



Department of Energy

Washington, DC 20585

June 6, 2008

MEMORANDUM FOR THE ACTING DEPUTY SECRETARY

THROUGH:

GLENN S. PODONSKY
CHIEF HEALTH, SAFETY AND SECURITY OFFICER

FROM:

ANDREW C. LAWRENCE
DIRECTOR
OFFICE OF NUCLEAR SAFETY, QUALITY
ASSURANCE AND ENVIRONMENT
OFFICE OF HEALTH, SAFETY AND SECURITY

SUBJECT:

2007 Survey on Quality Assurance Implementation

In January 2007, the Office of Health, Safety and Security (HSS) provided a report on the Department's status in implementing DOE O 414.1C, *Quality Assurance* (QA) and adopting a quality culture within the Department. The report provided results of the 2006 Survey that was requested by the Secretary and highlighted Headquarters and Field progress in implementing quality. While the report indicated that progress has been made in this area, it acknowledged that further efforts were required to ensure a more thorough, consistent, and effective implementation of the Department's QA program. This report also indicated that later in 2007, a more expanded guidance designed to measure QA implementation would be provided to Departmental Elements.

HSS, along with an interoffice working group with representatives from the Office of Environmental Management, Science, Nuclear Energy, and the National Nuclear Security Administration, developed the 2007 QA implementation survey guidance. The guidance was distributed in October 2007 to all Departmental Elements to whom the DOE QA Order is applicable. The Office of Quality Assurance Policy and Assistance, within HSS, with the assistance of the interoffice working group, collected, compiled, and analyzed the responses from the various Departmental Elements to develop the attached 2007 report on the implementation of QA in the Department.

The 2007 Survey on QA Implementation expanded upon the 2006 survey to provide additional data regarding QA implementation within the Department. This provided a comparison baseline for the 2007 report and allowed some of the notable improvements in QA implementation to be highlighted. One such improvement during the period between the two surveys was that more offices have developed and implemented Quality Assurance Programs for their organizations.

The attached report summarizes the results of the 2007 Survey on QA Implementation from all 26 of the targeted Departmental Elements. The results presented are high-level summaries that identify positive observations as well as suggested areas needing improvement.

The survey results show that the Department continues to make progress in the implementation of QA.

Conclusions and recommendations have also been identified within the report to improve reporting on the implementation of QA across the Department and to provide assistance to Departmental Elements. One such recommendation is that QA Directive be updated to require future surveys on QA implementation be conducted every two years.

Questions regarding the survey report should be directed to Andrew Lawrence at (202) 586-5680 andrew.lawrence@hq.doe.gov or Colette Broussard at (301) 903-5452 colette.broussard@hq.doe.gov.

Attachment

cc: Thomas D'Agostino, NA-1
Steve Isakowitz, CF-1
Thomas Pyke, IM-1
Alexander Karsner, EE-1
James Rispoli, EM-1
James Slutz, FE-1
Raymond Orbach, SC
Guy Caruso, EI-1
Lisa Epifani, CI-1
David Hill, GC-1
Katharine Fredriksen, PI-1
Gregory Friedman, IG-1
Jeff Pon, HC-1
Rolf Mowatt-Larssen, IN-1
Michael Owen, LM-1
Ingrid Kolb, MA-1
Dennis Spurgeon, NE-1
Kevin Kolevar, DE-1
Edward Sproat III, RW-1
Poli A. Marmolejos, HG-1
Theresa Speake, ED-1
Andrew Beck, PA-1
Leon Jourolmon, Southeastern Power Administration
Jon Worthington, Southwestern Power Administration
Timothy J. Meeks, Western Area Power Administration

bcc: Richard Lagdon, US
James McConnell, NA-2
Michael Kilpatrick, HS-1
Sonya Barnette, HS-1.22
Sherry Bishop, HS-1.22
Andrew Lawrence, HS-20
Andrew Wallo, HS-20
James O'Brien, HS-21
Colette Broussard, HS-23
Charles Lewis, HS-31
Frank Russo, NA-3.6
Carl Sykes, NE-43
Matt Cole, SC-31.1
Robert Murray, EM-61
Donald Barnes, NE-70
Gregory Boyette, NA-121
Caroline Polanish, SC-BHSO
Geoffrey L. Beausoleil, ID
Albert Hawkins, RL
Pradyot Niyogi, NE-32
William Taylor, RL
Howard Borgstrom, CF-60
Dan Woomer, CI-3
John J. Shea, ED-3
Daniel X. Sze, EE-3C
Nancy Kirkendall, EI-70
Mark Matarrese, FE-7
Susan Beard, GC-77
Richard Cronin, HG-30
Jacqueline N. Jones-Peters, HR-30
Linda J. Snider, IG-10
Theanne Gordon, IM-20
Susan L. Frey, IN-1
Robert Baney, LM-20
Rabi Singh, NA-173
Michael Worley, NE-70
Paul Trottier, OE-1.1
Joann Wardrip, PA-1
Michael Ulshafer, RW-3
Joel Seymour, SEPA
Dallas Cooper, SWPA
Theresa Williams, WAPA

**2007 Report:
Survey on
Quality Assurance Implementation
in the
Department of Energy**



May 2008

**U.S. Department of Energy
Office of Quality Assurance Policy and Assistance
Office of Health, Safety and Security**

TABLE OF CONTENTS

1. INTRODUCTION.....	1
1.1. Background.....	1
1.2. Overview of DOE Order 414.1C Requirements	2
1.3. Organization of this Document.....	3
2. RESULTS OF THE 2007 QA SURVEY.....	3
2.1. Positive Observations.....	3
2.2. Areas Needing Improvement	4
3. CONCLUSIONS AND RECOMMENDATIONS.....	5
Appendix A: Detailed Results of the 2007 Survey on QA Implementation.....	A-1
Survey Topical Area I: QA Program – General Requirements	A-2
Survey Topical Area II: Contractor QA Implementation and Compliance (Flow down)	A-9
Survey Topical Area III: Training and Qualifications General Requirements	A-11
Survey Topical Area IV: Assessment and Improvement	A-13
Survey Topical Area V: Suspect/Counterfeit and Defective Items	A-14
Survey Topical Area VI: Software Quality Assurance	A-16
Survey Topical Area VII: Design and Construction	A-17
Survey Topical Area VIII: Other DOE O 414.1C Requirements.....	A-17
Appendix B: QA Implementation Survey Reporting Organizations.....	B-1

List of Tables

Table 1 DOE O 414.1C Criteria Covered by the 2006 and 2007 Survey..... A-1

List of Figures

Figure 1 - HQ Program Offices Status of Quality Assurance Program..... A-3
Figure 2 - HQ Program Offices Progress..... A-3
Figure 3 - Field Offices Status of Quality Assurance Program A-4
Figure 4 - Field Offices Progress A-5
Figure 5 – HQ Staff and Support Offices Status of Quality Assurance Program..... A-6
Figure 6 - Status of Implementing Procedures for HQ Program Offices A-7
Figure 7 - Status of Implementing Procedures for Field Offices..... A-8
Figure 8 - Status of Implementing Procedures for HQ Staff and Support Offices A-8
Figure 9 - Flow-Down of Requirements to Contractors & Assessment of Implementation ... A-10
Figure 10 - HQ Program Offices Training and Qualification..... A-11
Figure 11 - Field Offices Training and Qualification Status A-12
Figure 12 - HQ Staff and Support Offices Training and Qualifications..... A-12
Figure 13 - Status of HQ Program Offices Implementation of QA Assessments A-13
Figure 14 - Status of Field Offices Implementation of QA Assessments..... A-14
Figure 15 - Status of HQ Staff and Support Offices Implementation of QA Assessments A-14
Figure 16 - Status of Field Offices SCDI Implementation A-15
Figure 17 - Safety Software Requirements Implementation at Field Offices..... A-16
Figure 18 - Status of HQ Program Offices QAP Establishes Documented Processes and
Procedures..... A-18
Figure 19 - Status of Field Offices QAP Establishes Documented Processes and Procedures A-19
Figure 20 - Status of HQ Staff and Support Offices QAP Establishes Documented Processes and
Procedures..... A-19

1. INTRODUCTION

Quality assurance (QA) is a system of management activities to support planning, organization, resource allocation, and control to ensure that the Department of Energy (DOE, Department), including the National Nuclear Security Administration (NNSA), work is performed safely and correctly, and that products and services meet or exceed customers' expectations.

DOE Order (O) 414.1C¹, *Quality Assurance*, and 10 CFR 830, Subpart A, *Quality Assurance Requirements* require DOE organizations to develop and implement a written Quality Assurance Program (QAP) that integrates QA requirements using national or international consensus standards, or regulatory requirements.

This report provides a summary of the results of the 2007 Survey on QA Implementation (described below) developed by an interoffice working group. The report also provides recommendations on improving clarity and focus of QA reporting requirements in DOE O 414.1C as well as enhancing implementation of future surveys on QA and reporting to the Deputy Secretary.

1.1. Background

2006 Survey - On April 26, 2006, the Secretary requested all Departmental Elements report on their implementation of DOE O 414.1C. The Secretary expressed concern with the findings of the General Accounting Office (GAO) and the Department's Inspector General, who reported inconsistent implementation of QA policies and principles. As a result, the Department issued the 2006 Survey Guidance for the Departmental Elements to complete.

Based on the 2006 Survey, in January 2007, the Office of Health, Safety and Security (HSS) issued its first report on DOE's status in implementing DOE O 414.1C and adopting a quality culture within DOE. While the report indicated that advancements in QA implementation had been made, it noted that additional efforts were required to ensure more thorough, consistent, and effective implementation of QA within DOE. The report also indicated that later in 2007 an expanded survey designed to further measure QA implementation would be provided to Departmental Elements.

2007 Survey - The 2007 Survey on QA Implementation was developed by an interoffice working group with HQ and Field representatives from HSS, NNSA, and the Offices of Environmental Management, Science, and Nuclear Energy. The Survey instructions, sent out via a memorandum from the Deputy Secretary, dated October 1, 2007, allowed Departmental Elements to report using one or a combination of the following methods:

1. Completing the 2007 Survey on Quality Assurance Implementation.
2. Providing current (less than six months old) QA management assessment results as required by DOE O 414.1C.

¹This Order does not apply to the DOE/NNSA Naval Reactors Program in accordance with Executive Order 12344, or to the Bonneville Power Administration (BPA) in accordance with Secretarial delegation Order Number 00-033.00A to the BPA Administrator and Chief Executive Officer.

Areas that were to be addressed using the above methods included:

- QAP/procedure development and approval status per DOE O 414.1C;
- the flow-down of QA requirements to contractors and subcontractors;
- QA training and qualification;
- assessment and improvement;
- identification of suspect/counterfeit and defective items;
- safety software quality assurance; and
- design and construction.

The Office of Quality Assurance Policy and Assistance, within HSS, with the assistance of the interoffice working group, collected, compiled, and analyzed the inputs from the various Departmental Elements to develop this report on the Department's implementation of QA. When the working group originally developed the reporting guidance for the 2006 Survey, the intent was to establish a baseline for future analyses. This provided a comparison baseline for the 2007 report and allowed some of the notable improvements in QA to be highlighted. While the 2007 Survey expanded upon the 2006 Survey to provide additional data regarding QA implementation within DOE, it does not directly address the effectiveness of the implementation of QA programs.

1.2. Overview of DOE Order 414.1C Requirements

DOE O 414.1C was promulgated to ensure that DOE work is performed safely and correctly and that DOE products and services meet or exceed customers' expectations. The Order states that QA must be applied to all work based on the following guiding principles:

1. Quality is assured and maintained through a single, integrated, effective QAP (i.e., management system);
2. Management support for planning, organization, resources, direction, and control is essential to QA;
3. Performance and quality improvement require thorough, rigorous assessment and corrective action;
4. Workers are responsible for achieving and maintaining quality; and
5. Environmental, safety, and health risks and impacts associated with work processes can be minimized while maximizing reliability and performance of work products.

The Order also states that national and international consensus standards are to be used where practicable and consistent with contractual or regulatory requirements. The Order specifies ten QA criteria that must be addressed in QAPs and their implementation plans. The ten criteria are categorized as management, performance, and assessment activities. Additionally, the Order establishes requirements for Suspect/Counterfeit and Defective Items (SCDI), Safety Software Quality Assurance (SQA), and the Corrective Action Management Program (CAMP).

1.3. Organization of this Document

Section 2 summarizes the results of the 2007 Survey from all responses. The results presented are high-level summaries that identify positive observations and areas needing improvement in the implementation of QA.

Section 3 presents conclusions and recommendations based on the results of the Survey.

Appendix A provides more detailed information on the specific results of the Survey, including statistical information on the responses by the Departmental Elements to each Survey area.

Appendix B provides the list of Departmental Elements that responded to the Survey.

2. RESULTS OF THE 2007 QA SURVEY

All of the targeted 26 Departmental Elements responded to the 2007 Survey. With the exception of NNSA, all of the respondents completed the Survey. As was allowed per the Survey instructions and Deputy Secretary memorandum, NNSA opted to submit a summary of its management assessment results instead of completing the survey. The NNSA submittal was transcribed into the Survey format to allow consistent roll up and reporting. The specific results that are captured in Appendix A are based on information reported from all Departmental Elements and HSS interpretation of this information.

The results for the HQ Program Offices, Field Offices, and the HQ Staff and Support Offices are presented separately. This was done because the implementation of QA requirements is different commensurate with the type of work performed by these organizations. For the purpose of this report, the Power Marketing Administration Offices (except for Bonneville Power Administration²) have been combined with the HQ Staff and Support Offices since their functional activities are largely the same and better aligned for data reporting.

The results show that DOE continues to make significant progress in the implementation of QA. The following are positive observations and areas needing improvement.

2.1. Positive Observations

- There is notable improvement in the development of QAPs and procedures for the HQ Program Offices and Field Offices compared to the 2006 Survey results. All HQ Program Offices have approved QAPs. Thirty-one out of 36 Field Offices (86%) also have approved QAPs. Five of the nine HQ Program Offices (44%) and 21 of the 36 Field Offices (58%) have approved implementation procedures. Although progress is noted in this area, the development of implementation procedures is significantly lagging the development of the QAPs.

² This Order does not apply to the DOE/NNSA Naval Reactors Program in accordance with Executive Order 12344, or to the Bonneville Power Administration (BPA) in accordance with Secretarial delegation Order Number 00-033.00A to the BPA Administrator and Chief Executive Officer.

- HQ Staff and Support Offices have a better understanding of QA requirements. They now either have QAPs or are developing QAPs using a graded approach commensurate with the work performed by the organization.
- Significant improvement was noted in the development and approval of Field Office contractor QAPs. Fifty-seven of 66 applicable Field Office contractors (89%) now have approved QAPs per DOE O 414.1C. Compared to the 2006 survey data, this represents approximately a 50% increase in the percentage of contractors having approved QAPs.
- SCDI requirements are being applied DOE-wide. The Survey results indicated that 52 of the 56 Field Office contractors (93%), where SCDI applies, have processes in place to identify, analyze, remove, and prevent suspect counterfeit and defective items.
- There is increased communication between HSS QA staff and HQ Staff and Support Offices. HSS has prepared specific guidance for the development of Staff and Support Office QAPs and is working closely with them to assist in the development and implementation of their QAPs.
- Secretary Bodman's initiative in assessing the state of QA implementation in DOE is generating significantly heightened interest and commitment by management and is producing positive results.

2.2. Areas Needing Improvement

- The effort to qualify Federal staff to DOE Functional Area Qualification Standards (FAQS) continues. However, the Survey results indicate that only 21 of 36 Field Offices (58%) have staff member(s) qualified to the QA FAQS.
- DOE O 414.1C requires that a safety software inventory be maintained, and grading levels be established for safety software. The Survey results indicated that, of the 76 contractors supporting the Field Offices, safety software requirements are applicable to 41. Of those 41 contractors, 32 (78%) have submitted safety software grading levels to DOE for review. Additionally, 35 contractors (86%) maintain safety software inventories as required by the Order. However, only 16 of 36 Field Offices (44%) have staff member(s) qualified to the SQA FAQS.
- Contractors are responsible for flowing down the requirements to subcontractors at any tier to the extent necessary to ensure the contractors' compliance with the requirements (DOE O 414.1C) and the safe performance of work. The Survey results indicated that, of the 76 contractors supporting the Field Offices, DOE O 414.1C is applicable to 64 of them. Of the 64 contractors, 46 (71%) have verified flow down of QA requirements to their respective subcontractors.
- Field Offices are required to perform independent assessments of contractor organizations to evaluate the adequacy and implementation effectiveness of QAPs. The Survey results indicated that, of the 50 Field Office contractors where design and construction-related QA requirements apply, 47 (94%) have processes in place to ensure implementation of QA in design and construction. Field Offices, however, conducted oversight assessments of only 35 contractors (70%) in FY06 to evaluate effectiveness of these processes.

3. CONCLUSIONS AND RECOMMENDATIONS

DOE is continuing to make progress to bring about full compliance with the DOE O 414.1C. One of the most notable outcomes of the 2006 Survey was that it heightened senior management attention to quality assurance. In the period between the two Surveys, more offices have actually developed and implemented QAPs in their organizations.

HSS, in coordination with HQ Program Offices, HQ Staff and Support Offices, and Field Offices, plan to use this momentum to build on what has been accomplished since the initial 2006 survey and the recent 2007 Survey to strengthen QA implementation throughout the Department. The Survey on QA Implementation encourages each Departmental Element to review and assess its activities, and identify and address areas for improvement. To that end, this report includes recommendations for continuing, supporting, and strengthening the work done thus far.

The Survey on QA Implementation has proven to be a good tool for gathering important information for the Deputy Secretary and increasing awareness of the QA requirements by all Departmental Elements. Future surveys will continue to leverage lessons learned from the prior efforts and will be tailored to the mission, functions, and activities of the Departmental Elements. The focus of subsequent surveys will be the development and incorporation of measurable indicators to evaluate the maturity and effectiveness of implementation of QA in the Department. It is important that DOE continue to emphasize the value of implementation of QA across DOE, and enhance the Survey guidance and communication efforts that support all Departmental Elements.

DOE is also demonstrating its commitment to QA by integrating and consolidating its corporate QA function within HSS; thereby providing a single point of contact for the rest of the Department. A new DOE Quality Council, consisting of Federal QA professionals across the DOE complex, is being established and will be used to further improve future surveys, as well as position the Department to assist in measuring QA maturity and effectiveness.

HSS, based on the 2007 Survey results, will develop and share with the HQ Program Offices summary data and observations specific to their organizations Survey responses. The Office of Quality Assurance Policy and Assistance will meet individually with HQ Program Office representatives to discuss their respective Survey results.

It is the Secretary's expectation that DOE continue to evaluate QA implementation maturity. In order to achieve this, future Surveys on QA implementation should be used to look more closely at issues resulting from independent assessments, Price-Anderson Amendment Act input, Central Technical Authority input, GAO reports, and Defense Nuclear Facilities Safety Board (DNFSB) queries. To fulfill the requirements of the QA Order, these Surveys will be used by all Departmental Elements to report the status of their QA program implementation. The following actions are recommended to provide meaningful reporting to the Deputy Secretary on the implementation of QA across the Department and assistance to the Departmental Elements.

- Update the QA Order's requirements so that uniform and accurate reporting is performed across the DOE complex. Update and/or issue associated guidance as necessary.

- Update the DOE Directives (QA Order and associated Guides) to require that these Surveys be conducted every two years. This will allow a sufficient time interval in order to effect measurable progress in the implementation of QA. This recommendation is consistent with the Deputy Secretary's Memorandum dated October 1, 2007, which outlined that future surveys will be conducted every two years. The next Survey will be conducted in 2009.
- Revise future surveys to utilize survey questions that are better tailored and take into account the differences in mission, function, and activities between the HQ Program Offices that engage in managing/operating DOE's activities related to nuclear facilities, and the HQ Staff and Support Offices that conduct management and administrative functions. This will allow less cumbersome and more meaningful reporting for the HQ Staff and Support Offices.
- Develop and share with the HQ Program Offices specific summary data and observations resulting from future surveys. The summaries are intended to identify areas of focus for future line management surveillances and assessments regarding the implementation of quality assurance at HQ or in the field.

Intentionally Blank

Appendix A: Detailed Results of the 2007 Survey on QA Implementation

The 2007 Survey on QA Implementation was designed to build on the information obtained from the 2006 Survey through: a) repeating some of the key questions in the 2006 Survey to gauge progress or improvement; b) enhancements to the 2006 Survey questions to gather additional details in specific key areas; and c) addressing some additional areas such as SQA, Design and Construction, and SCDI.

The 2007 Survey was organized in the following eight topical areas.

I	Quality Assurance Program
II	Flow Down of Requirements to Contractors
III	Training and Qualification
IV	Assessment and Improvement
V	Suspect Counterfeit and Defective Items
VI	Software Quality Assurance
VII	Design and Construction
VIII	Other DOE Requirements

One or more questions were included for each topical area. In some cases, responses to one question address more than one criterion or requirement in DOE O 414.1C. The correlation between questions in the Survey topical areas and the criteria or requirements in DOE O 414.1C is shown in Table A-1. The areas covered by the two Surveys are also shown in this table.

Table 1 - DOE O 414.1C Criteria Covered by the 2006 and 2007 Survey

	QA Criteria	2006 Survey Areas	2007 Survey	
			Area “Enhanced” or added “√”	Survey Topical Area
1	Program	√	Enhanced	I, II
2	Personnel Training and Qualification	√	Enhanced	III
3	Quality Improvement	√	Enhanced	IV
4	Documents and Records			VIII
5	Work Processes			I, VIII
6	Design		√	VII, VIII
7	Procurement			I, II, VIII
8	Inspection and Acceptance Testing			VIII
9	Management Assessment	√	Enhanced	IV
10	Independent Assessment	√	Enhanced	IV
	Suspect/Counterfeit and Defective Items (SCDI)		√	V
	Software Quality Assurance (SQA)		√	VI
	Corrective Action Management Program (CAMP)		√	VIII

The results have been rolled up taking into account the differences in functions, applicability of the QA requirements, and the expected level of rigor between the HQ Program Offices and Field Offices and the HQ Staff and Support Offices. For the purpose of this report, the results from the HQ Staff and Support Offices and the Power Marketing Administration Offices (except for Bonneville Power Administration³) have been combined. For each question in the Survey, the results are presented sequentially for the HQ Program Offices, Field Offices, and then the HQ Staff and Support Offices. Refer to Appendix B for the list of HQ Program Offices and HQ Staff and Support Offices who participated in the 2007 Survey on QA Implementation.

Survey Topical Area I: QA Program – General Requirements (Criterion 1)

Part A

Survey Topical Area I (Part A) posed the following questions:

I – 1 Please provide the following information regarding the general requirements of the DOE QA Order:

- a. Does the Program or Staff Office have an approved written QA Program (QAP) per DOE O 414.1C?*
- b. Does the Field Office have an approved written QAP per DOE O 414.1C?*
- c. Who is/was the approving official for this QAP? (Title/Position)*
- d. Have all the implementation procedures been written and approved? If no, please explain. Identify any other basis for the QAP beyond DOE O 414.1C (e.g., NRC regulations).*
- e. Identify implementation standards used (e.g., ASME NQA-1, ISO 9000).*

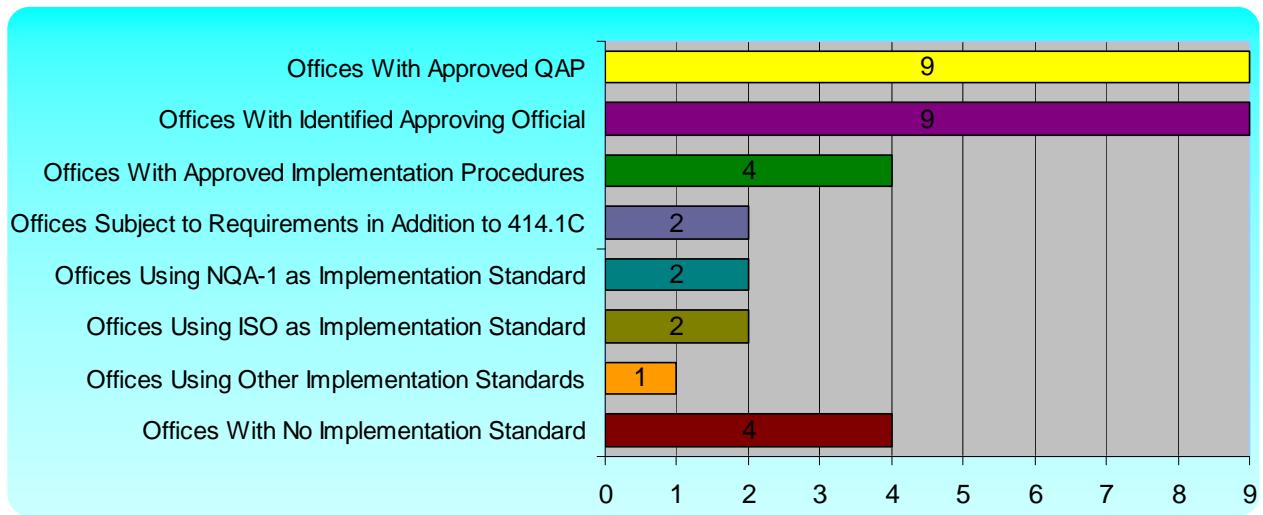
DOE O 414.1C requires DOE organizations to develop and implement a written QAP that integrates QA requirements using national or international consensus standards, or regulatory requirements. The Order allows a graded approach to be applied based on the applicability of the QA criteria to the work performed by that organization. The Order also requires implementation procedures to be written and approved to support the QAP.

HQ Program Offices

Figure 1 below shows the HQ Program Offices Survey data on the status of the QAP.

³ This Order does not apply to the DOE/NNSA Naval Reactors Program in accordance with Executive Order 12344, or to the Bonneville Power Administration (BPA) in accordance with Secretarial delegation Order Number 00-033.00A to the BPA Administrator and Chief Executive Officer.

Figure 1 - HQ Program Offices Status of Quality Assurance Program (9 in total)



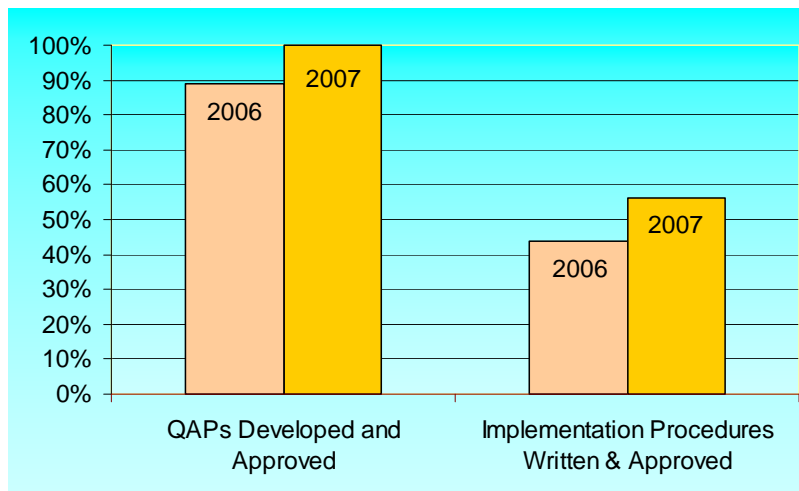
NQA-1 = American Society of Mechanical Engineers Quality Assurance Requirements for Nuclear Facility Applications (ASME NQA-1)
 ISO = International Organization for Standardization (e.g., 9000, 14000)

The Survey responses indicated that all HQ Program Offices have approved QAPs in place per DOE O 414.1C. The Office of Electricity Delivery and Energy Reliability, which reported in 2006 that it was developing a QAP, now reports having an approved QAP. Additionally, all HQ Program Offices identified an approving official for their QAP.

In an attempt to determine what implementation standards are being used by the HQ Program Offices, the 2007 Survey included questions regarding the use of ASME NQA-1, ISO and other standards currently in use. As expected, a small number of HQ Program Offices have identified other bases for their QAP beyond DOE O 414.1C (e.g. NRC regulations).

Figure 2 below provides a comparison between the 2006 and 2007 Survey responses for percent of Offices with approved QAPs and implementation procedures.

Figure 2 - HQ Program Offices Progress

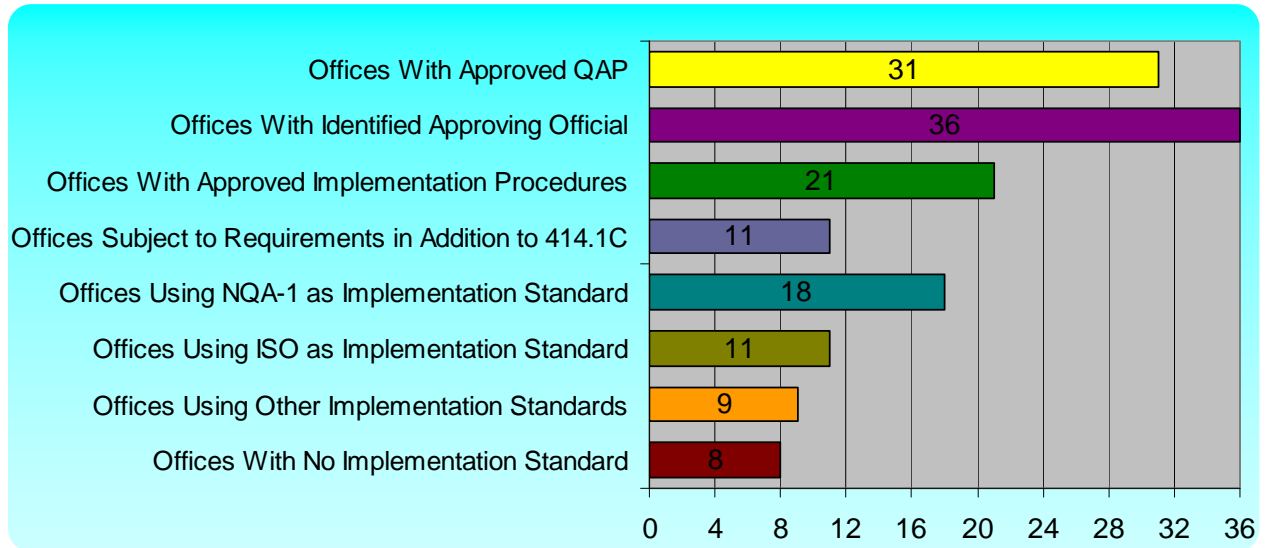


The Survey data shows that the HQ Program Offices are moving towards compliance with DOE O 414.1C.

Field Offices

Figure 3 below shows the Field Office responses to the Survey questions on the status of the QAP.

Figure 3 - Field Offices Status of Quality Assurance Program (36 in total)



NQA-1 = American Society of Mechanical Engineers Quality Assurance Requirements for Nuclear Facility Applications (ASME NQA-1)

ISO = International Organization for Standardization (e.g., 9000, 14000)

Note: Some Field Offices use more than one implementation standard.

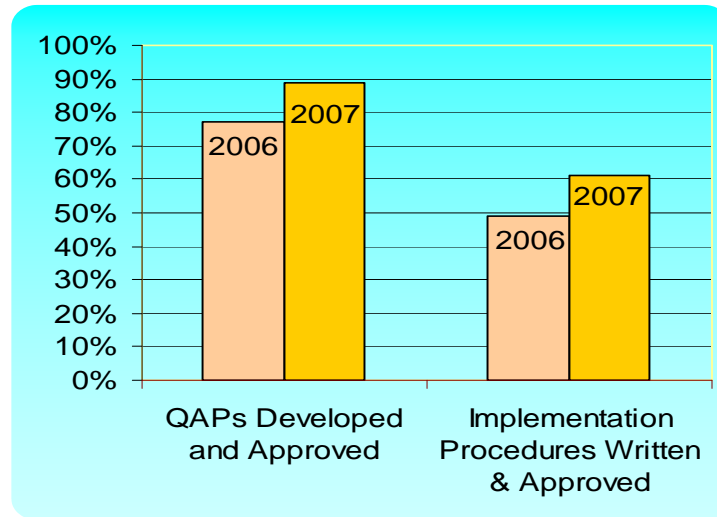
The Survey responses indicated that 31 of 36 Field Offices have an approved QAP in place per DOE O 414.1C. The Berkeley Site Office and the Rocky Mountain Oilfield Testing Center, which reported in 2006 that they were developing a QAP, reported having an approved QAP. The five Field Offices listed below reported that they have a draft QAP or plans to develop one.

- EM Consolidated Business Center (EMCBC) - draft QAP
- Separations Process Research Unit - draft QAP
- Grand Junction Office Moab UMTRA Project - adopting the EMCBC QAP
- Oakland Projects Office - adopting the EMCBC QAP
- Fermi Site Office - draft QAP

Additionally, all Field Offices identified an approving official for their QAP. Eighteen Field Offices are using ASME NQA-1 as their implementation standard. Several offices are applying elements of more than one standard.

Figure 4 below provides a comparison between the 2006 and 2007 Survey responses for the percent of Field Offices with approved QAPs and implementation procedures.

Figure 4 - Field Offices Progress



The Survey data shows that the Field Offices are also moving towards compliance with DOE O 414.1C.

HQ Staff and Support Offices

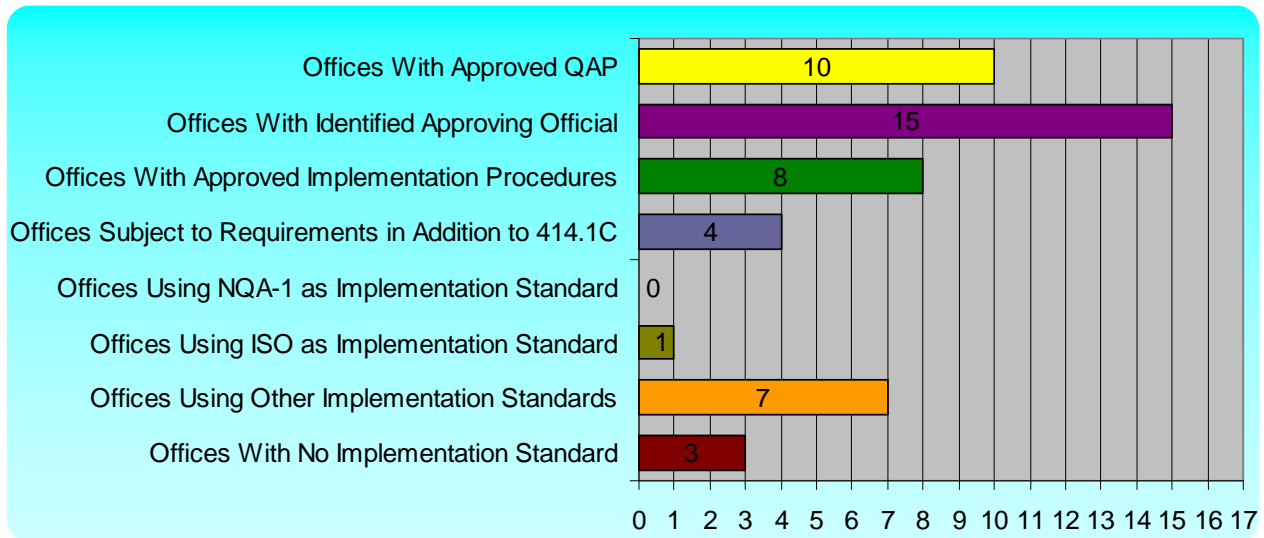
All 17 HQ Staff and Support Offices responded to the Survey. Ten of the 17 Offices (59%) have an approved QAP with 15 of the 17 Offices (88%) reporting the title and position of the approving official; however, only 8 of these Offices (47%) reported having approved implementation procedures for their QAP. (See Figure 5 below) The following HQ Staff and Support Offices reported having approved QAPs with approved implementation procedures.

- Chief Financial Officer
- Office of the Inspector General
- Office of Management
- Office of Economic Impact and Diversity
- Southeastern Power Administration
- Southwestern Power Administration
- Western Area Power Administration

Additionally, the following HQ Staff and Support Offices reported having approved QAPs, but the implementation procedures are either being written or are not yet approved.

- Chief Information Officer
- Energy Information Administration
- Office of Health, Safety and Security

Figure 5 – HQ Staff and Support Offices Status of Quality Assurance Program (17 in total)



NQA-1 = American Society of Mechanical Engineers Quality Assurance Requirements for Nuclear Facility Applications (ASME NQA-1)
 ISO = International Organization for Standardization (e.g., 9000, 14000)
 Note: Six offices did not report on use of implementation standards.

The Survey data show that no HQ Staff and Support Offices are using ASME NQA-1. This is primarily because these Offices do not need the rigorous requirements in this implementation standard.

Part B

Survey Topical Area I (Part B) posed the following questions:

I - 2 & 3 For HQ, Program, Staff, and Field Offices, provide information regarding approved procedures and procedures under development that provide QA controls. For:

- *Management Assessment*
- *Independent Assessment*
- *Oversight*
- *Training*
- *Lessons Learned*
- *Safety Software QA*
- *Corrective Action Tracking*
- *Corrective Action Effectiveness*
- *Document/Records Control*

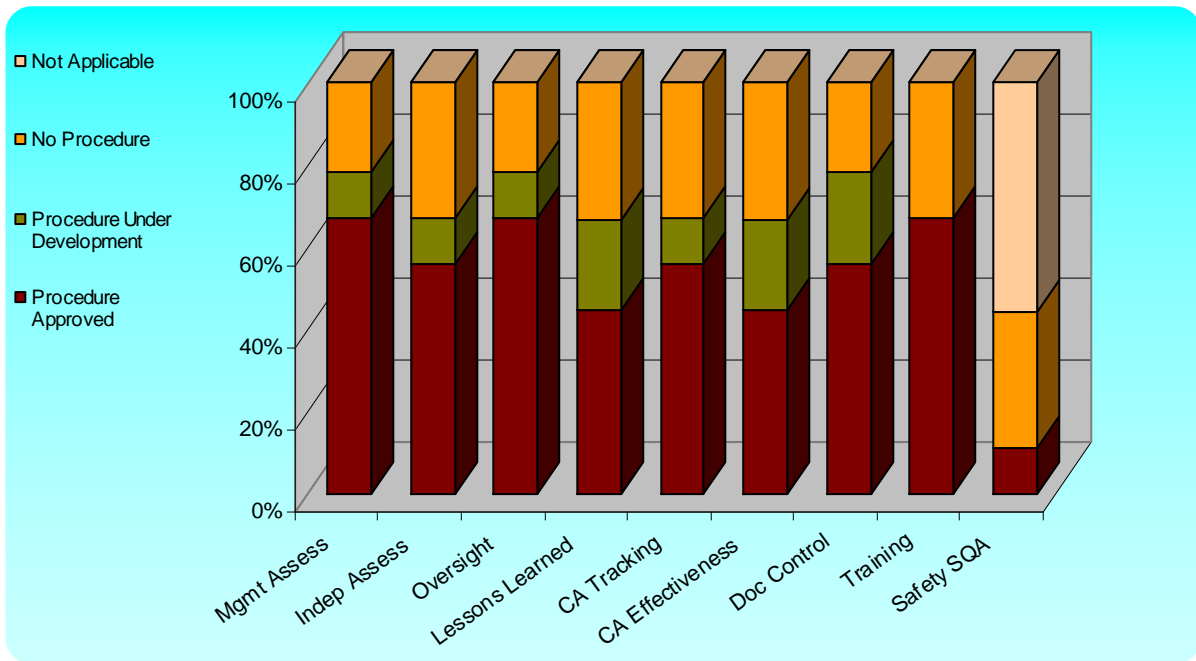
DOE O 414.1C requires implementation procedures to be written and approved to support the QAP. This Survey question was designed to provide a status of the above specific procedures that provide QA controls.

HQ Program Offices

Figure 6 below shows the implementing procedure status for HQ Program Offices which responded in varying degrees. The Office of Civilian Radioactive Waste, Office of Energy Efficiency and

Renewable Energy, Office of Electricity Delivery and Energy Delivery along with the Office of Fossil Energy reported having all applicable implementing procedures in place. The Survey responses from the Office of Science and NNSA did not provide a status for any HQ Program Office implementing procedures. All other HQ Program Offices reported that some implementing procedures are in place or under development. Safety software QA requirements are generally not implemented by HQ Program Offices because the functions and activities of these Offices do not require the use of safety software as defined in DOE O 414.1C.

Figure 6 - Status of Implementing Procedures for HQ Program Offices

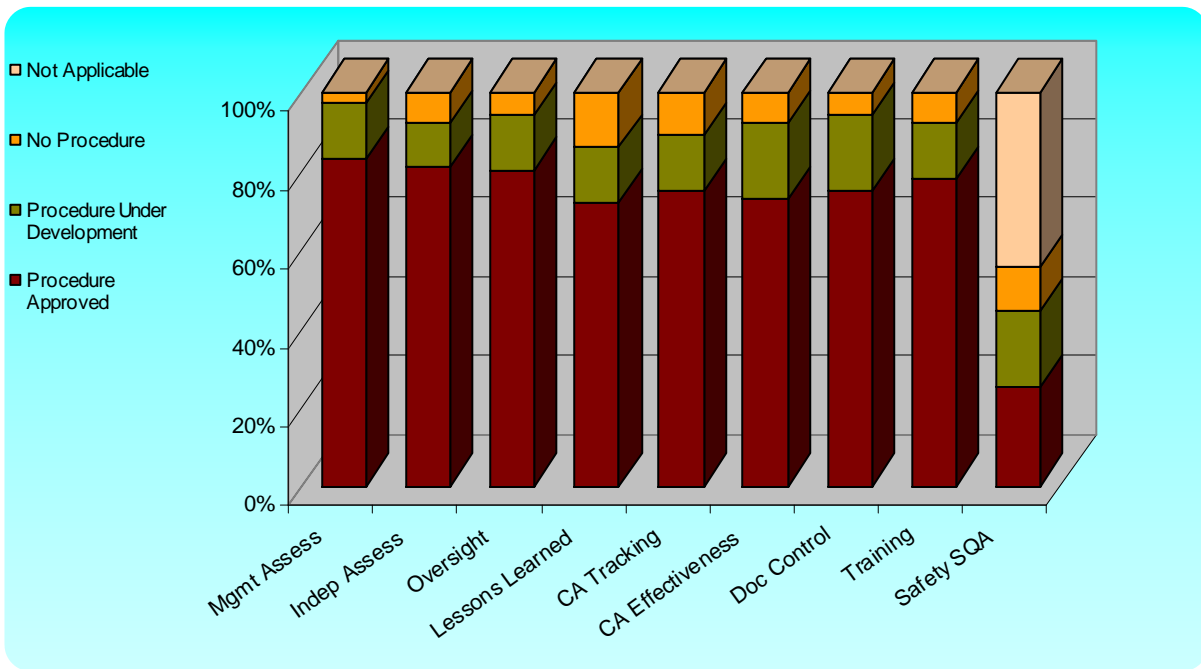


Note: The Office of Science and NNSA are represented as “No Procedure” because there was no data reported.

Field Offices

Figure 7 below shows the Survey data regarding implementing procedure status for Field Offices. For all categories except safety software QA, the majority of Field Offices reported having approved procedures or procedures in development.

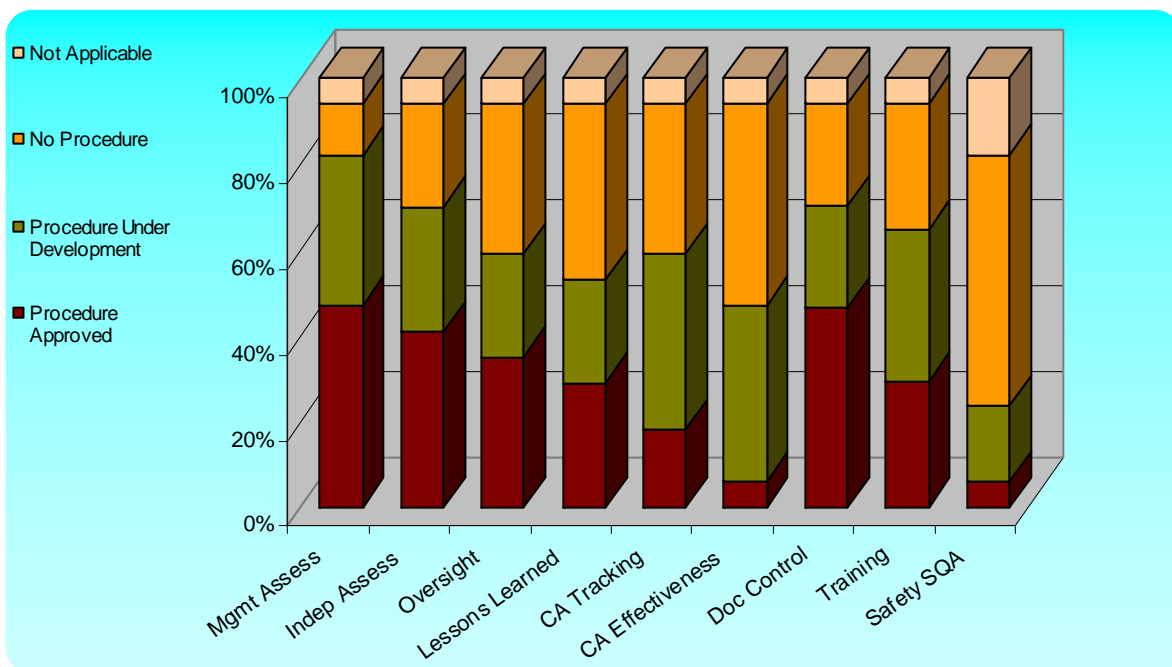
Figure 7 - Status of Implementing Procedures for Field Offices



HQ Staff and Support Offices

Figure 8 below shows the Survey data regarding implementing procedure status for HQ Staff and Support Offices. The majority of HQ Staff and Support Offices have approved procedures and/or procedures under development for all areas that support QAP implementation with the exception of corrective action effectiveness and safety software QA procedures. As expected, the data shows that safety software QA requirements are not applicable to the majority of the work these offices conduct.

Figure 8 - Status of Implementing Procedures for HQ Staff and Support Offices



Survey Topical Area II: Contractor QA Implementation and Compliance (Flow down) (Criteria 1, 7)

Survey Topical Area II posed the following questions:

- 1. Does the contractor have DOE-approved QAPs incorporating DOE O 414.1C?*
- 2. Do you have an annual contractor assessment schedule?*
- 3. Have you completed your planned contractor assessments for FY 2006?*
- 4. Are you on schedule for completing your planned contractor assessments for FY 2007?*
- 5. Provide information on any corrective actions (CAs) arising from FY 2006 assessments? (Number of CAs generated; Number of open CAs)*
- 6. Has the Field Office verified that the appropriate QA requirements have been flowed down to subcontractors?*

Although a similar set of questions was part of the 2006 Survey, the request for information in this topical area was augmented in the 2007 Survey to include information on any corrective actions that were generated and remained open.

HQ Program Offices

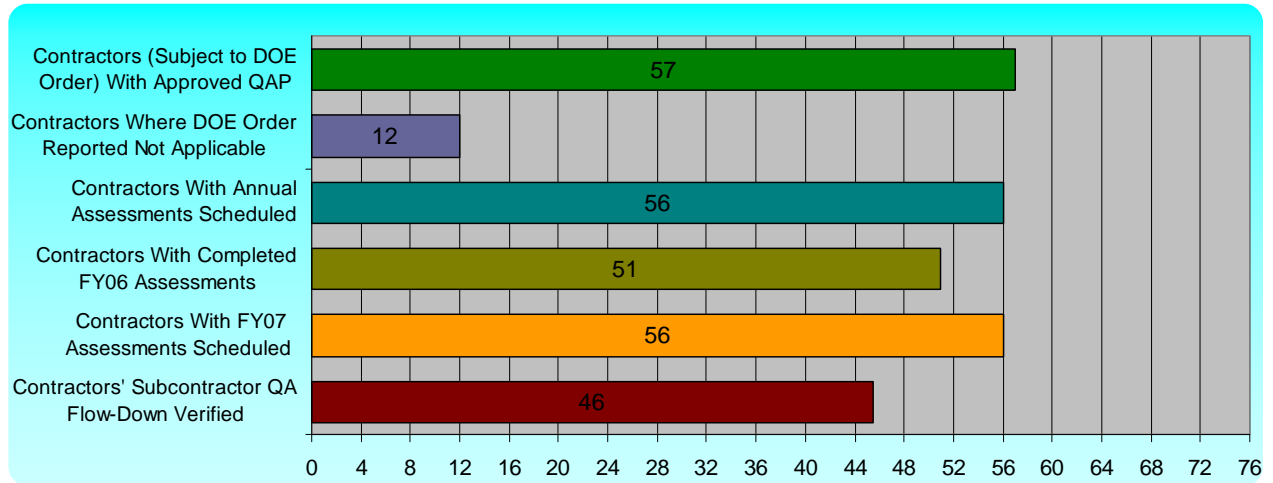
All HQ Program Offices reported that they do not have contractors supporting them who are required to have their own QAPs. Although HQ Program Offices have support service contractors, these contractors operate under the QAPs of the respective Program Office. All of the HQ Program Offices reported that they have approved QAPs per the requirements of DOE O 414.1C.

Field Offices

Figure 9 below shows the flow down of QA requirements to contractors. The Survey data identified 76 contractors supporting 36 Field Offices. Based on the data reported, it should be noted that 57 of the 76 contractors (89%) have approved QAPs, based on DOE O 414.1C, increased from 51 percent of the contractors having approved QAPs in 2006.

The Survey data on corrective actions indicated that of the 1551 total FY06 corrective actions reported, 219 of them remained open in FY07.

**Figure 9 - Flow-Down of QA Requirements to Contractors & Assessment of Implementation
(76 in total)**



HQ Staff and Support Offices

HQ Staff and Support Offices typically have support service contractors, and these contractors operate under the QAPs of the respective Office. All identified corrective actions from the FY 2006 assessments have been reported as closed.

Survey Topical Area III: Training and Qualifications General Requirements (Criterion 2)

Survey Topical Area III posed the following questions:

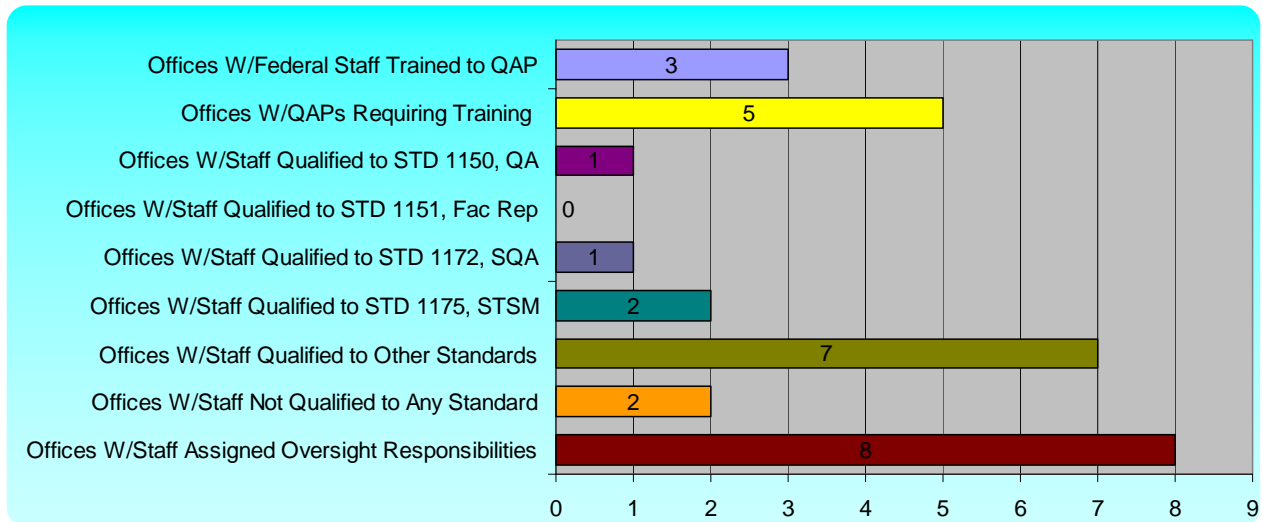
1. Provide information regarding qualification (TQP or other qualification programs) of Federal staff that provide the necessary oversight of the DOE and contractor QA and SQA activities?
 - a. To what standards are these Federal staff qualified? (e.g., DOE-STDs 1150, 1172, 1175, 1151, Other TQP functional areas or other QA industry qualification programs)
2. Does your organization's QAP require that Federal Staff be trained on the implementation of the QAP? Has your Federal staff been trained to your QAP?

This topical area was augmented from the 2006 Survey to obtain more specific information regarding which QA-related training and qualification programs are used to qualify Federal staff.

HQ Program Offices

Figure 10 below shows the HQ Program Office Survey data on the status of QA-related Training and Qualification Programs (TQP) for Federal staff.

Figure 10 - HQ Program Offices Training and Qualification (9 in total)

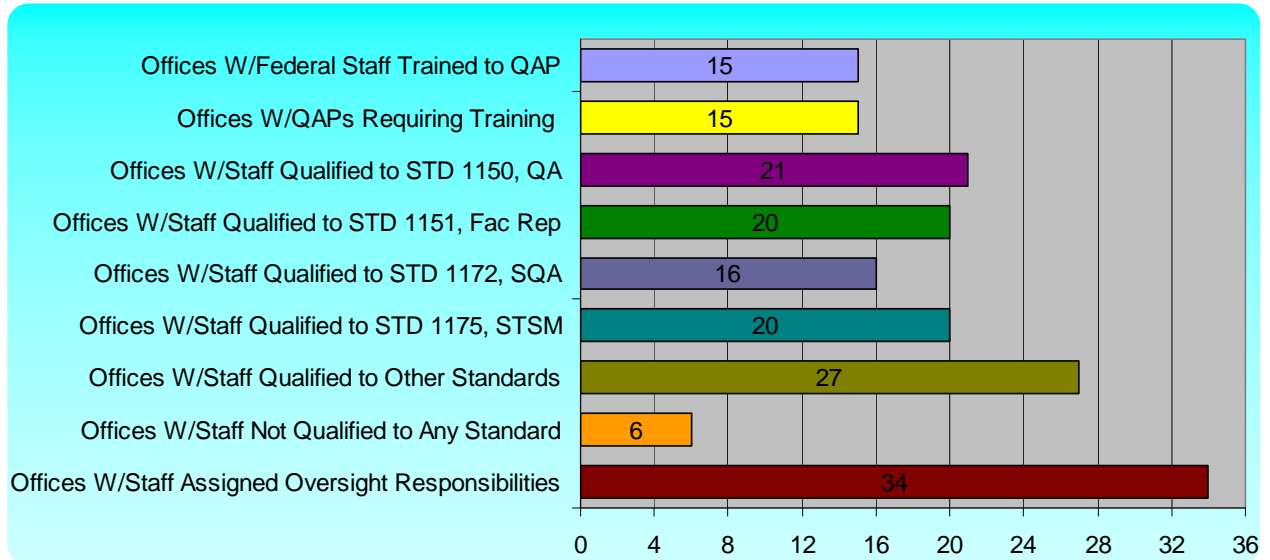


Note: These data do not capture those individuals currently undergoing qualification for standards (e.g., DOE STD 1150 and DOE STD 1172).
 Note: Results taken from Survey responses are supplemented by the Quarterly Report from the Federal Technical Capability Panel for Facility Representatives and Senior Technical Safety Managers.

Field Offices

Figure 11 below shows the Field Office Survey data on the status of QA-related training and qualification programs for Federal staff.

Figure 11 - Field Offices Training and Qualification Status (36 in total)

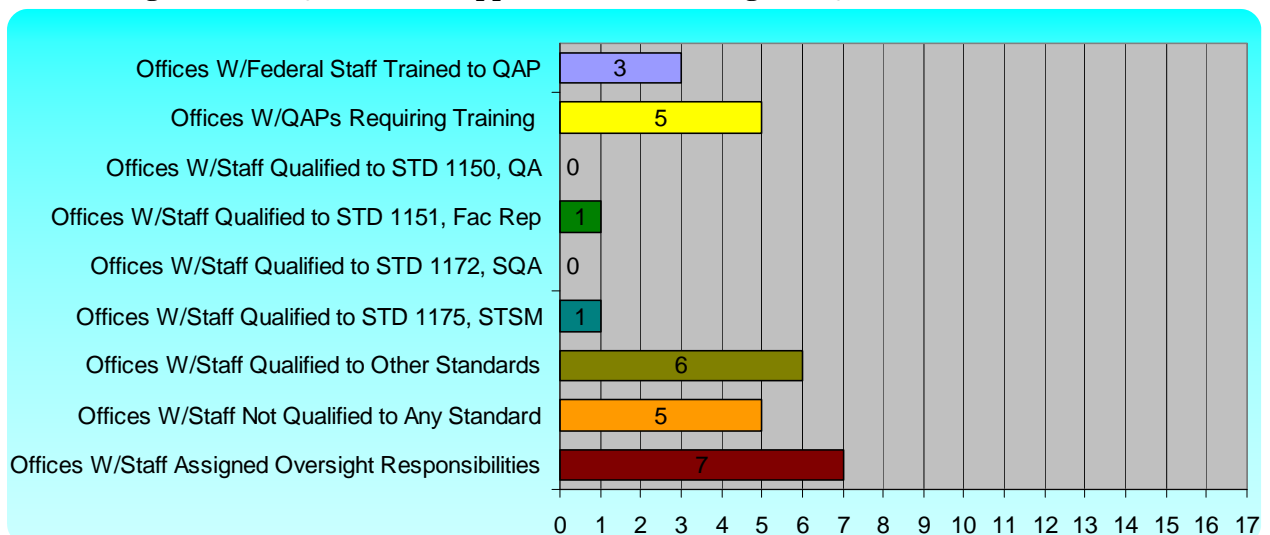


Note: These data do not capture those individuals currently undergoing qualification for standards (e.g., DOE STD 1150 and DOE STD 1172).
 Note: Results taken from Survey responses are supplemented by the Quarterly Report from the Federal Technical Capability Panel for Facility Representatives and Senior Technical Safety Managers.

HQ Staff and Support Offices

Figure 12 below shows the HQ Staff and Support Offices Survey data on the status of QA-related TQPs for Federal staff.

Figure 12 – HQ Staff and Support Offices Training and Qualifications (17 in total)



Note: These data do not capture those individuals currently undergoing qualification for standards (e.g., DOE STD 1150 and DOE STD 1172).
 Note: Results taken from Survey responses are supplemented by the Quarterly Report from the Federal Technical Capability Panel for Facility Representatives and Senior Technical Safety Managers.

**Survey Topical Area IV: Assessment and Improvement
(Criteria 3, 9, and 10)**

Survey Topical Area IV posed the following questions:

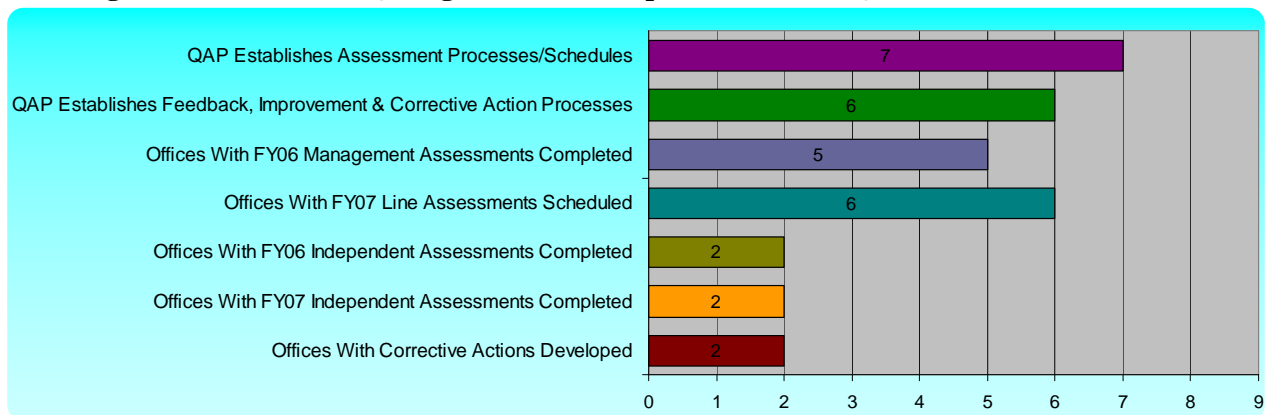
- a. Does the QAP establish Independent Assessment and Management Assessment processes with approved implementation schedules to measure the effectiveness of QA policy and program implementation in your organization?
- b. Does the QAP establish a process to identify and track actions resulting from assessments and ensure necessary improvements are achieved (i.e., a feedback and improvement or corrective action process)?
- c. Did you complete your HQ or Field Office management (self-) assessments scheduled for FY 2006?
- d. Are you on track to complete your HQ line management assessments of the Field Office scheduled for FY 2007?
- e. Were there any independent assessments conducted or planned on the Field Office activities for FY 2006 and FY 2007 (e.g., IG, GAO, HS-60 assessments, 3rd party assessments, etc.)?

Both management and independent assessment requirements are specified as criteria in DOE O 414.1C and should be addressed in the QAP. The 2006 Survey was augmented to ask specific questions regarding whether Offices conducted FY06 management assessments, FY06 and FY07 independent assessments, FY07 line assessments, and if corrective actions were developed as a result of these assessments.

HQ Program Offices

Figure 13 below shows the implementation of QA assessments for the HQ Program Offices.

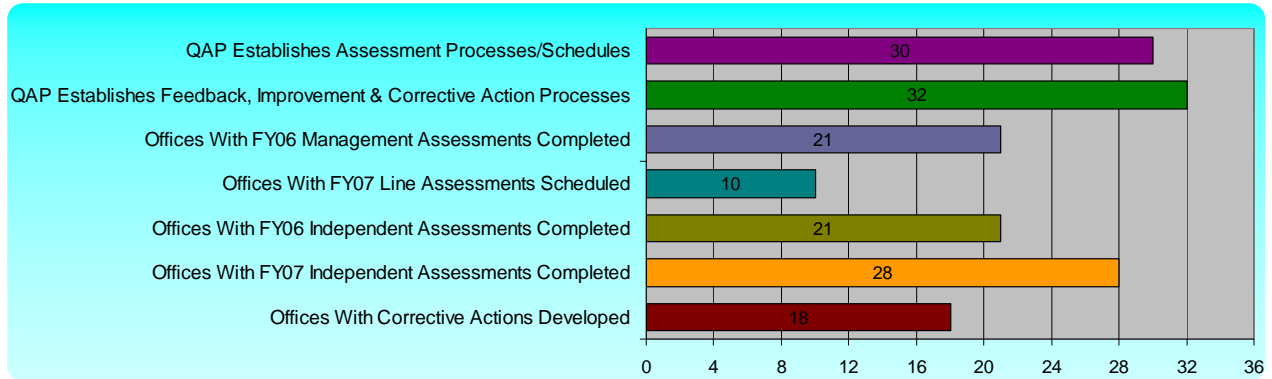
Figure 13 - Status of HQ Program Offices Implementation of QA Assessments (9 in total)



Field Offices

Figure 14 below provides a summary of the Survey data for Field Offices regarding management and independent assessments.

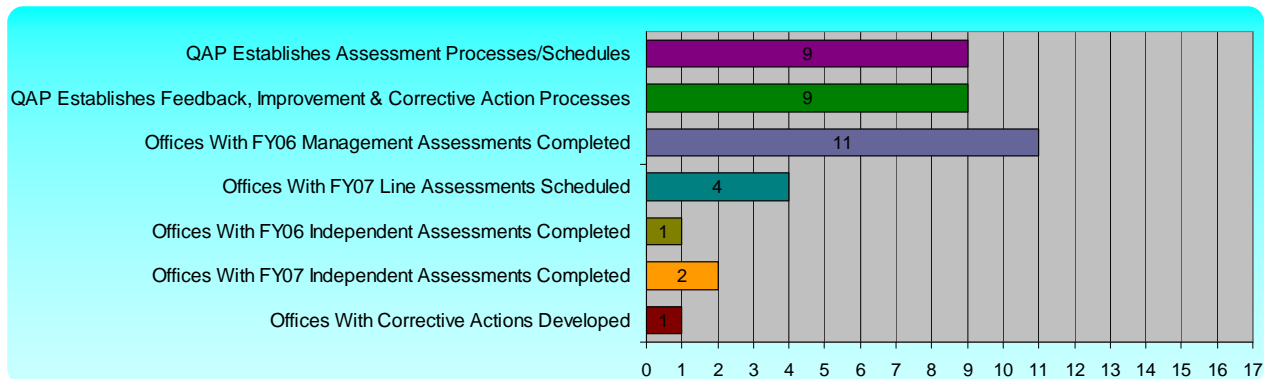
Figure 14 - Status of Field Offices Implementation of QA Assessments (36 in total)



HQ Staff and Support Offices

Figure 15 below provides a summary of the Survey data for HQ Staff and Support Offices regarding management and independent assessments.

Figure 15 - Status of HQ Staff and Support Offices Implementation of QA Assessments (17 in total)



Survey Topical Area V: Suspect/Counterfeit and Defective Items (DOE O 414.1C – Req. 4.a. (4); Attachment 3)

Survey Topical Area V posed the following questions:

1. *Has a suspect/counterfeit and defective item (SCDI) process been developed and implemented by the contractor? Indicate which of the following areas are included in that process: identifying, analyzing SCDI, removing them, and preventing SCDI from being supplied to DOE/NNSA and its contractors.*
2. *Has a Federal management position responsible for SCDI activities been identified?*

DOE O 414.1C requires DOE organizations to establish processes to be implemented for the control of Suspect/Counterfeit Items. This is a new topical area with the 2007 Survey.

HQ Program Offices

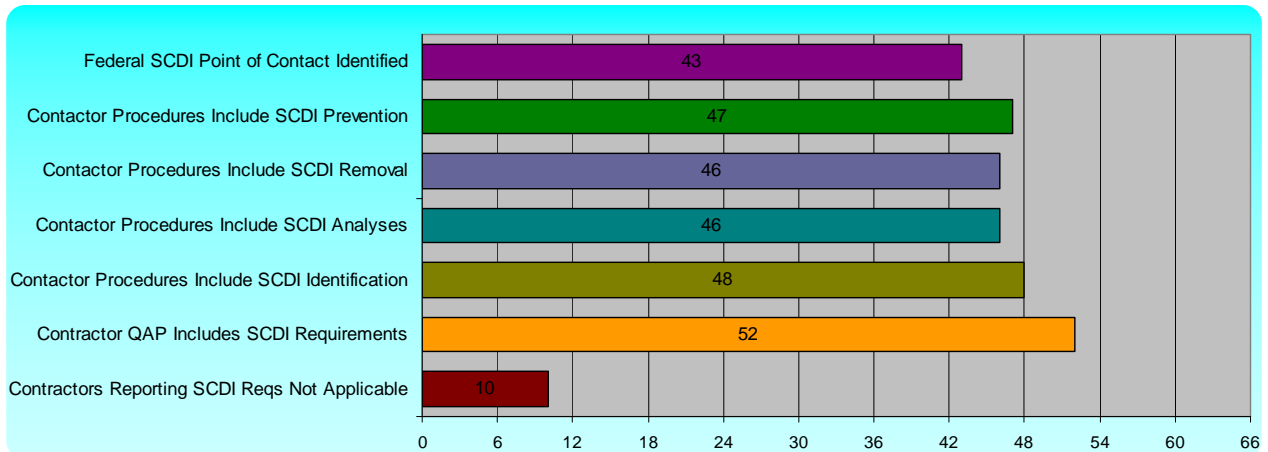
The DOE SCDI process is not applicable to HQ Program Offices. The SCDI process is implemented in the field by the contractors.

Field Offices

Figure 16 below shows the Field Office Survey data on the SCDI process. The four Field Offices listed below reported they have a SCDI process in draft or under development and these data are not included in the figure below.

- Rocky Mountain Oilfield Testing Center
- Chicago Office
- Fermi Site Office
- Thomas Jefferson Site Office

Figure 16 - Status of Field Offices SCDI Implementation (66 applicable contractors in total)



HQ Staff and Support Offices

As was reported for the HQ Program Offices, the DOE SCDI process is not applicable to HQ Staff and Support Offices. It should be noted that HSS manages the SCDI process for DOE as required by DOE O 414.1C. For the National Training Center, HSS reported that SCDI requirements do apply and procedures are in place.

Survey Topical Area VI: Software Quality Assurance (DOE O 414.1C – Req. 4.a. (4); Attachment 5)

Survey Topical Area VI posed the following questions:

1. *Have contractor safety software grading levels been submitted in the contractor QAP and approved by DOE?*
2. *Has a safety software inventory been identified, documented, and maintained by the contractor as required by DOE O 414.1C? Has the inventory document been reviewed by DOE?*

DOE O 414.1C requires DOE organizations to establish processes to be implemented for safety software. This is a new topical area in the 2007 Survey.

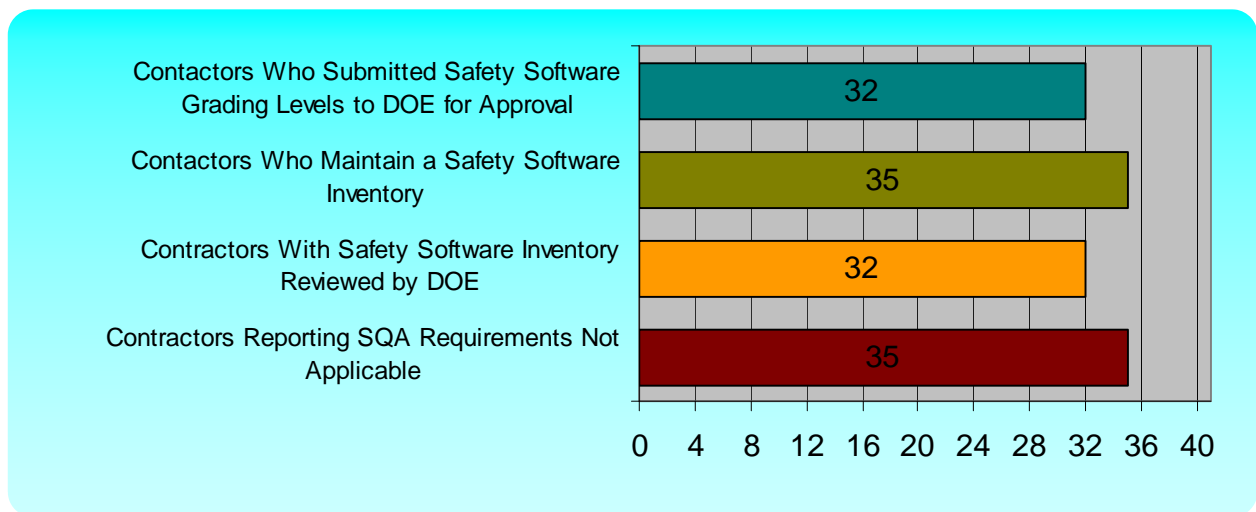
HQ Program Offices

All HQ Program Offices reported that the DOE O 414.1C SQA requirements do not apply since the offices do not use safety software as defined in DOE O 414.1C.

Field Offices

Figure 17 below shows the Field Office Survey data on SQA. Of the 76 total contractors, 41 reported that safety software is applicable.

**Figure 17 - Safety Software Requirements Implementation at Field Offices
(41 applicable contractors in total)**



HQ Staff and Support Offices

The HQ Staff and Support Offices reported that the DOE O 414.1C SQA requirements do not apply since the Offices do not use safety software as defined in DOE O 414.1C.

Survey Topical Area VII: Design and Construction (Criterion 6)

Survey Topical Area VII posed the following questions:

- 1. Do your contractors have a process in place to ensure implementation of QA in design and construction?*
- 2. During FY 2006, has your organization conducted oversight/assessment activities to evaluate the effectiveness of the processes in place to ensure quality in design and construction?*

DOE O 414.1C requires DOE organizations to establish processes to be implemented for design and construction. This is a new topical area in the 2007 Survey.

HQ Program Offices

The design and construction questions in the Survey do not pertain to HQ Program Offices.

Field Offices

Of the 76 contractors covered by the Survey, data was reported for 66. Survey data for Field Offices reported that this requirement did not apply to 16 of the 66. Of the remaining 50 contractors, 47 have QA processes in place for design and construction. Additionally, the Field Offices conducted oversight assessments at 35 of the 50 contractors to evaluate the effectiveness of these processes.

HQ Staff and Support Offices

The Office of Management was the only Staff Office that reported that they have a design and construction QA process in place. The other HQ Staff and Support Offices reported that this requirement did not apply.

Survey Topical Area VIII: Other DOE O 414.1C Requirements

Survey Topical Area VII posed the following questions:

Does the QAP establish or describe...

- an approved set of documented instructions, procedures, etc. that prescribe processes, specify requirements, or establish design for your work activities? [Criterion 4]*
- a documents/records management system and/or a documented process in place to specify, prepare, review, approve, and maintain records? [Criterion 4]*
- a process to ensure work is performed consistent with technical standards, administrative controls, and hazard controls adopted to meet regulatory or contract requirements using approved instructions, procedures, etc. [Criterion 5]*
- a documented process for defining, performing, validating, approving and controlling design activities? [Criterion 6]*
- a documented process to ensure procured items and services meet requirements; for specifying products and service; evaluating and selecting vendor; and ensuring that services and products continue to meet requirements? [Criterion 7]*

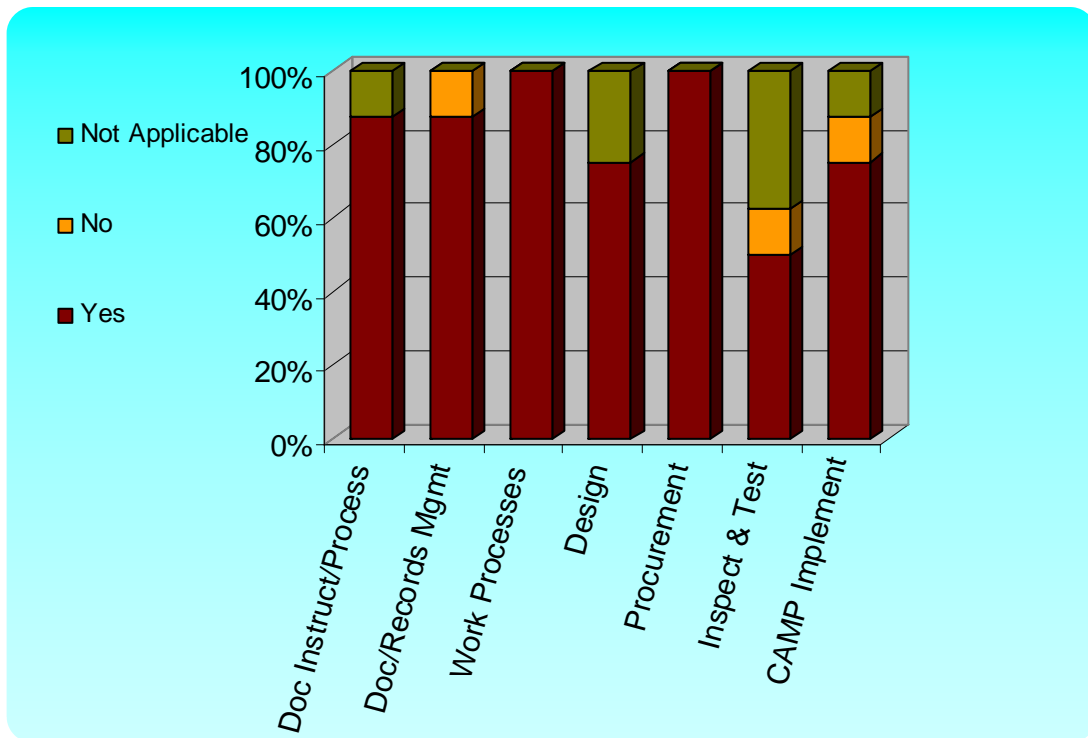
- a documented process to inspect and test items, services, and processes to ensure that they meet established acceptance and performance criteria? [Criterion 8]
- a DOE Corrective Action Management Program in place and in use? [Req. 4.a.(4)]

The above questions intended to obtain summary level information on the DOE O 414.1C requirements that have not been addressed by other the Survey topical areas.

HQ Program Offices

Figure 18 below shows the HQ Program Office Survey data related to whether the QAP establishes documented processes and procedures for the DOE O 414.1C requirements identified in the Survey questions above. The Office of Science did not report HQ data for this topical area, but did report data for their Field Offices. The results reported for all other HQ Program Offices showed lower percentages for the activities that are not typically performed by HQ organizations. These include Inspection & Testing, and to a lesser extent, Design.

Figure 18 - Status of HQ Program Offices QAP Establishes Documented Processes and Procedures

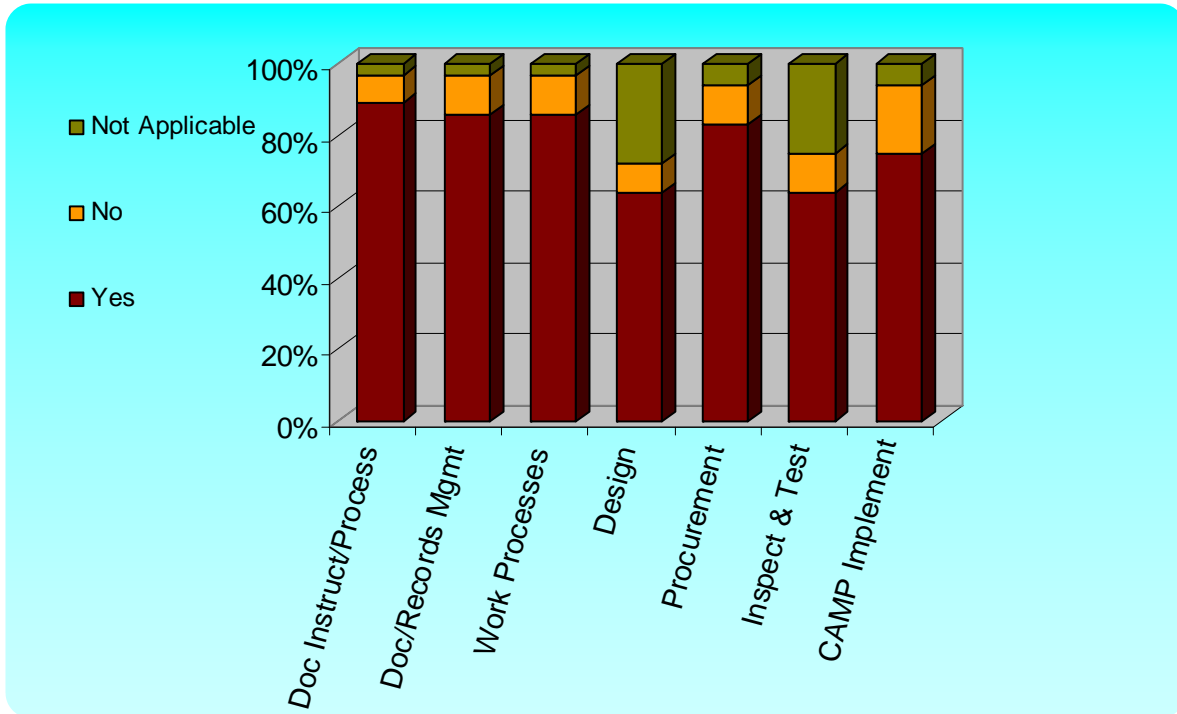


Note: HQ Office of Science data is not included in Figure 18. The data presented are normalized.

Field Offices

Figure 19 below shows Field Office Survey data related to whether the QAP establishes documented processes and procedures for DOE O 414.1C requirements.

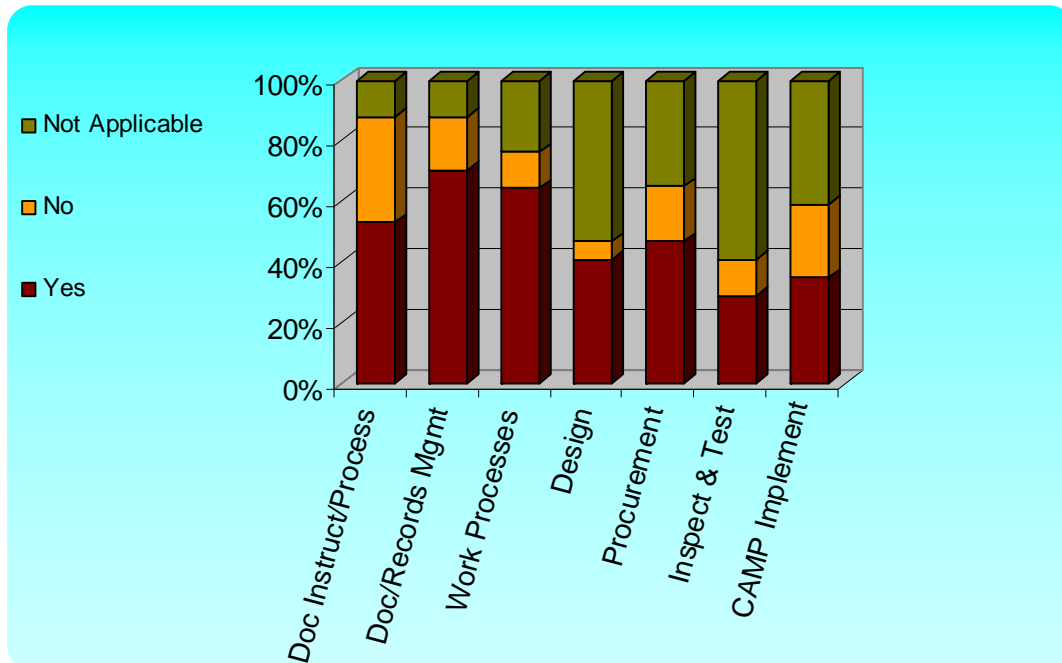
Figure 19 - Status of Field Offices QAP Establishes Documented Processes and Procedures



HQ Staff and Support Offices

Figure 20 below shows HQ Staff and Support Office Survey data related to whether the QAP establishes documented processes and procedures for the DOE O 414.1C requirements identified in the Survey questions above. As with the data for the HQ Program Offices, the Staff and Support Office results showed lower percentages for the activities that are not typically performed by these Offices. These include Design, Inspection & Testing, and to a lesser extent, CAMP Implementation.

Figure 20 - Status of HQ Staff and Support Offices QAP Establishes Documented Processes and Procedures



Appendix B: QA Implementation Survey Reporting Organizations

(DOE ORGANIZATIONS TO WHICH DOE O 414.1C IS APPLICABLE)

The QA implementation Survey reporting organizations were taken from DOE O 414.1C, Attachment 1, Primary DOE Organizations to which DOE O 414.1C is applicable and then updated to the current DOE organization. The offices were then arranged as follows to facilitate reporting and to include the Field Offices.

Program Offices

National Nuclear Security Administration (NNSA)	Office of Civilian Radioactive Waste Management
Office of Environmental Management	Office of Energy Efficiency and Renewable Energy
Office of Fossil Energy	Office of Electricity Delivery and Energy Reliability
Office of Science	
Office of Legacy Management	
Office of Nuclear Energy	

Field Offices

Savannah River (DP)	Oak Ridge Office
Los Alamos	Oakland Projects Office
Sandia	National Energy Technology Laboratory (NETL)
Pantex	Rocky Mountain Oilfield Testing Center (RMOTC)
Y-12	Strategic Petroleum Reserve Project Management Office (SPRPMO)
Livermore	Chicago Office
Kansas City	Ames Site Office
Nevada Test Site	Argonne Site Office
Golden Field Office	Berkeley Site Office
EM Consolidated Business Center	Brookhaven Site Office
Carlsbad Field Office	Fermi Site Office
Separations Process Research Unit (SPRU) Field Office	Princeton Site Office
Office of River Protection	Pacific Northwest Site Office
Richland Operations Office	Stanford Site Office
Savannah River (EM)	Thomas Jefferson Site Office
Grand Junction Office Moab UMTRA Project	Idaho Operations Office
West Valley Demonstration Project	Office of Civilian Radioactive Waste Management (Yucca Mountain)
Portsmouth/Paducah Project Office	
Mound OU-1 Project Office	

Staff and Support Offices (Including Power Marketing Administrations)

Chief Financial Officer	Office of Intelligence and Counterintelligence
Chief Information Officer	Office of Management
Energy Information Administration	Office of Hearings and Appeals
Office of Congressional and Intergovernmental Affairs	Office of Economic Impact and Diversity
Office of General Counsel	Office of Public Affairs
Office of Health, Safety and Security	Southeastern Power Administration
Office of Policy and International Affairs	Southwestern Power Administration
Office of the Inspector General	Western Area Power Administration
Office of Human Capital Management	