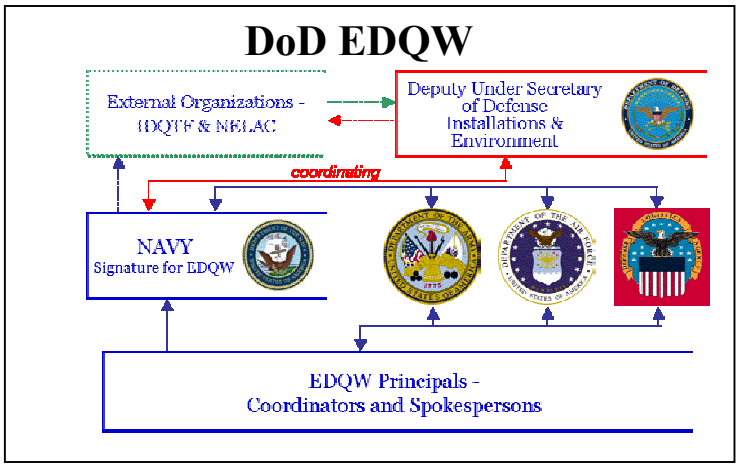
Response to Mid FY04 ESOH Data Call
Executive Agent (EA) Duties
Navy – Environmental Data Quality

1. **Description of EA requirements/intent/organization**

The Deputy Under Secretary of Defense (Environmental Security) (DUSD(ES)) letter of 10 September 1996 established the DoD Environmental Data Quality Workgroup (EDQW) and designated Navy (CNO) as chair. The EDQW develops and recommends policy and guidance affecting environmental sampling and testing operations. Responsibilities include:

- Promoting the generation of environmental data of known and documented quality,
- Reducing unnecessary duplication and program costs,
- Developing and recommending policy to ensure compliance with established standards,
- Coordinating responses to legislative and regulatory initiatives,
- Promoting better use of environmental resources, and
- Improving overall performance.



The DoD EDQW consists of Principals (voting representatives) from each service, a liaison from the Office of the Secretary of Defense (OSD), technical experts from Component organizations, and specialized contract support staff. The EDQW Chair and Navy Principal is Ms. Jackie Sample (CNO/NAVSEA 04XQ(LABS)). The EDQW makes recommendations to the Assistant Deputy Undersecretary of Defense (Environment) (ADUSD(E)) through the Deputy Assistant Secretary of the Navy (Environment) (DASN(E)). The EDQW chair also represents DoD on intergovernmental partnerships such as the Intergovernmental Data Quality Task Force (IDQTF), the National Environmental Laboratory Accreditation Conference (NELAC) and the Institute for National Environmental Laboratory Accreditation (INELA).

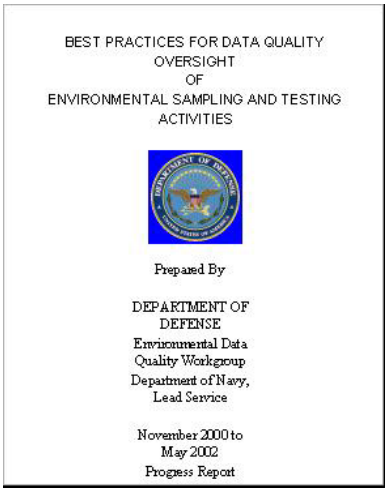
The Department of Defense has undertaken regionalization, privatization, and outsourcing activities as a means to reduce the financial burden of its infrastructure and to achieve the needed savings to accomplish its mission. Over 95% of DoD environmental sampling and testing is outsourced. Because sampling and testing data are the genesis of virtually all environmental decisions, the initiatives underway in this program are integral to the efficient and effective manner in which Navy and DoD implement regionalization, privatization, and outsourcing of environmental sampling and testing services. The DoD EDQW strategy was developed and is being methodically implemented to establish the framework to allow environmental sampling and

testing costs to be reduced, without jeopardizing data quality or the ability of Navy and DoD to comply with applicable laws, regulations, and requirements. If not funded, examples of the impact include:

- Loss of core competency and expert personnel who evaluate proposed legislation and regulations, formulate and recommend policy and prepare guidance for Navy/DoD application, serve as industry peers for negotiations on behalf of Navy/DoD, and provide technical oversight of contracting and contractor performance for environmental data collection activities;
- Curtailment or delay in completing projects including regionalization and consolidation initiatives as directed by Congress;
- Failure to correct deficiencies cited in EPA and DoD IG Reports;
- Decrease in activities or inability to accomplish initiatives to consolidate and streamline redundant Navy, DoD, and EPA quality management directives for environmental data collection activities; and
- Failure to implement innovative technologies including performance-based measurement systems (PBMS).

2. Accomplishments through mid-year FY04

The *DoD Best Practices for Data Quality Oversight of Environmental Sampling and Testing Activities* (issued May 1999; updated May 2002) defines the EDQW strategy for carrying out the responsibilities described in Section 1, above. Accomplishments through mid-year FY04 are discussed in terms of the Best Practices, which are as follows:


BEST PRACTICES FOR DATA QUALITY
OVERSIGHT
OF
ENVIRONMENTAL SAMPLING AND TESTING
ACTIVITIES

Prepared By

DEPARTMENT OF
DEFENSE
Environmental Data
Quality Workgroup
Department of Navy,
Lead Service

November 2000 to
May 2002
Progress Report

Best Practice: Use a systematic planning process for data collection activities, and involve regulators

(1) *Collaboration to address current data collection challenges :* The DoD EDQW approached EPA regarding technical limitations of the only EPA-approved method for the analysis of perchlorate (Method 314.0). EDQW was concerned that 1) federal, state, and regional regulators were requiring DoD facilities to analyze for perchlorate at concentrations below the capabilities of Method 314.0, and 2) the method employs non-specific detection technology, making it susceptible to false positives. These limitations have the potential to result in the generation of unreliable data and the expenditure of unnecessary resources for unwarranted site characterization and remediation. The DoD EDQW, in cooperation with the IDQTF and the wider regulatory community, convened a national, multi-disciplinary task force to examine problems/limitations with current perchlorate sampling and testing methods, discuss emerging technology, and recommend a path forward for developing, validating, and publishing improved, performance-based methods. The workshop was held in conjunction with the October 2003 EPA Region 6 Quality Assurance (QA) Conference. Following the meeting, EDQW developed several recommendations, including:

- Positive results for perchlorate obtained using Method 314.0 should be confirmed using an alternative, definitive technology;
- DoD should develop procedures to characterize site-specific background contamination by perchlorate and investigate sources of laboratory contamination by perchlorate, including glassware detergents; and

- DoD should pursue the development of a DoD guidance document to address sampling and testing of perchlorate.

The workshop provided an effective forum for gathering government and private-sector technical experts to discuss a current environmental problem and begin to develop joint, workable solutions. Activities taken as a result of the workshop include the following:

- The EDQW developed interim guidance for perchlorate sampling and testing activities, which was issued by DASN(E) to Components on 5 February 2004;
- Work on a Perchlorate Sampling and Testing Handbook, providing more detailed guidance, is under development and expected to be issued late in FY04;
- The EPA Forum on Environmental Monitoring (FEM) has indicated it will seek DoD comments on three new methods for the analysis of perchlorate in water samples; and
- NAVSEA 04XQ developed an ESTCP proposal for the demonstration and validation of improved, performance-based analytical methods, which are required by DoD to ensure the accurate determination of perchlorate in wastewater and solid samples.

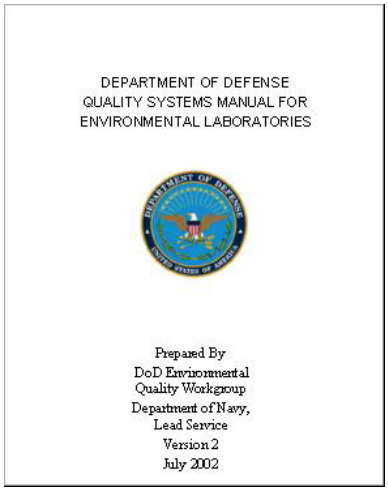
These efforts will assist DoD facilities by promoting the use of technically defensible sampling and testing techniques to confirm the presence/absence of perchlorate in an efficient and cost-effective manner.

(2) *Systematic Planning for Data Collection:* During the first quarter of FY04, the IDQTF, with participation by members of the EDQW, completed the draft *Uniform Federal Policy for Quality Assurance Project Plans* (UFP-QAPP). This is a companion document to the *Uniform Federal Policy for Quality Systems (*UFP-QS), which was concurred upon by Components, EPA and DOE in January 2003. The UFP-QAPP provides intergovernmental, project-level guidance for implementing systematic planning and developing graded approaches for data collection. It promotes cost savings by unifying QAPP requirements across regions, streamlining the QAPP development and approval process, and eliminating the collection of unnecessary, costly data. It provides policy and guidance on the preparation and implementation of QAPPs for environmental projects. The document also contains a QA/QC Compendium, which sets minimum QA/QC criteria for remediation projects. These criteria allow for the elimination of unnecessary QC samples, thereby reducing sampling and testing remediation costs. DASN(E) issued the draft UFP-QAPP to Components on 19 November 2003, for formal review. The QAPP subgroup is in the process of addressing comments, and the Draft Final QAPP is expected to be issued in late FY04.

(3) *Electronic Data Collection and Management Tools:* The EDQW has supported efforts by the EPA and U.S. Army Corps of Engineers to develop and test specifications for standardized electronic data deliverable for environmental analytical data. The resulting Staged Electronic Data Deliverable (SEDD) specification, which uses the industry-standard Extensible Markup Language (XML) format, is designed to be agency and program-neutral. The existence of a common specification supports the reporting and management of analytical data in a manner that preserves data integrity and ensures that data are capable of being substantially reproduced. In a separate series of initiatives, DoD, EPA, and DOE have jointly supported the development of Visual Sample Plan (VSP) which is an easy-to use electronic tool for defining optimal, technically defensible, two-dimensional sampling designs. Navy has employed VSP in its *Master Quality Assurance Project Plan* for range assessments, which was issued in December 2003.

Best Practice: Improve Policy, Guidance, and Documentation

(1) *DoD Quality Systems Policy:* In 1999, the EDQW developed the *DoD Quality Systems Manual for Environmental Laboratories* (DoD QSM) to provide guidance on establishing and managing quality systems for environmental laboratories that perform work for DoD. It is based on international standards (ISO/IEC 25) and the EPA NELAC Chapter 5 Standard, but provides interpretation and clarification of specific DoD requirements to implement these standards. The QSM unifies DoD requirements, replacing previously separate Component-specific documents. Version 2 of the QSM contained results of a Laboratory Control Sample (LCS) Study on EPA and RCRA methods, performed in cooperation with the American Council of Independent Laboratories (ACIL). Version 2 provided minimum LCS control limits for laboratories performing analysis for DoD and a benchmark to assess when alternative methods are needed to meet project-specific requirements that exceed the expected performance of the standard EPA and RCRA methods. The EDQW began work on the DoD QSM Version 3 in July 2003, to bring the document into alignment with ISO 17025.



(2) *Federal Policy and Guidance:* As part of its tasking, the EDQW coordinates the review of legislative and regulatory initiatives, to determine impacts on DoD from technical, data quality, and cost perspectives. Comments and responses are crafted to address negative impacts on DoD. During the past year, EDQW coordinated and submitted comments on the following proposed rules/initiatives:

- Guidelines Establishing Test Procedures for the Analysis of Pollutants, Proposed Rule Federal Register Vol. 68, No. 48;
- Waste Management System; Testing and Monitoring Activities; Proposed Rule; Methods Innovation rule; Proposed Rule 67 Federal Register 66251; and
- Proposed EPA/Office of Solid Waste (OSW) Method 9058, *The Analysis of Perchlorate by Ion Chromatography.*

(3) *National Policy on Laboratory Accreditation:* During the past year, the EDQW continued its support for the National Environmental Laboratory Accreditation Program (NELAP) to create a national program for environmental laboratory approval. This has been accomplished through participation by EDQW members in both the government standard-setting body (NELAC) and the public/private standards-development organization, the Institute for National Environmental Laboratory Accreditation (INELA). Active participation allows the EDQW to help shape the standards to better meet the needs of DoD. Currently, DoD uses a "NELAP plus" approach to laboratory approval, whereby NELAP accreditation provides baseline laboratory credentials, and DoD resources are focused on evaluating whether laboratories are meeting project-specific requirements. This reduces the time, effort, and costs for conducting laboratory assessments.

(4) *Quality Systems Implementation:* In late FY03, EDQW completed work on a draft DoD Instruction, "*Ensuring Data Quality for the Department of Defense*", which is the key quality systems implementation driver for DoD. This instruction, proposed to be issued under Environmental Security Directive 4715.1, assigns responsibilities and prescribes procedures

for implementing environmental quality systems into all DoD activities and programs involving the collection and use of environmental data. It also authorizes the formal publication of key DoD and intergovernmental quality systems documents, including the *Department of Defense Quality Systems Manual for Environmental Laboratories (DoD QSM), Uniform Federal Policy for Implementing Environmental Quality Systems (UFP-QS), and Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP)*, as DoD Manuals. The draft instruction was issued by DASN(E) to Components on 7 October 2003. The EDQW Principals are meeting in early Summer 2004 to resolve comments and prepare the instruction for formal issuance via the SF-106 process.

The IDQTF has developed the draft *Federal Quality Systems Roles and Responsibilities Guidance*, which, when final, will become Appendix G to the UFP-QS. The purpose of the guidance is to establish general roles and responsibilities for federal departments and agencies, at the headquarters level, for implementing intergovernmental quality systems and managing environmental data quality. The document is expected to be finalized during the 4th quarter FY04.

(5) *Training and Outreach:*

As work on the DoD QSM, UFP-QS, and UFP-QAPP is now substantially complete, both the EDQW and IDQTF have focused considerable effort during the past year on quality systems implementation, including training and outreach activities. The EPA, with support from EDQW and Navy's Civil Engineers Corps Officers School (CECOS), has sponsored the development of the UFP-QAPP training course, *Achieving Data Quality – Development and Review of Quality Assurance Project Plans*. The course teaches a graded approach to project planning that supports the generation/collection of defensible environmental data appropriate for their intended use. Army is currently sponsoring the development of a DoD QSM training course for environmental compliance personnel. Navy continues to offer a one week, hands-on, *Environmental Quality Sampling* course, which is approved by the Interservice Environmental Education Review Board (ISEERB). Course evaluations have been outstanding.

The EDQW and IDQTF have conducted a series of joint quality systems outreach presentations and workshops during the past year. Meetings and conferences supported include the following:

- National Environmental Monitoring Conference (August 2003)
- EPA National QA Conference (April 2004)
- Association of State and Territory Solid Waste Management Organizations (April 2004)
- National Defense Industrial Association (April 2004)
- Society of American Military Engineers (May 2004)
- National Water Quality Monitoring Conference (May 2004)

In addition, the EDQW and the U.S. Army Corps of Engineers combined forces to sponsor the first DoD Environmental Monitoring and Data Quality Workshop, which was held in May 2004.

The workshop was structured to provide a national forum for training and the exchange of information on innovative strategies and tools for collecting and managing environmental data for DoD. All stakeholders, including DoD; other federal, state, and local agencies; tribal governments; and the private sector were invited to participate.

Best Practice: Improve Laboratory Oversight Practices

(1) *Government Surveillance:* Draft quality systems implementation policy and guidelines developed by EDQW through mid FY04 specifically define both government and contractor quality assurance oversight responsibilities. As provided in both the draft Data Quality Instruction (discussed above), and the draft DoD Procurement Policy (discussed below), in all cases where environmental sampling and testing services are performed for DoD, government quality assurance surveillance must be performed. Quality systems documentation must describe specific procedures government personnel will use to review and substantiate the quality of the information before it is disseminated. In accordance with the DoD and Office of Management and Budget (OMB) Information Quality Guidelines (IQG) Public Law 106-554, information quality must be reviewed and substantiated in terms of utility, objectivity, and integrity. Quality systems documentation must support, and be consistent with, established Component administrative mechanisms allowing affected persons to seek and obtain correction of information that does not comply with the DoD or OMB IQG (67FR8452).

(2) *Minimum Laboratory Credentials*
As specified in the DoD QSM and the draft Procurement Policy, laboratories performing analyses in support of DoD procurements must have an established and documented laboratory quality system that complies with the *DoD Quality Systems Manual for Environmental Laboratories*. Laboratories must possess any required state certification and/or be accredited for each applicable test method, by a nationally recognized laboratory accreditation body (e.g. NELAP) compliant with ISO 58. All laboratories must demonstrate the ability to generate acceptable results from the analysis of proficiency-testing (PT) sample(s), subject to availability, using each applicable method in the specified matrix. Laboratories are also subject to project-specific, on-site assessments.

(3) *Shared Laboratory Assessments and Laboratory Database*
DoD Components have been sharing laboratory audit information through the EDQW for a number of years; however, in the past year Components began conducting joint laboratory assessments. The QSM Version 3 will include assessment checklists and protocols to allow for improved sharing of audit information across DoD. The EDQW is also working on the development of an Audit Tracking Database to further facilitate combining the Component efforts. Such sharing will result in a greater savings by eliminating redundant multi-Component audits.

Best Practice: Improve Management and Contracting Practices

(1) *Best-Value Procurements:* The DoD IQG (discussed above) specifically states that "an additional level of quality is warranted in those situations involving influential scientific, financial, or statistical information (including environmental information)". The additional level of quality requires that such information be "capable of being substantially reproduced". In March 2004, the EDQW Contracting Subgroup completed work on a draft Procurement

Policy, which provides procedural guidance for incorporating quality systems requirements into solicitations and contracts involving environmental sampling and testing. The policy implements the following Federal laws and regulations with respect to environmental information:

- Federal Acquisitions Regulations (FAR) Subpart 46.2 (Contract Quality Requirements) and Subpart 37.6 (Performance-based Contracting); and
- Public Law 106-554 (Data Integrity Law) as implemented by the OMB and DoD Information Quality Guidelines.

The policy contains sample contract language, defines roles and responsibilities for the acquisition team, defines minimum qualifications for contractor quality assurance and project chemistry personnel, and lists specifically prohibited laboratory practices. The draft policy will be submitted for Component comment and concurrence during the 4th quarter FY04.

(2) *Raising the Bar on Contractor Performance:* EDQW has supported the ACIL on the Environmental Laboratory Data Integrity Initiative (ELDII). Laboratories that become signatories to the ELDII must successfully complete a peer evaluation process and commit to uphold specific, written standards of ethical performance in the production of data. This initiative was started by industry, in part to address issues related to a laboratory fraud case that had a significant impact on DoD. The practice of the laboratory industry policing itself will greatly streamline DoD's process for providing effective government oversight.

3. Goals and Objectives (FY04 and beyond)

The EDQW plans to complete the *2004 Best Practices Update* during its next scheduled meeting in August 2004. The 2004 update will include the following planned activities for FY04 and beyond:

Use a Systematic Planning Process for Data Collection Activities and Involve Regulators

- EDQW is coordinating with IDQTF to hold a second workshop during the EPA Region 6 QA meeting in October 2004. Key purposes of the workshop are 1) to conduct follow-up discussions in the area of perchlorate sampling and testing, 2) to conduct early implementation and outreach for the UFP-QAPP, and 3) continue discussions on emerging contaminants-of-concern to DoD.
- EDQW will continue development of the *Perchlorate Sampling and Testing Handbook*, and plans to provide an overview of the handbook during the Region 6 meeting. As part of the handbook, EDQW plans to develop a general SEDD specification for the reporting of perchlorate data.
- Following EPA's publication of the new, proposed methods for the analysis of perchlorate, EDQW will review the methods and coordinate comments, on behalf of DoD
- If the ESTCP proposal is funded, EDQW and the American Society of Testing and Materials (ASTM) will begin preliminary planning for the method demonstration//validation studies during the first quarter FY05.

Improve Policy, Guidance, and Documentation

- EDQW will continue work on the DoD QSM Version 3, for release during the 4th quarter FY04.
- Components will continue to implement the DoD QSM according to schedules defined in their QSM implementation plans.
- EDQW representatives will attend the annual NELAC/INELA conference in August 2004, in Charleston, S.C.

- The EDQW Principals will address Component comments on the draft data quality instruction, and submit the document to OSD to begin the SF-106 process for formal issuance.
- The IDQTF, with participation from the EDQW, will complete the final draft *Federal Quality Systems Roles and Responsibilities Guidance*, expected during the 4th quarter FY04. The final draft document will address metrics for implementing quality systems. EDQW will coordinate DoD concurrence for the document, expected during the 1st quarter FY05, at which point the guidance will become an appendix to the UFP-QS.
- EDQW and IDQTF will continue quality systems implementation initiatives, including training and outreach. The key venue for 4th quarter FY04 is the Joint Services Environmental Management (JSEM) Conference, in San Antonio, TX, during August 2004.
- Navy will assist in obtaining ISEERB approval for the UFP-QAPP training course.
- EDQW will begin planning for the second annual DoD Environmental Monitoring and Data Quality Workshop, to be held during the 2nd quarter FY05.

Improve Laboratory Oversight Practices

- EDQW Principals will meet in June/July 2004 to address final workgroup comments on the draft Procurement Policy and prepare it to be issued to Components for formal comment and concurrence.
- The EDQW will continue work on the Audit Tracking Database, which is expected to be made available for use by DoD Components during the 1st quarter FY05.
- EDQW representatives will participate on joint assessment teams to pilot test the DoD assessment checklists. Pilot tests are expected to commence during the 1st quarter FY05,
- EDQW will continue to support the ACIL as it rolls out its data integrity initiative.

Improve Management and Contracting Practices

- EDQW Principals will prepare the draft Procurement Policy for formal concurrence. The draft policy is expected to be issued from DASN(E) to Components during the 4th quarter FY04.
- EDQW will begin development of a Procurement Policy training course designed for DoD contracting personnel and project managers. Training will begin once the final Policy is issued, expected during the 1st or 2nd quarter FY05.
- EDQW will continue to support efforts such as those by ACIL to raise the bar on contractor performance. While the current focus is on laboratory analysis, a parallel effort is needed for field sampling.

4. Measures of Success

The draft DoD Data Quality Instruction assigns Components (i.e. Secretaries of the Military Departments) responsibility for establishing programs to monitor and achieve progress toward the implementation of environmental data quality systems, and it establishes the following Measures of Merit:

- Ensure that milestones established in Component quality systems implementation plans are met;
- Ensure that DoD procurement actions require compliance with the DoD Quality Systems Manual;
- Ensure environmental restoration and compliance programs conduct sampling and testing in accordance with the documents authorized by the instruction; and
- Ensure appropriate and adequate Quality Management Plans are developed, as authorized by the instruction.

The instruction also requires that Components participate in periodic environmental data quality In-Progress Reviews, as directed by DUSD(I&E).

Components are continuing efforts to implement the DoD QSM. The EDQW will measure the success of implementation against schedules established in Component-specific QSM implementation plans.

The EDQW and IDQTF are continuing to work together to identify ways to quantify the benefits of quality systems implementation. Both groups agree that a 'team-work' culture will be a necessary prerequisite to successful implementation of the UFP-QS and UFP-QAPP. The IDQTF members have agreed to update their agency-specific quality systems implementation plans during its next regularly scheduled meeting in June 2004, to address the following:

- Work toward the development of new quality systems metrics,
- Expansion of the implementation effort to include the EPA Offices of Water (OW) and Air (OA), and
- Implementation of the UFP-QAPP.

Based these discussions, the IDQTF plans to address metrics in the final draft *Federal Quality Systems Roles and Responsibilities Guidance*, expected to be completed during the 4th quarter FY04.