



## WATER BUREAU POLICY AND PROCEDURES

<b>NUMBER:</b>	WB-008	
<b>SUBJECT:</b>	QUALITY ASSURANCE PLANNING FOR ENVIRONMENTAL DATA COLLECTION ACTIVITIES	
<b>EFFECTIVE DATE:</b>	MAY 21, 2007	PAGE: 1 of 6
<b>REVISION DATE:</b>	(5-YEAR REVIEW FREQUENCY)	

### ISSUE:

All environmental data generated by Water Bureau (WB) staff and its contractors and grantees must be collected in a way that assures appropriate quality. Planning for this is a key element in the overall Quality Assurance Program. This policy will assure that proper quality assurance related planning is performed before the collection of environmental data by the WB and its grantees and contractors.

### AUTHORITY:

1. Department of Environmental Quality (DEQ) Policy No. 09-004, Quality Assurance/Quality Control.
2. Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA).
3. Public Health Code, 1978 PA 368, as amended.
4. Safe Drinking Water Act, 1976 PA 399, as amended.

### DEFINITIONS:

**Environmental Data:** Any measurements or information that describe environmental processes, location, or conditions; ecological or health effects and consequences; or the performance of environmental technology.

**Quality Assurance (QA):** An integrated system of policies and procedures for planning, implementation, documentation, assessment, reporting, and quality improvement to ensure that a process, item, or activity is of the type and quality needed. QA provides a framework by developing and implementing planning tools (such as sampling plans), policies, procedures, and assessment criteria.

**QA Manual:** An organized collection of reference materials, standard operating procedures (SOP), and management techniques used by WB staff to plan, conduct, and audit the results from environmental data collection activities.

**Quality Control (QC):** The overall system of technical activities that measure the attributes and performance of a process, item, or activity against defined standards to verify that it meets the stated specifications. QC involves the action of testing, measuring, and evaluating the

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effectiveness of the environmental program or activity. Examples include duplicate sampling, calibration checks, audits, reviews, assessments, peer reviews, and management oversight activities.

**Quality Assurance Project Plan (QAPP):** A formal document or set of documents describing in comprehensive detail the necessary QA/QC, and other technical activities that must be implemented to ensure that the results of the work performed will satisfy the stated performance criteria.

**Quality Management Plan (QMP):** The DEQ's formal document describing its quality system in terms of the organizational structure, policies and procedures, functional responsibilities of management and staff, lines of authority, and needed interfaces for those planning, implementing, documenting, and assessing all activities conducted.

**Social data:** Any measurement or information that is collected using Clean Water Act Section 319 funds or with funds used to match the Section 319 grant to help determine public knowledge and awareness of nonpoint source (NPS) pollution issues.

**SOPs:** A written document that details the method for an operation, analysis, or action with thoroughly prescribed techniques and steps, that is officially approved as the method for performing certain routine or repetitive tasks.

**Work Plans:** A detailed document describing activities and rationale for environmental sampling including schedules, sampling locations, equipment and personnel needs, data analysis techniques, SOPs to be followed, and other elements of a project that are critical to its success.

**POLICY:**

It is the responsibility of all WB staff to ensure that QA/QC activities are carried out appropriately. The QMP provides the general framework for QA/QC operations within the DEQ. All sections in the WB shall maintain written QA/QC documentation, and have up-to-date policies and procedures relating to environmental and social (as appropriate) data planning, collection, and analysis. These policies and procedures should be used as reference and training tools, and at a minimum, must be reviewed every five years consistent with WB Policy WB-001 and updated more frequently as needed. The WB will also adhere to any additional department and state policies and procedures that involve data planning, collection, and analysis; and will adhere to federal requirements when needed to fulfill program, grant or contract requirements.

All environmental data collection projects executed by, or on behalf of the WB will have a QAPP except for emergency response activities or sampling that is highly routine and very limited in scope. Collection of social data by or on behalf of the WB intended to meet the requirements of the federal Section 319 grant will also have a QAPP.

The QAPP will be a single document or a set of related documents depending on the level of managerial control, degree of confidence needed in the quality of the data generated, complexity of the project, and the frequency and repetitiveness of the data collected. The level of detail contained

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in the QAPP may vary depending upon these same criteria consistent with the graded approach described in U.S. Environmental Protection Agency (U.S. EPA, 2001), listed in the references section following. All QAPPs must be approved prior to the start of data collection.

To comply with U.S. EPA requirements (U.S. EPA, 2001) and R 324.8914 of Part 88, Water Pollution and Environmental Protection Act, of the NREPA, all QAPPs for environmental data will contain explicitly, or by reference, sufficient information to describe the following:

- Problem definition and background.
- Project description, organization, and roles of project personnel.
- The goals and objectives of the work including data quality objectives.
- Distribution list for the QAPP and any other QA documents for the project.
- Sampling design and rationale (experimental design).
- Special training or certification needs.
- Sampling procedures, locations, and schedule.
- Sample custody procedures.
- Instrument/equipment testing, inspection, calibration frequency, and maintenance.
- Inspection/acceptance of supplies and consumables.
- Measurements to be made (parameters) including the analytical methods.
- Data quality measurements that will be performed (for example, replicates, blanks, etc.).
- Acceptance criteria for data not generated by, but used by the project.
- Project QA assessment and response procedures.
- Data and document management and reporting procedures.
- Status reports and quality assurance reports to management.
- Methods and criteria for data review, verification, and validation.
- Reconciliation of project products with user requirements.
- Any other information that is critical to the proper execution of the project and the usefulness of the data generated.

All QAPPs for social data will contain all items listed previously for environmental data except:

- Sample locations.
- Sample custody procedures.
- Instrument/equipment testing, inspection, calibration frequency, and maintenance.
- Inspection/acceptance of supplies and consumables.

The QAPP will be compiled into one document for the following types of monitoring projects:

- When an entire program is addressed by the QAPP.
- Highly complicated monitoring projects.
- All U.S. EPA special monitoring projects that are not part of routine work.
- All monitoring projects executed by a grantee.
- Projects funded through a contractor, unless the project is highly routine and limited in scope as determined by the appropriate section chief.

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- Other projects as determined by the section chief.
- Projects to collect and analyze social data.

The QAPPs for other monitoring projects may consist of multiple documents (i.e., work plan and SOPs) that, when taken together, address all the QA/QC elements listed above. For example, monitoring projects that have a detailed work plan that references SOPs, is approved by the unit chief/district supervisor, following the QA manual, and are managed according to the departmental QMP would be considered to have an approved QAPP. The section chief will determine for which projects this approach is appropriate. These decisions and the documents comprising each QAPP including approval documents will be documented in section files.

It is appropriate in some circumstances to implement environmental monitoring without an approved QAPP or work plan, including 1) when immediate response action is required and there is insufficient time for development and approval of a QAPP or work plan; and 2) when monitoring is highly routine and limited in scope. In both cases, the monitoring should be conducted according to SOPs, the WB QA manual, and the departmental QMP.

**PROCEDURE:**

All QAPPs prepared by or on behalf of WB staff will be reviewed and approved in writing by the unit chief or section chief, as appropriate. All SOPs and program level QAPPs shall be approved by the appropriate section chief and all work plans and project-specific QAPPs shall be approved by the appropriate unit chief. All SOPs, work plans, and QAPPs will be filed in the appropriate project or program file. For QAPPs prepared outside of the WB that contain deficiencies, a conditional rejection letter that outlines the deficiencies will be sent by WB staff to the outside entity. No data shall be collected until all deficiencies have been addressed and a QAPP has been approved in writing.

QAPPs from grantees and contractors will be reviewed by WB project staff for consistency with the project objectives, any existing work plan, and this policy. Staff doing the technical review of a QAPP should, as approved by their unit chief, solicit input from other technical experts for aspects of the QAPP that are beyond the reviewer's technical expertise. Staff will work with the grantee or contractor to correct any inconsistencies. If the QAPP is consistent with the project objectives and any existing work plan, and adequately addresses all QA/QC issues, then the staff will make a written request to the appropriate unit chief or section chief for approval of the QAPP. For NPS grant monitoring projects this approval should be requested of the NPS Unit Chief. A copy of approval letters/memos for NPS monitoring grant projects will be sent to the project administrator, the grantee/vendor, and the Environmental Science and Services Division's NPS project file.

Since all procedures or operational memoranda are considered policies, the preparation of SOPs will be governed by the WB Policy on Policies (number WB-001).

<b>Responsibility</b>	<b>Action</b>
Section Chief	1. Decides what constitutes adequate QA documentation for a project or program.
Section Chief	2. Assigns responsibility for preparation of program level QAPPs and SOPs.

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Unit Chief/District Supervisor	3. Logs and assigns QAPPs to staff for review.
Unit Chief/District Supervisor	4. Approves requests to other sections and divisions for technical assistance with review of QAPPs.
Staff	5. Review QAPPs as assigned. For deficient QAPPs consult with the grantee or contractor as necessary and draft a conditional rejection letter. Draft approval letters for acceptable QAPPs. If project administrator is different from the QAPP reviewer, the project administrator must first review the QAPP for consistency with the project goals and objectives.
Staff	6. Draft SOPs, work plans, or QAPPs, as assigned.
Section Chief	7. Approve all SOPs and any QAPPs that pertain to a whole program.
Unit Chief/ District Supervisor	8. Approve work plans prepared by staff.
Unit Chief/District Supervisor	9. Signs letters or memos approving or conditionally rejecting QAPPs prepared by contractors or grantees. Approves QAPPs prepared by WB staff for projects executed within the WB.

**REFERENCES:**

U.S. Environmental Protection Agency. March 2001. EPA Requirements for Quality Assurance Project Plans. Document Number EPA/240/B-01/003. Available at <http://www.epa.gov/quality/qapps.html>

**REFERENCE TO BUREAU PROGRAMS AND FUNCTIONS:**

(Note: all programs and functions are listed but bold means the program or function is applicable)

Bureau programs:

Groundwater Conflict Resolution	<b>Public Water System Supervision</b>
<b>Groundwater Management Program</b>	Security Program
<b>On-Site Sewage Program</b>	<b>Septage Program</b>
<b>Campground Permit and Inspection Program</b>	Public Swimming Pools Program
<b>Fish Contaminant Monitoring</b>	<b>Groundwater Discharge Permit Program</b>
<b>NPDES (nonstorm water) Program</b>	<b>Biosolids Program</b>
<b>Surface Water Ambient Monitoring Program</b>	<b>Inland Lakes Management</b>
<b>Nonpoint Source Control Program</b>	Wastewater Facility Permits
<b>Storm Water Program (NPDES)</b>	<b>Surface Water Restoration and Protection</b>

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Bureau functions:

**Enforcement**  
Administration

**METHOD OF DISTRIBUTION:** Intranet and electronic mail.

APPROVED:  DATE: 5/21/07  
Richard A. Powers, Chief  
Water Bureau

LAST REVIEWED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Name, Title