

US EPA ARCHIVE DOCUMENT

Developing the Quality Assurance Project Plan

Michael Crow

Environmental Policy Consultant

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Quality Assurance Requirements

- EPA's outcomes/measures policy requires organizations receiving EPA financial assistance to assess environmental results
 - Congress driving better accountability and stronger link to EPA strategic goals in Agency Assistance Agreement programs
- Data collection (or modeling) assumed required in order to assess results
- EPA QA policy requires Quality Assurance Project Plans (QAPPs) for any assessments collecting data

First Things First

- **Don't** work on your QAPP until after submitting your work plan and other paperwork
 - **QAPPs due** 60 days after work plan submissions
- **Do** consider QA issues in developing your work plan
 - Laundry list of measures needs QA approach for **each** measure

Why Emphasize QA?

- Ensure adequate planning in advance and set clear *data quality objectives (DQOs)* so:
 - Analyses will support anticipated decision-making
 - Experimental design and data collected will support analyses
 - Results are comparable to similar efforts
 - Reporting is easily understandable and transparent
- Get the right results, defensible results
- Better ensure that data represent actual conditions

Common QA Issues

- **Precision:** How should I design a questionnaire to improve the accuracy of data collected with it? Should others review it? Should others test it?
- **Bias:** Should I base my decision-making only on data provided by project participants, or other data as well?
- **Representativeness:** Should I collect data from all project participants, or just a sample? If a sample, can I draw inferences about everybody else? Can I draw inferences about non-participants?

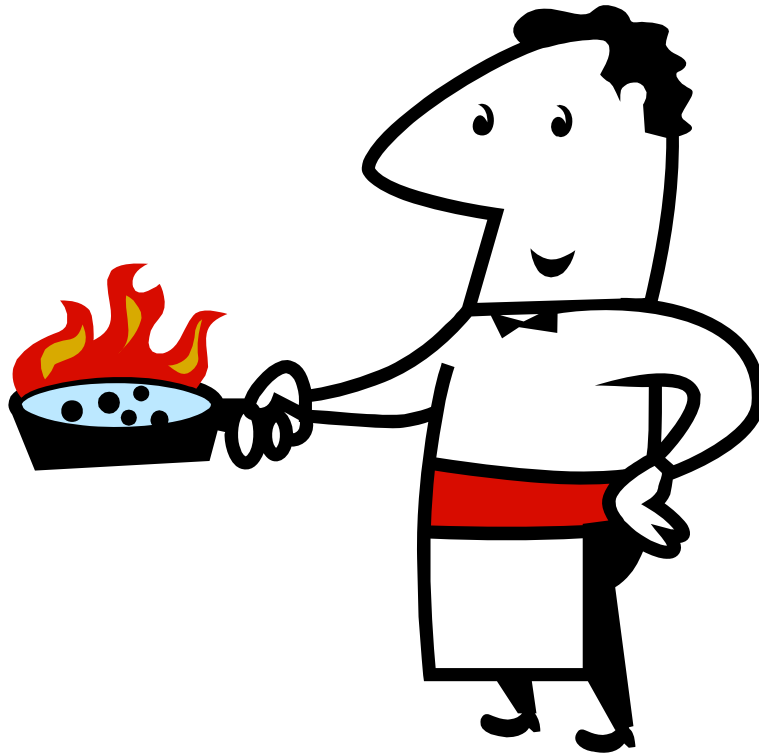
It's like cooking a new dish...

- Decide what to cook.
- Read cookbooks and get advice from friends.
- Decide on recipe.
- Gather the right ingredients in the proper amounts.
- Use clean cookware.
- Begin cooking, following the recipe, noting changes.
- Stir well and taste.
- Stir again and have someone else taste.
- Serve and enjoy!

Cooking, with QA



Cooking without QA

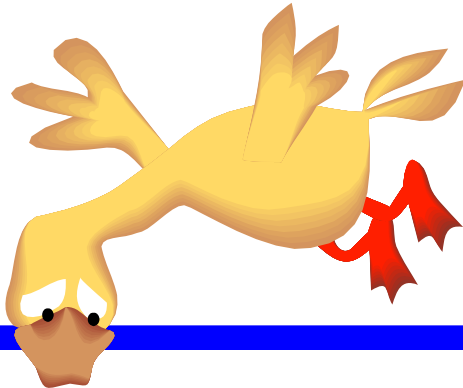


QA Requirement for SIG Recipients

- **QA system** to support project data collection, modeling, analysis, etc. (consistent with ANSI standards)
- **You will need:**
 - **Quality Management Plan (QMP)** at Agency level or program level (most likely already in place in your state)
 - **Quality Assurance Project Plan (QAPP)**

What is a QMP?

- The QMP describes an organization's quality system – that is, its management structure for quality.
- The QMP is an umbrella plan under which individual projects are conducted.



What Is a QAPP?

- A QAPP is a written document that describes your plan for collecting and using environmental information and data as part of *your* project.
- It documents the results of the planning that you've done.
- Typically 10-20 pages long

Your QAPP Covers Which Data?

- QAPP governs **all data** used by your project for measurement purposes
- **Primary data:** data collected expressly for the purposes of your project
- **Secondary data:** data collected originally for some other purpose
 - Often already peer-reviewed or governed by QAPP;
 - Project copes with, rather than controls, quality

ERP: Primary & Secondary Data

- **Primary:** data from random inspections and self-certification forms
- **Secondary:** data from private/public databases to identify facilities; emissions factors used to estimate environmental outcomes

EMS: Primary & Secondary Data

- **Primary:** data that participating facilities provide to agency (unless copies of pre-existing regulatory data), such as progress toward achievement of EMS goals
- **Secondary:** otherwise-required emissions/discharge reports; agency compliance and enforcement records

PTrack: Primary & Secondary Data

- **Primary:** data that participating facilities provide to agency (unless copies of pre-existing regulatory data), such as PTrack applications or annual reports; PTrack audit data
- **Secondary:** otherwise-required emissions/discharge reports; agency compliance and enforcement records

What Does a QAPP Contain?

- **High-level project information:** rationale, expected outcomes, decisions to be made based on data, and data quality objectives to support those decisions
- **Experimental design and data collection plan:** to meet needs for data quality and decision-making
- **Assessment and oversight plan:** to make sure the project is implemented as planned
- **Plan for assessing data quality:** to review and accept/reject data as needed

What Is the QAPP Process?

- **Draft, conditionally approved QAPP** necessary to receive award
 - EPA recognizes that some key project elements can't be worked out until after award is received
- **Fully approved QAPP** necessary to begin collection of primary data
- Draft and amended QAPPs undergo **collaborative review by EPA**
 - Region and Headquarters
 - QA and policy staff

Guiding Principles

- **Recognize there will be problems:** Every project will have quality issues, due to limited resources, other constraints
- **Prioritize:** Identify the biggest quality issues to resolve to ensure good decision-making, and direct resources/effort appropriately
- **Don't go overboard:** A QAPP's complexity and level of detail should be proportional to the complexity and significance of the intended use for the data.



QA Support for SIG States

- **PROBLEM:**
 - EPA QA guidance primarily designed for scientists and scientific experiments, NOT policy types and innovative programs
 - State recipients often don't speak "QA"
 - Regional reviewers don't speak "innovation"
- **SOLUTION:**
 - **Templates.** QAPP templates designed specifically for ERP, Performance Track, and EMS-regulatory projects
 - **Other resources.** Sample QAPPs and QAPP resources in binder
 - **Technical assistance.** EPA and contractor staff also available to help
 - **Collaborative QAPP review process.** EPA wants to reduce bureaucracy and see projects get implemented.

What the QAPP Templates Do

- Provide program-specific boilerplate language
- Highlight language needing special attention
- Provide background comments
 - Plain-language info on QAPP terminology / requirements
 - Program-specific QAPP considerations
- BUT... draft and NOT official guidance

Advantages of Templates

- Dramatically accelerate learning
- Organize diverse resources
- Standardize documentation
- Streamline EPA review
 - Match with EPA QAPP checklist
 - Help states communicate in QA language
Regions understand
- Improve project performance
 - Best practices built into template

View from ERP Template

Table 2: Schedule of major project tasks

Task Name	Task Description	Start Date	End Date
Outreach	Outreach to internal and external stakeholders (including targeted facilities) about the project.		
Goals identification	Finalize the goals of this project, upon which metrics will be based		
Measures identification	Finalization of metrics to be tracked by this project.		
Facility identification	Determine the exact characteristics of facilities to be included in this project, and compile a list of facilities from reliable sources. [In some cases: work with community groups, industry associations, etc. to actively identify targeted facilities.]		
Statistical methodology	Development of a statistical methodology to drive performance measurement and analytical tasks.		
Data input & management	Development and implementation of an approach to cost-effectively inputting and managing ERP data, including primary and		

Comment [MC10]: It may be helpful for you to create separate tasks for internal and external stakeholder processes, rather than the single task year. Also, you may find it helpful to separate stakeholder discussions from the marketing-style outreach associated with project implementation.

Comment [MC11]: In a typical ERP, this step involves identifying the total universe of facilities from which the random samples will be drawn. In non-ERP projects, this step involves the identification of participating facilities.

Comment [MC12]: Please note that this would qualify as primary data collection, and would require development of rigorous facility identification protocols, training of personnel involved in identification, etc., similar to other primary data collection tasks.

QAPP Examples Also Provided

- **See your binders for examples of QAPPs for each type of SIG project (i.e., ERP, Performance Track, EMS)**

Contact Information

Michael Crow

Environmental Policy Consultant

Takoma Park, Maryland

Phone: 240-398-3643

Cell: 301-580-3501

Fax: 240-804-8080

E-mail: Mike@CrowEnvironmental.com

Web: www.CrowEnvironmental.com