectiveness of aquaculture on nutrient removal by measuring the nitrogen content of kelp/shellfish grown adjacent to a wastewater treatment plant.
2. A community engagement project with data gathered and used for educational purposes only within the immediate community
3. A riparian habitat restoration project involving vegetation surveys and community engagement
4. A review of existing monitoring data to calibrate a model for development of a watershed plan.

A QAPP is needed if...

- Your project is funded by EPA and collects or uses environmental data
- You want others to consider using your data especially for management level and/or science-based decision making



Q&A – QAPP 101

Part 2: Required Elements of a QAPP

EPA QAPP Standards Directive No: CIO 2105-S-02.1

- This Standard replaces EPA/QA-R5, "EPA Requirements for Quality Assurance Project Plan" and defines the minimum requirements for QAPPs for EPA and non-EPA organizations performing environmental information operations.
- What's New?
 - Differences in terminology
 - Reordering of sections
 - Specifies content, not format
 - Annual reviews for projects longer than one year
- Region 1 had developed a template and guidance following the new standard.
- Region 2 refers to the new standard but has not yet developed a template or guidance.

US EPA QAPP Guidance

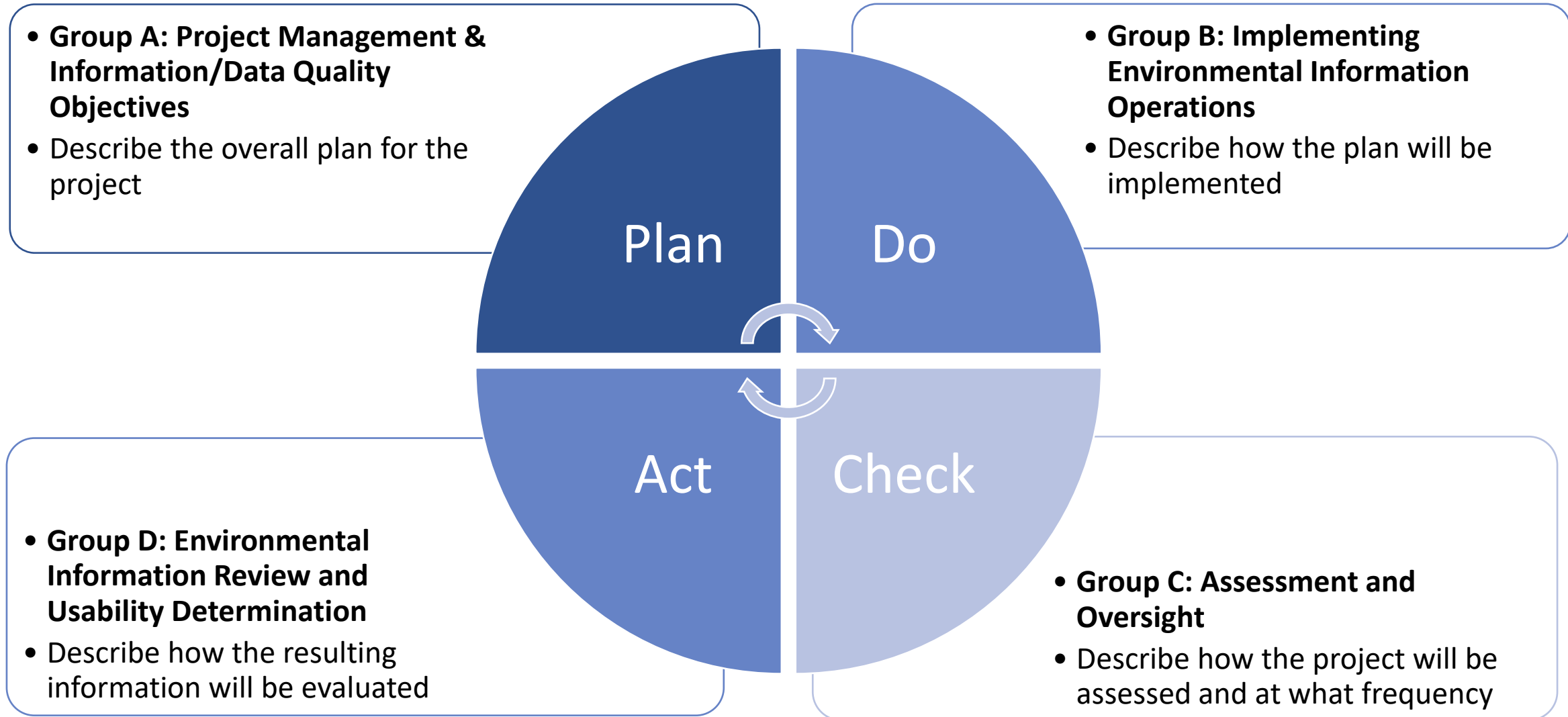


EPA QAPP Standard New Terminology

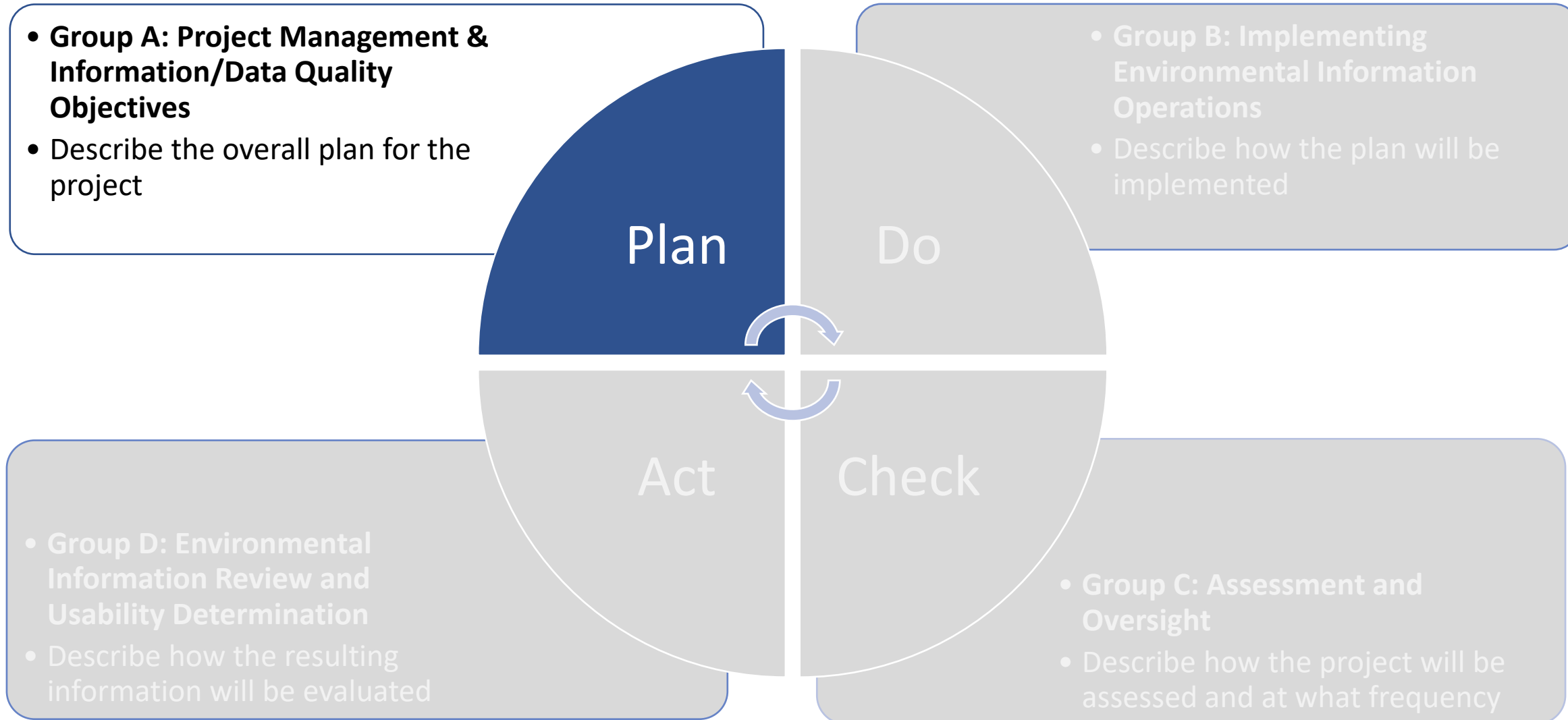
- **Environmental Information** (aka Environmental Data) – Data and information that describe environmental processes or conditions.
- **Environmental Information Operations** (aka Data Collection Activities) – A collective term for work performed to collect, produce, evaluate, or use environmental information and the design, construction, operation, or application of environmental technology.
- **Operations Manager** - The individual responsible for the project's environmental tasks. In many organizations, this individual is often referred to as the "Project Manager" or "Program Manager."



QAPP Elements



Group A: Project Management and Information/ DQOs



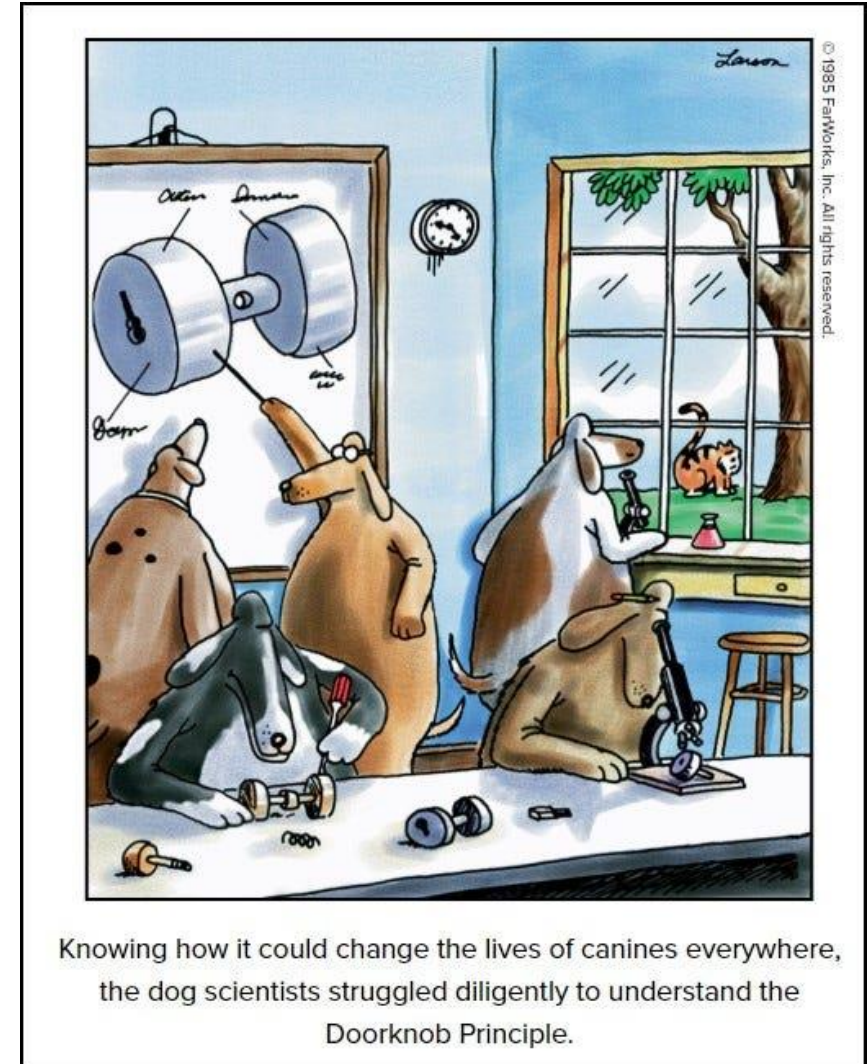
A1 to A3: Administrative and Document Control

- A1 Title Page
Includes estimated project start and end dates
- A2 Approval Page
Identifies the key project officials and documents their approval
- A3 Table of Contents, Document Format, and Document Control
Includes QAPP elements, tables, figures, and appendices



A4-A6: Project Scope and Data Quality Needs

- A4 Project Purpose, Problem Definition, and Background
Outlines project hypotheses and background
- A5 Project Task Description
Summarizes the tasks and timeline
- ★ A6 Information/Data Quality Objectives and Performance/ Acceptance Criteria
Defines Data Quality Needs



A6: Information/ DQOs and Performance Acceptance Criteria

Data Quality Objectives (DQOs):

- What are the data needs?
- How 'good' do data need to be to support the project objectives?

A DQO statement for the project should relate back to the project objectives.

- *Data quality objectives ensure that site selection and assessments are conducted using accurate and precise information capable of identifying a 20% concentration difference in dissolved nutrients., or*
- *Data will be collected using the best available techniques to measure toxicity in sediment.*

A6: Data Quality Indicators (DQIs): PARCCS System

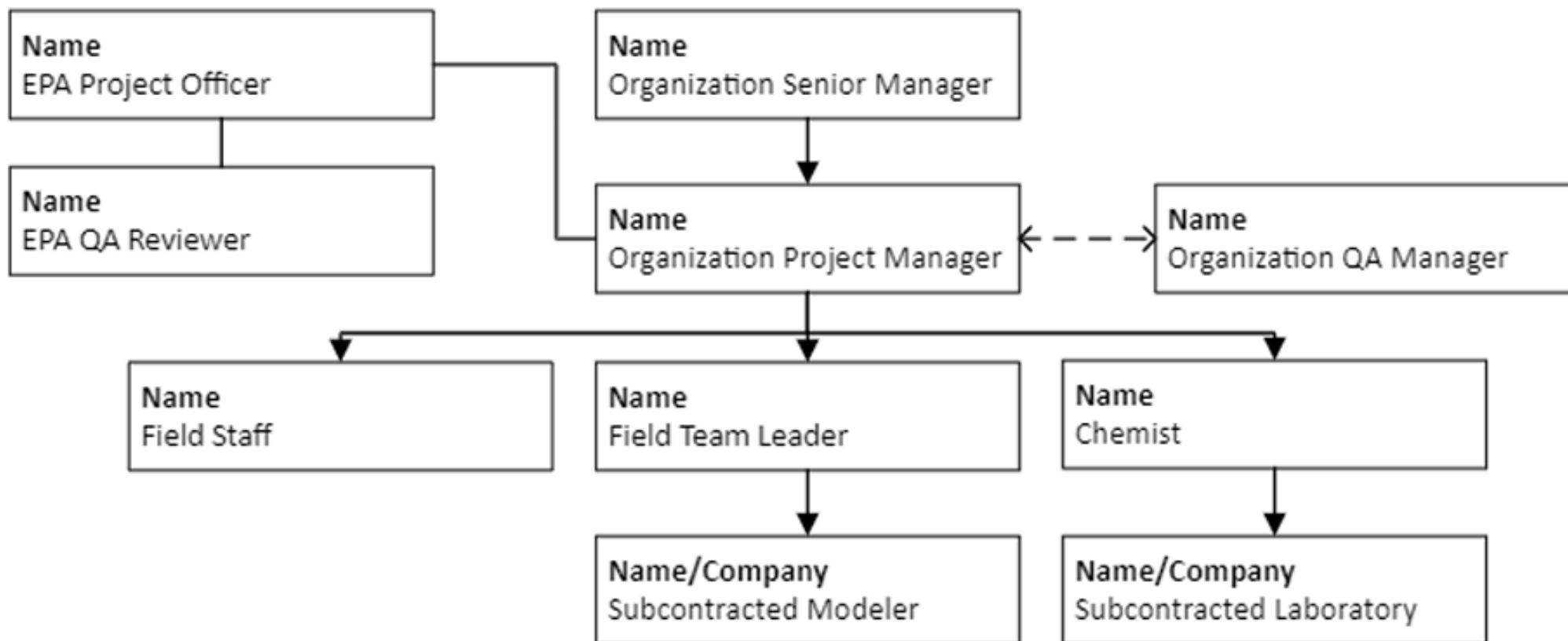
ELEMENT	WHAT IS IT?	EXAMPLE INDICATORS
PRECISION	MEASURE OF REPEATABILITY OF THE MEASUREMENT	Difference between field or lab duplicates.
ACCURACY (BIAS)	AGREEMENT WITH THE KNOWN VALUE.	Comparison with Standard Solutions.
REPRESENTATIVENESS	ABILITY TO REPRESENT A POPULATION	Cross-Section evaluated (e.g., seasonal, spatial, species)
COMPARABILITY	ABILITY TO BLEND DATA FROM MULTIPLE DATA SETS.	List of characteristics/ similarity to existing or external data.
COMPLETENESS	AMOUNT OF DATA COLLECTED (AS A PERCENT OF DATA NEEDED OR INTENDED)	# of usable samples collected
SENSITIVITY	ABILITY TO DIFFERENTIATE BETWEEN DIFFERENT LEVELS OF A MEASURED VARIABLE	Limits of Detection

A7-A12: People and Communication

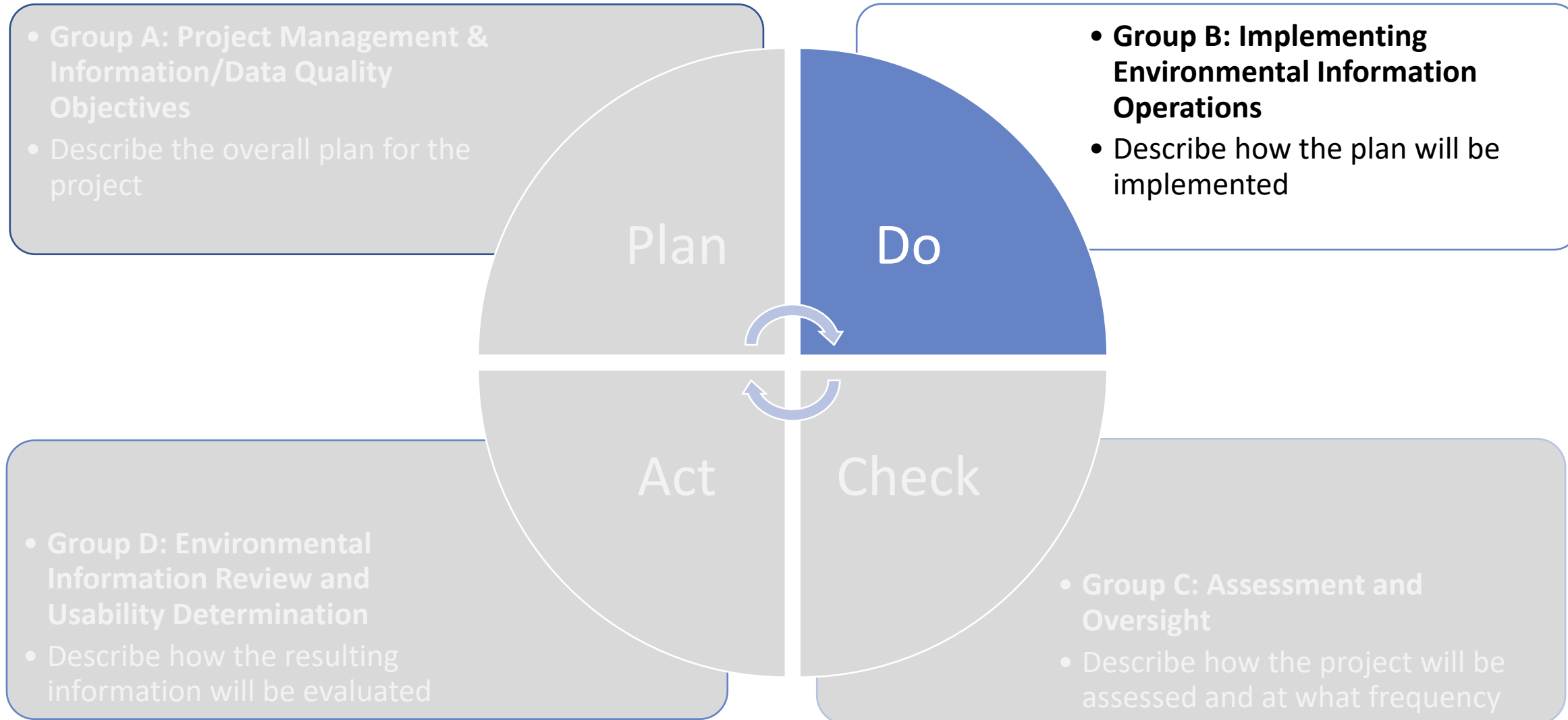
- A7 Distribution List
List of people who receive a copy of the QAPP
- A8 Project Organization
Description of roles and responsibilities
- A9 Project QAM Independence
Independent person responsible for QA
- ★ A10 Project Organizational Chart and Communications
Identifies lines of authority and communication.
- A11 Personnel Training/Certification
Special training, certification or experience needed.
- A12 Documents and Records
How reports and documents are managed.



A10: Organizational Chart (Example)



Group B: Implementing Environmental Information Operations



B1&B2: Detailed Tasks and Methods

- B1 Identification of Project Environmental Information Operations – *Detailed tasks, including "how" and "why". Experimental Design/ Sampling Plans are included in this section. Expands on the description in Section A5.*
- B2 Methods for Environmental Information Acquisition – *How project data and information will be collected, analyzed, and/or evaluated. This section will include Standard Operating Procedures (SOPs) or EPA Methods if applicable.*



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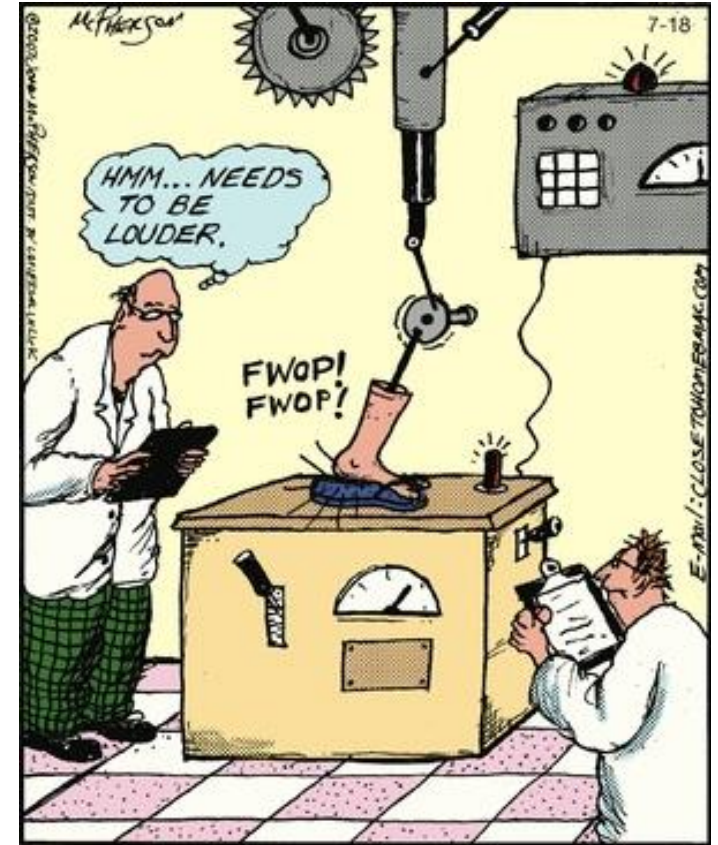
B3&B4: Data Integrity and Quality Control

B3

Integrity of Environmental Information –
Describes how the integrity of environmental samples and environmental information will be retained throughout the project lifecycle. Includes chain of custody and storage.

B4

Quality Control -
Describes Quality Control activities during the project. Examples may include field blanks or similar methods to check Data Quality.
Methods should reflect the DQI summarized in Section A6.



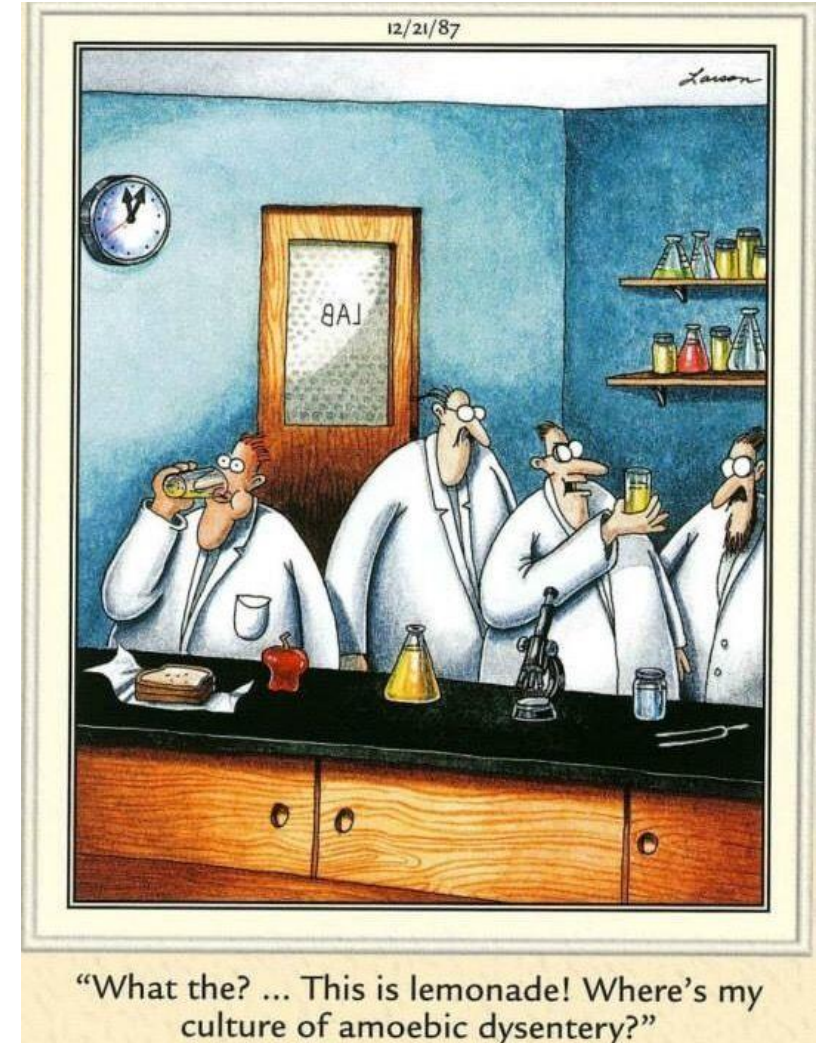
At the Flip-Flop Quality Control Center.

B5 to B7: Equipment and Environmental Information Management

B5 Instruments/Equipment Calibration, Testing, Inspection, and Maintenance
How equipment and instrumentation will be maintained, tested, calibrated and operated throughout the project.

B6 Inspection/Acceptance of Supplies and Services
Standards for accepting supplies (e.g., lab standards or reagents) or ensuring that services such as a land survey by a subcontractor are acceptable for the project.

B7 Environmental Information Management –
How data will be managed and stored. Include information such as where and for how long data will be kept, backup copies, etc.
Some organizations may have a data management policy that can be used to describe this section.



EPA QAPP Standard Elements – Group B

Quiz – Should it be listed as equipment?

1



2



3

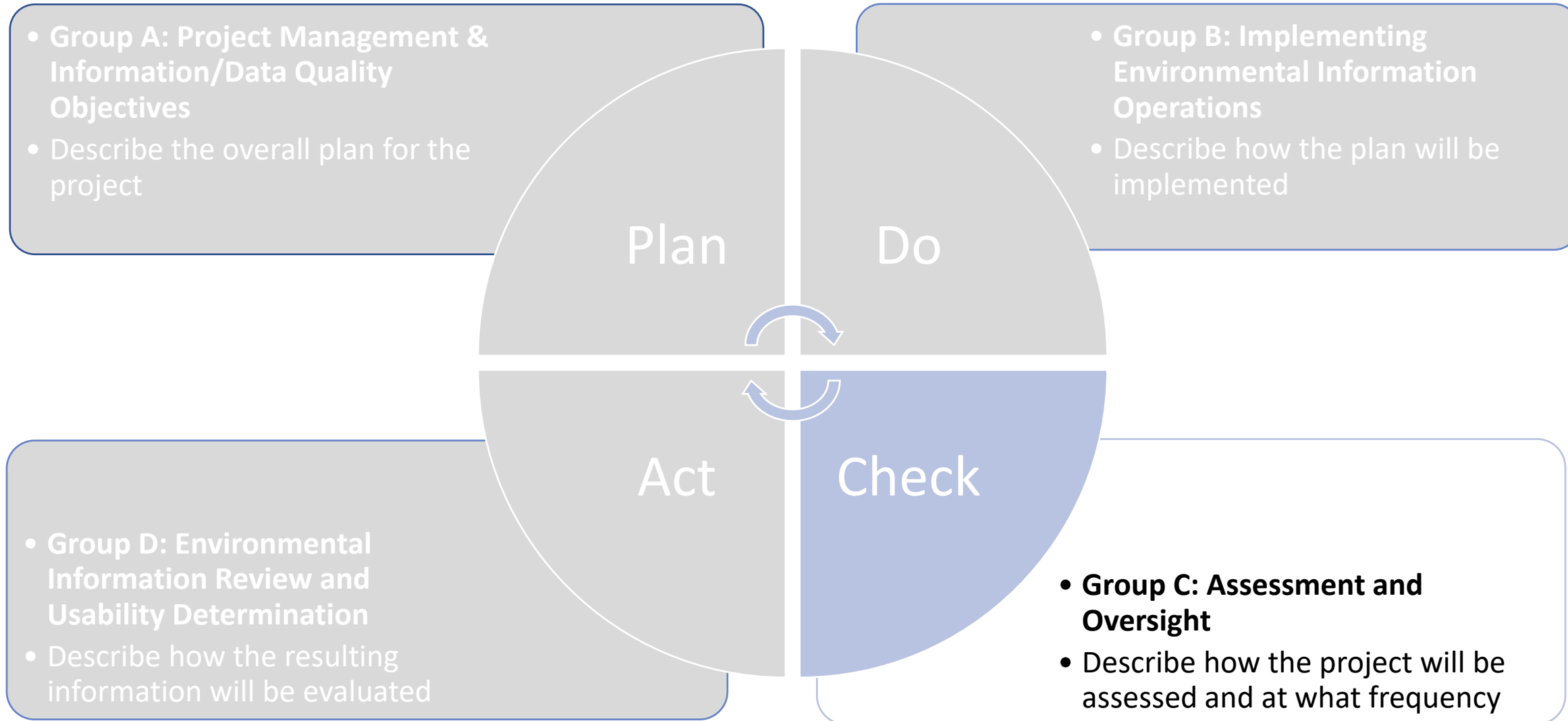


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Q&A - Sections A and B

Group C: Assessment and Oversight

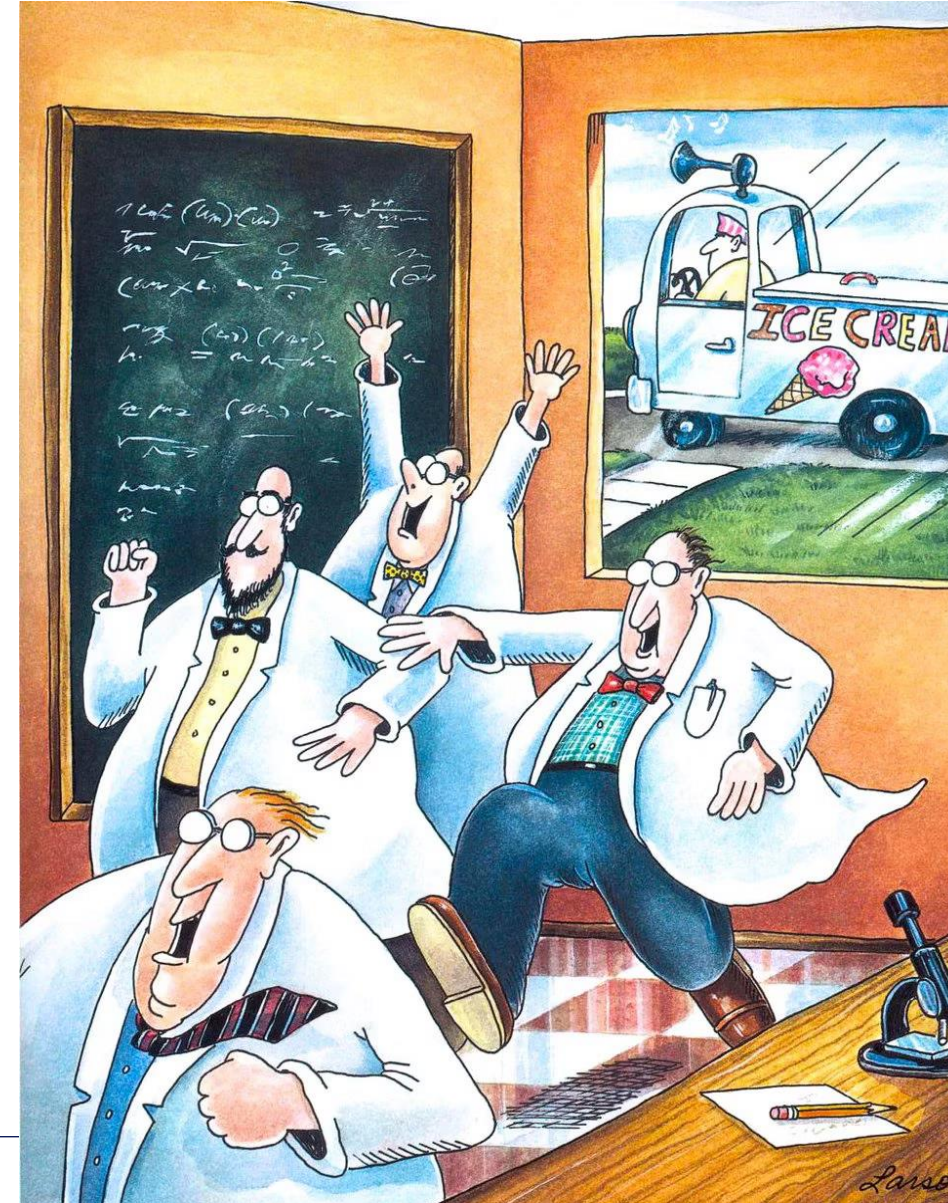


EPA QAPP Standard Elements Group C

Assessment, Response Actions, And Oversight

C1 Assessments and Response Actions - describes how a project's activities will be assessed during the project to ensure that the QAPP is being implemented as approved.

- Assessments can be internal and/or external and should be conducted throughout the project to ensure that usable environmental information are obtained.
- Response actions address findings, corrective actions and non-conformances identified from the assessments.



EPA QAPP Standard Elements Group C

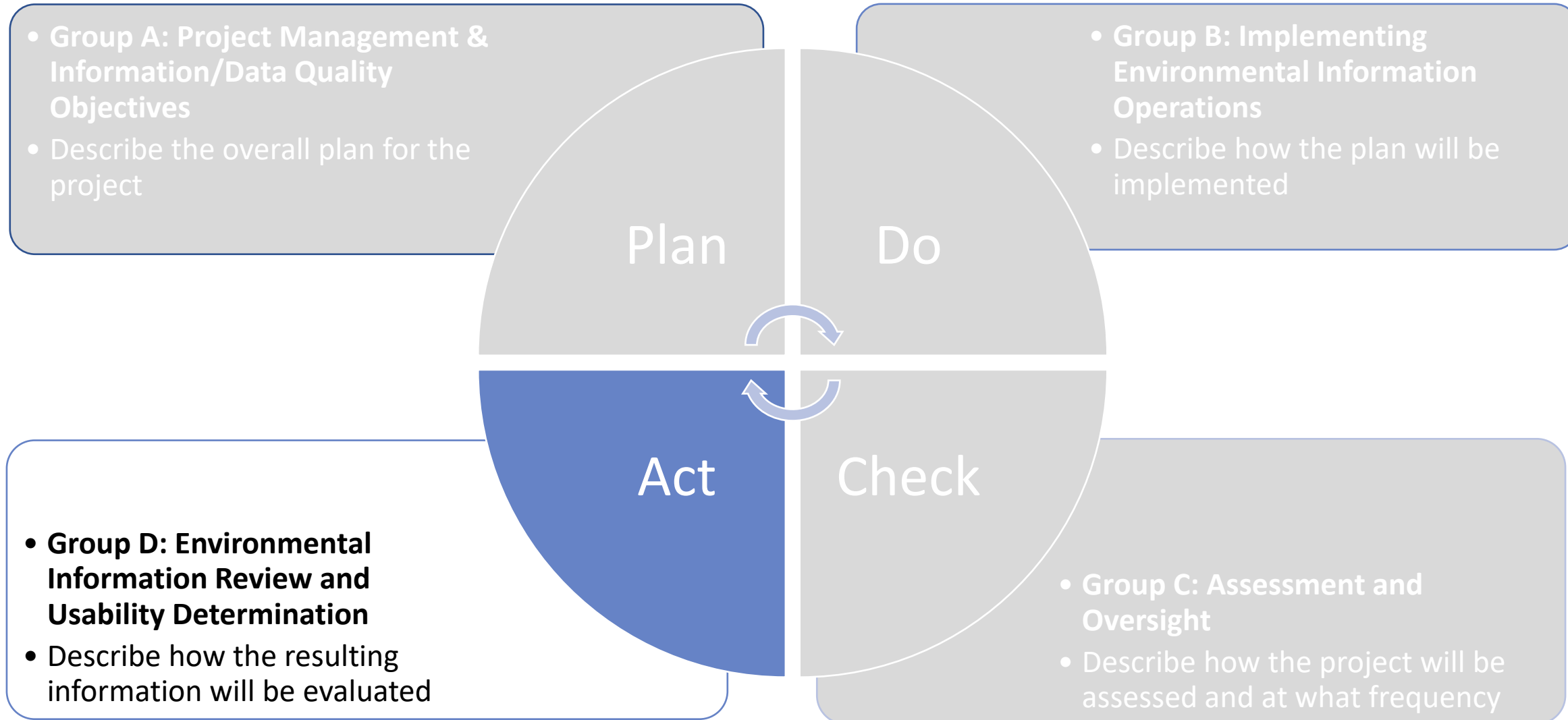
Assessment, Response Actions, And Oversight

- C2 Oversight and Reports to Management - describes oversight procedures and documents how project management and other stakeholders are kept informed of oversight and assessment activities.

Oversight activities ensure that response actions and reporting mechanisms are in place to capture the project status and any QA issues that arise during implementation and through assessments.



Group D: Environmental Information Review and Usability Determination



EPA QAPP Standard Elements Group D

Environmental Information Review And Usability Determination

Address the activities associated with environmental information review for the purpose of determining whether the environmental information meets the established environmental/data quality objectives, the performance/acceptance criteria, and are useable for the intended purpose.

D1 Environmental Information Review - review procedures for determining whether project data and information meet the project's stated data quality objectives and intended use(s).

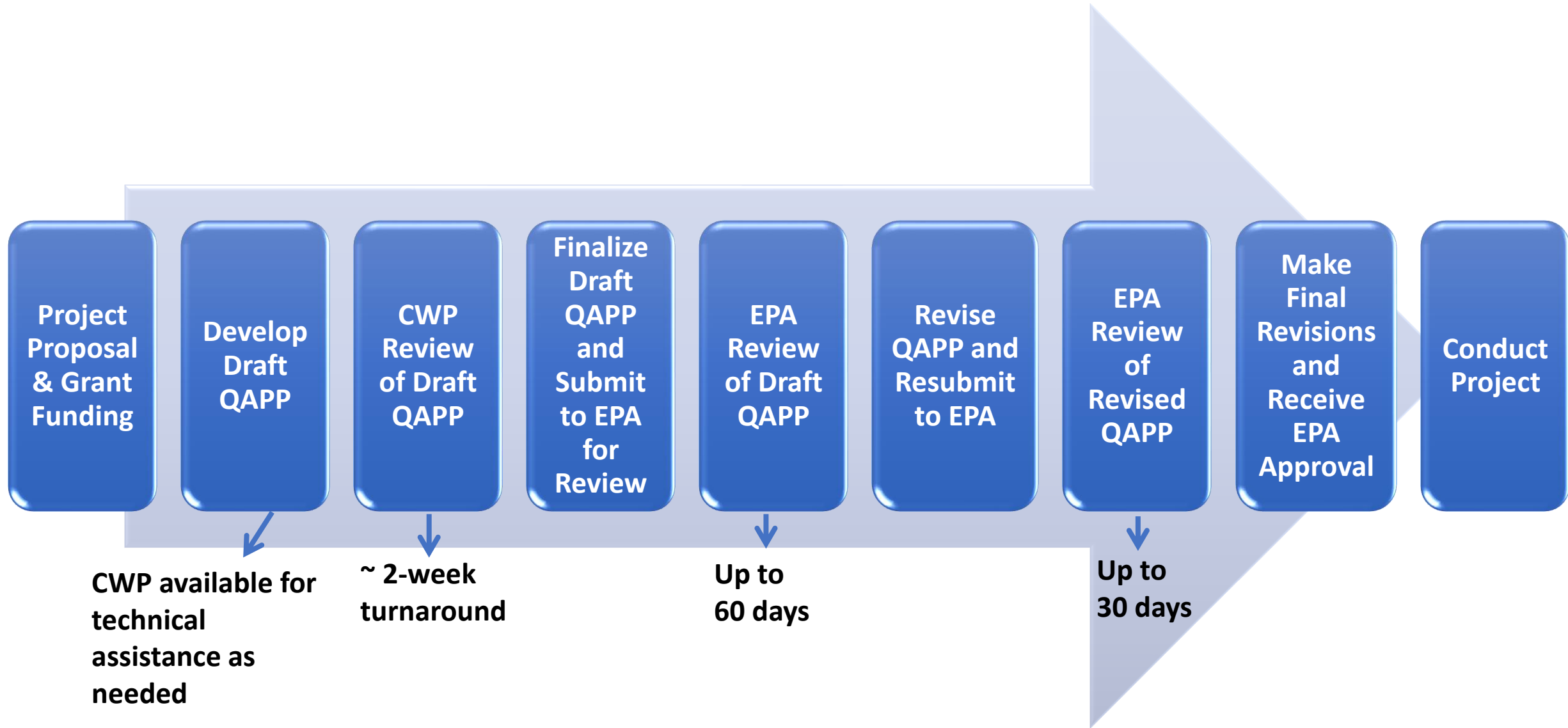
D2 Useability Determination - determine if the project data and information is of the right type, quality, and quantity to support the intended use and are suitable for the decisions that will be made.



Q&A - Sections C and D

Part 3: Guidance for Scoping and Budgeting

QAPP Timeline



QAPP Planning Common Questions

Who are the key staff that need to be included in the QAPP?

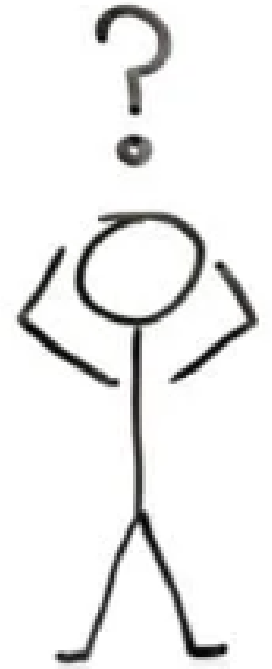
Senior Manager, Operations Manager, Project QA Manager, project personnel involved in environmental operations, laboratories, other consultants.

What if consultants are doing a majority of the work?

They will need to provide information for the QAPP (methods, laboratory certifications, data quality objectives, etc.).

What if I don't yet know the methods or exact information to be included?

EPA will likely ask for revised QAPPs if they are submitted with sections noted as TBD. It's best to include the information if possible. If not, you should coordinate with the EPA project officer.



Budgeting for QAPPs

Staff time consideration for drafting a QAPP:

- Complexity of projects
- Coordination with members of the project team that need to provide input for the QAPP
- Following existing SOPs or using a new methodology

Tips for more efficient QAPPs:

- Use the template developed for LISCIF grantees
- Provide references to any existing SOPs (don't reinvent the wheel)
- Utilize CWP assistance
- Informal or simple project actions need to be described (e.g., taking photos)

Staff Time Estimate to Complete Initial QAPP Draft

Project Type	Staff Hour Estimate
Simple	24-30
Average	40-50
Complex	Up to 100+

Make sure to account for time needed for revisions



Q&A - Scoping and Budgeting

THANK YOU FOR JOINING US!

Webcast 2: QAPP Examples and Guidance
Thursday October 3rd, 2024 at 10 AM

Register in advance for this meeting:

<https://us06web.zoom.us/meeting/register/tZMode2rqTwjGtHDybrosTy2hIfjGfipzWNp>

Questions?

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