
**2009 Survey on
Quality Assurance Implementation
in the
Department of Energy**



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**U.S. Department of Energy
Office of Health, Safety and Security &
DOE Quality Council**

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EXECUTIVE SUMMARY

On October 1, 2009, at the request of the Deputy Secretary, the Department of Energy (DOE) Quality Council issued the 2009 Survey on Quality Assurance (QA) Implementation (2009 Survey). This Survey relied on self-reported responses from the DOE headquarters and field offices to provide a snapshot of the status of implementation of the QA requirements in the DOE complex. This report compiles and summarizes the results of the data on the status of implementation submitted in response to the 2009 Survey questions, but it does not directly measure the effectiveness of the implementation of the QA programs and their implementation.

One feature of the survey is that it encourages DOE management to focus on each of the QA requirements in DOE O 414.1C, *Quality Assurance*, and forces them to ask: How well are we implementing the QA requirements? The results varied among the Departmental Elements, but in general most of our organizations are working hard to ensure these requirements are met, and they are succeeding in most areas.

Compared to the responses to previous surveys, the 2009 Survey responses revealed an increased use of approved QA implementing procedures (work processes) and improvement in both the number of assessments conducted and the tracking of corrective actions resulting from those assessments. QA Programs (QAPs) are in place in all program offices and over 90% of field offices. This indicates that the fundamental tool to drive quality improvement across the Department is firmly built into DOE's way of doing business for DOE program and field offices.

Opportunities for improvement were identified related to verifying that QA requirements were flowed down to subcontractors and to QA training. Further, continued vigilance is needed to close implementation gaps and ensure that all DOE offices and their contractors meet current QA requirements, including ensuring that all DOE offices have and use QAPs, approved work processes, approved design and construction processes, approved documented processes for procurement and acceptance and for performance of inspection and testing (where applicable). In addition, continued effort is needed to ensure that all contractors using safety software meet the expectations for its validation and use.

The next scheduled survey on QA implementation will be in 2011.

1. INTRODUCTION

The purpose of the 2009 Survey was:

- to measure the extent of implementation of QA requirements at DOE,
- to provide a mechanism to remind DOE headquarters and field organizations of their obligation to meet QA requirements and to encourage them to complete QA self assessments through the 2009 Survey, and
- to identify areas for improvement, as well as positive observations, in QA implementation at DOE.

The 2009 Survey was developed by an interoffice working group comprised of members from the DOE Quality Council, including Council members from DOE headquarters and field organizations. This report compiles and summarizes the results of the data on the status of implementation submitted in response to the 2009 Survey questions, but it does not directly measure the effectiveness of the QAPs and their implementation.

In response to concerns related to implementation of QA policies and principles, DOE issued surveys on QA implementation in 2006 and 2007. At the direction of the Deputy Secretary, these surveys are now performed biennially.

Many of the questions in the 2006, 2007, and 2009 surveys were the same or slightly changed, providing a baseline for comparison and for trending as discussed in this report. Other questions are unique to the 2009 Survey and provide new insights on levels of DOE QA implementation in DOE. Some questions from previous surveys were eliminated, because the responses to earlier surveys indicated that the actions were complete. Some questions were added or enhanced in specific areas of interest for DOE program and field offices such as safety software quality assurance (SSQA) and commercial grade dedication. To better address DOE staff and support office issues and to eliminate unnecessary questions for that group, DOE issued a separate, tailored survey request for staff and support offices for the 2009 Survey.

The number of DOE field offices and contractors for which data was received varied slightly for each question as discussed in Appendix A.

This final report is the joint product of the Office of Health, Safety and Security (HSS) and the DOE Quality Council.

2. ORGANIZATION OF THIS REPORT

Section 3 of this report discusses DOE's basic QA requirements, the added value of implementing those requirements, related survey questions, and the summary conclusions from the 2009 Survey responses.

Appendix A of this report lists the survey questions for the DOE program and field offices and the summary of the responses to each of these questions. Appendix A is divided into two

sections. Section A1 presents a summary of the responses from the program and field offices, while Section A2 contains the summary of the responses for the DOE Power Marketing Administrations, including the Western Area Power Administration (WAPA), the Southeastern Power Administration (SEPA) and the Southwestern Power Administration (SWPA).¹

All thirteen staff and support offices were contacted for a response to the 2009 Survey and twelve responded to the 2009 Survey.² Appendix B of this report lists the survey questions for the DOE staff and support offices and the summary of the responses to each of these questions. Appendices A and B also provide a comparison, where possible, of the responses to earlier surveys to illustrate how DOE has progressed with respect to implementing various QA requirements.

Appendix C provides the list of Departmental Elements that responded to the Survey, Appendix D lists the acronyms used in this report, and Appendix E lists the specific documents referenced in this report.

3. SUMMARY OF QA SURVEY QUESTIONS AND RESPONSES

A robust program for QA ensures that items, services, and processes meet or exceed the user's requirements and expectations; reduces costs by decreasing the need to correct or replace faulty products and services; and assures confidence in the ability of DOE to meet its missions.

DOE Order (O) 414.1C, *Quality Assurance*, documents the QA requirements applicable to DOE program, field, and staff and support offices and the survey questions were derived from these requirements. The responses to the survey and a summary of the results are rolled up into seven basic areas³ as discussed below.

3.1. QA Program

All DOE program, field, and staff and support offices, as well as their contractors, are required to have a single, documented and approved QAP that communicates to all staff within an organization how quality is to be ensured and how QA requirements are to be implemented. In addition, the QAP must document:

¹ 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.

² The DOE Office of Public Affairs did not submit a response.

³ These seven basic areas were selected to best summarize the data and they do not in all cases align with the topical areas of the questions in the 2009 Survey.

- The organizational structure, roles and responsibilities, levels of authority and interfaces;
- The management processes used to do work, including planning, scheduling, and providing resources;
- The non-government consensus standard the organization chose to follow to ensure quality of items and services.

Clear roles and responsibilities ensure that each person is aware of his/her responsibilities and no critical work falls between the cracks. Doing work to approved management processes ensures that work is done to applicable consensus standards and administrative and hazard controls. Work done outside approved processes may not be fully coordinated with other impacted organizations, may not be done within the analyzed safety basis, or may not consider all possible hazards. Work done to applicable consensus standards has the benefit of the insight of many subject matter experts with years of experience who developed and honed the criteria in the standard. As a result, work done to these standards is more likely to meet all aspects of quality assurance thereby preventing gaps in implementation and resulting in higher quality of items and services.

The QAP is the definitive text that defines how the organization ensures quality products and services, consequently the 2009 Survey contained a number of questions to measure DOE's success in establishing approved QAPs, designating a QA manager responsible for ensuring implementation of the QAP, identifying consensus standards chosen to implement QA, and ensuring that staff is trained to their QAP.

All ten DOE program offices have approved QAPs and QA managers; however, three program offices did not identify any implementing consensus standard. Six out of ten program offices have trained their staff on their QAP, and two are planning training on their QAP.

Thirty-one out of thirty-four DOE field offices reported having approved QAPs and twenty-three DOE field offices reported that their staff is trained on their QAPs.

The three Power Marketing Administrations responding to the 2009 Survey (SEPA, SWPA, and WAPA) reported having approved QAPs, but SWPA reported that it does not have a QA manager. All three reported that their staff is trained on their QAPs.

Twelve out of thirteen DOE staff and support offices responded to the 2009 Survey and ten of them reported that they have approved QAPs. Only four DOE staff and support offices reported that their staff is trained on their QAPs; however this is an increase over the response to the 2007 Survey when only one DOE staff and support office reported that its staff was trained.

Sixty out of sixty-six contractors were reported to have approved QAPs. In the process of responding to the 2009 Survey, the Office of Environmental Management (EM) discovered one contractor that did not have a QAP because the requirements of DOE O 414.1C were inadvertently omitted from the contract. EM plans to add DOE O 414.1C to the contract when it is renewed in 2014.

Positive Observation

Program office QAPs. All ten DOE program offices and all three reporting Power Marketing Administrations have approved QAPs.

Opportunities for Improvement

- **Ensure that all DOE offices have approved QAPs.** Continue efforts to establish approved QAPs for all DOE field offices and staff and support offices.
- **Increase training of staff on the QAPs for DOE program, field and staff and support offices.** All DOE program and field offices and all staff and support offices should be trained on their QAPs once they are approved.
- **Increase use of consensus standards for implementing QA.** Consistent with the requirements of DOE O 414.1C, DOE QAPs should be implemented using QA consensus standards.
- **Include QA requirements in all contracts.** Ensure that the provisions of DOE O 414.1C are included in all applicable contracts in a timely manner.

3.2. Training and Qualification

The skills necessary to effectively perform each job vary, but all DOE and contractor staff must be properly trained and qualified to perform their work. Whether the job is ensuring the safety of nuclear weapons or ensuring that cleaning materials are properly stored, all workers contribute to ensuring quality work and must have the skills to perform properly. Training is also important to ensure missions are met, for example, workers who operate particle beam accelerators, conduct research, or procure items and services must have the skills to do their jobs properly. In addition, continuing training may be necessary to maintain those skills and to meet qualification requirements. Assessment of an individual's skills to perform a job may be based on knowledge of their previous experience, testing, observation, completion of qualification programs, or on-the-job-training. The 2009 Survey contained several questions to measure the status of training and qualification of DOE and contractor staff including training to the QAPs, training to specific DOE Functional Area Qualification Standards (FAQS), the number of contractor staff qualified in software QA, and the number of qualified contractor staff engaged in onsite quality control of construction. Training to QAPs was discussed in Section 3.1 and identified as an opportunity for improvement.

The 2009 Survey specifically inquired about the status of qualification of DOE staff to the following four DOE FAQS:

- DOE-Standard (STD)-1150, *Quality Assurance Functional Area Qualification Standard*
- DOE-STD-1172, *Safety Software Quality Assurance Functional Area Qualification Standard*
- DOE-STD-1175, *Senior Technical Safety Manager Functional Area Qualification Standard*
- DOE-STD-1151, *Facility Representative Functional Area Qualification Standard*

The FAQs only apply to DOE Federal staff and qualification to these standards is not a requirement for all offices. DOE O 414.1C does require Federal personnel with SSQA responsibilities to be qualified to DOE-STD-1172.

In the responses to the 2009 Survey only two out of ten program offices and nineteen out of thirty-four DOE field offices reported staff qualified to DOE-STD-1150. Similar numbers were reported for DOE-STD-1172, DOE-STD-1175, and DOE-STD-1151. The only DOE staff and support office that reported staff qualified to these FAQs was HSS. The number of staff qualified to these standards is discussed in greater detail in Appendices A and B.

Many of the questions on software QA (SQA) were new in the 2009 Survey, including the questions on the number of contractor staff qualified in SQA and whether contractors maintain an approved list of safety software users. Twenty-six of thirty-five contractors using safety software had one or more persons qualified in safety software. Twenty-nine contractors were reported to have an approved list of software users.

The question on whether contractor design and engineering staff was trained on applicable work processes was new in the 2009 Survey. Forty contractors out of sixty-six were reported to have design and engineering staff trained to their work processes. This question was reported as not applicable to twenty-three contractors and no response was received to this question for the remaining three contractors.

Opportunities for Improvement

- **Increase qualification of DOE Federal staff to the four listed FAQs.** The report on the responses to the 2007 Survey on QA Implementation identified qualification of DOE Federal staff to the four listed FAQs as an area needing improvement. Qualification to these FAQs continues to be an area providing an opportunity for improvement.
- **Ensure training of Federal and contractors staff to QAPs.** Training to QAPs was discussed in Section 3.1 and identified as an opportunity for improvement.
- **Ensure training in SQA where appropriate.** Continued effort is needed to ensure training in SQA where appropriate.

3.3. Work Processes and Documentation

The provisions of DOE O 414.1C require that work is performed to documented and approved processes. Those processes must ensure that work is performed consistent with applicable standards and administrative and hazard controls. As discussed in Section 3.1, work done outside approved processes may not be fully coordinated with other impacted organizations, may not be done within the analyzed safety basis, or may not consider all possible hazards. Furthermore, it is easier to document and track work done to approved work processes, which in turn will facilitate successful design, document, drawing, change, and work control processes. Performing work to documented and approved work control processes also helps ensure that all required activities are performed so there are

no gaps in safety or operation activities. The 2009 Survey specifically asked for the status of approved work processes for DOE headquarters and field offices, as well as contractors, in the nine areas listed below which are directly related to QA:

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

The question on work processes was new for contractors, but not for DOE headquarters and field offices. The responses for DOE headquarters and field offices showed significant improvement in this area, particularly for DOE program offices. DOE program offices reported an increased number of approved procedures in all areas surveyed over the 2007 Survey results (90% in 2009 vs. 54% in 2007). The DOE program offices reported having 100% approved procedures for Management Assessment, Oversight, and Document Control, and Software QA where applicable. Similar to the responses for the DOE program offices, there has been significant progress in establishing approved implementing procedures for DOE field offices over the 2007 Survey results (90% in 2009 vs. 73% in 2007). In the 2007 Survey on QA Implementation, a large number of staff and support offices reported a number of procedures were still under development; the responses to the 2009 Survey indicated that the number of approved work processes has more than doubled (See Appendix B and Figure 25).

The question on approved work processes was new for contractors; however 95% of the contractors were reported to have approved procedures where applicable in the nine areas listed.

The Power Marketing Administrations surveyed reported that they have implementing procedures for management assessment, independent assessment, oversight, training, lessons learned, corrective action tracking, and document/records control. SWPA also reported that it has a procedure for corrective action effectiveness. SSQA was reported to not be applicable to the Power Marketing Administrations.

Positive Observation

Significant progress in establishing approved work processes. While additional work is needed to ensure that all DOE offices and contractors have approved work processes where applicable, the responses to the survey indicate significant progress has been made in this area since 2007 for DOE offices. This question was new for contractors, but most contractors were identified as working to approved procedures.

Opportunities for Improvement

Ensure the remaining DOE offices and contractors establish approved work processes.

Continued effort is needed to ensure the remaining DOE offices and contractors establish approved work processes.

3.4. Design and Construction

Early and continued vigilance of QA is essential for successful design and construction projects. Mistakes caught early are much less expensive to fix than mistakes caught later, such as a flawed foundation in a completed building or bad rebar or piping encased in concrete. In the commercial nuclear power plant business the Zimmer plant was a role model of a nuclear power plant that was never completed because of inadequate quality assurance in the early stages of design and construction. Once estimated to be over ninety percent completed, the plant was eventually turned into a coal plant. DOE has also experienced the high cost of inadequate QA in major construction projects. Even in small projects the cost of having to redo work can substantially impact cost and schedule. On the other hand, early identification and correction of QA problems can save a major project.

The 2009 Survey included a number of questions related to design and construction including questions on approved vendor lists, annual vendor audits, approved procedures for commercial grade dedication, training of design and engineering staff, the number of qualified engineering staff, prescribed processes and procedures for design, and processes for design control. Many of these were new questions to the survey. Some, such as commercial grade dedication, apply only to nuclear facilities. Many of the questions posed for contractors were deemed to be not applicable to some contractors because they were not actively involved in design and construction; however a number of the contractors were reported to have approved vendor lists (37), annual vendor audits (33), approved procedures for commercial grade dedication (29), trained design and engineering staff (40), and qualified staff engaged in onsite quality control of construction (30).

Over 90% of the DOE field offices to which design and construction was applicable confirmed that they have prescribed processes and procedures for design and over 80% of the DOE field offices to which design and construction was applicable confirmed that they have processes for design control. DOE program offices have less direct involvement in design activities but most indicated they had these processes and procedures where applicable.

All DOE staff and support offices, except the Office of Management, reported that the design and construction questions were not applicable to them.

Opportunities for Improvement

Ensure the remaining DOE offices and contractors establish approved design and construction processes were applicable. Continued effort is needed to ensure the remaining DOE offices and contractors establish approved design and construction processes were applicable.

3.5. Procurement (including Inspection and Acceptance and Performance Testing and Flowdown of Requirements)

Vigilance is needed to ensure products that are procured and delivered meet expectations. This extends to subcontractors and suppliers, as well as to the prime contractor⁴ to DOE. The quality of a prime contractor's work relies in part on the quality of the items and services provided to the prime contractor by its subcontractors. The Contractor Requirements Document (CRD) in DOE O 414.1C includes the specific requirements for QA that are to be included in DOE contracts. Furthermore, that CRD states:

The contractor is responsible for flowing down the requirements of this CRD to subcontractors at any tier to the extent necessary to ensure the contractor's compliance with the requirements and the safe performance of work.

A similar requirement can be found in the Department of Energy Acquisition Regulation 48 CFR 970.5204-2 (e) which is included in DOE contracts. In addition, subcontractors and suppliers are included in the scope of 10 CFR 830 and are required to meet the QA requirements in that rule for items and services that affect, or may affect, the safety of DOE nuclear facilities.

The 2009 Survey included a number of questions related to procurement. Several of these questions relate specifically to design activities (e.g., commercial grade dedication, approved vendor lists, and annual vendor audits) and were addressed in that discussion. Additional questions relating to procurement included questions on documented processes for procurement and for acceptance and performance inspection and testing, as well as questions on verification on flowing down requirements to subcontractors.

The questions on the documented processes for procurement and for acceptance and performance inspection and testing were the same as the questions in the 2007 Survey and were primarily directed to DOE field offices. Twenty-eight of thirty-four DOE field offices reported that they have documented processes for procurement. Of the remaining six DOE field offices two reported that they did not have such processes, two reported that the question was not applicable to them, and two did not provide a response to this question. The response to this question is essentially unchanged from the 2007 Survey.

⁴ The term "prime contractor" as used in this document refers to contractors with a direct contract with DOE.

The question on acceptance and performance inspection and testing is related to criterion eight in DOE O 414.1C. Twenty-one DOE field offices out of thirty-four reported that they had procedures for acceptance and performance inspection and testing. Of the remaining DOE field offices four reported that they do not have these procedures, seven reported that the question is not applicable to them, and two did not provide a response to this question. There was a decrease in positive responses to this question between the 2007 Survey and the 2009 Survey.

The 2007 Survey, as well as the 2009 Survey asked DOE field offices to identify the number of subcontractors for each contractor and the number of subcontractors for which DOE field offices have verified contractors have flowed down QA requirements. The responses to these questions were not reported consistently (e.g., some reported rates rather than total numbers) making the accounting on the responses inexact; however, the data provided indicates that DOE field offices may have verified that QA requirements have been flowed down for fewer than ten percent of the reported subcontractors. This was also noted as an area needing improvement in the 2007 Survey Report.

Positive Observation

Survey prompted action to confirm that QA requirements were flowed down to subcontractors. The 2009 Survey was successful in prompting action for at least one DOE field office. After receiving the 2009 Survey question, the West Valley Demonstration Project verified that QA requirements were flowed down to all twelve subcontractors before submitting its response.

Opportunities for Improvement

- **Verify that QA requirements have been appropriately flowed down to subcontractors.** DOE should verify that QA requirements have been flowed down appropriately to all subcontractors.
- **Ensure the remaining DOE offices have approved documented processes for procurement and acceptance and for performance of inspection and testing, where applicable.** Continued effort is needed to ensure the remaining DOE offices have approved documented processes for procurement and acceptance and for performance of inspection and testing, where applicable.

3.6. Assessments and Corrective Actions

Two of the ten QA criteria in DOE O 414.1C require assessments (Criterion 9, *Management Assessments*, and Criterion 10, *Independent Assessments*) and another (Criterion 3, *Quality Improvement*) requires processes to detect and correct quality problems. Assessments are an essential tool for detecting and correcting problems early. Left unchecked problems can continue to affect ongoing work and be harder and more expensive to correct. Furthermore, organizations that fail to identify and correct their own problems lose the confidence of others in their ability to do work properly. Assessments and corrective actions are necessary to assure quality work is performed.

The 2009 Survey included a number of questions related to assessments and corrective actions. DOE field offices were requested to report on whether they had an annual assessment schedule for each contractor and how successful they were in completing these assessments in fiscal year 2008 (FY08) and FY09. DOE field offices reported responses to these questions for sixty-seven contractors and stated that they had annual assessments scheduled for fifty-seven of those contractors. The questions were considered not applicable to two of those contractors and for eight contractors DOE field offices reported that they did not have annual assessments scheduled. The majority of the DOE field offices with scheduled assessments reported that they completed their assessments on time.

The 2009 Survey included questions on the number of corrective actions arising from the 2008 assessments, the average time to closure. These numbers varied widely (zero to 990 for number of corrective actions and 20 to 300 days for the average time to closure). A number of contractors were reported to have successfully closed all of their corrective actions from that period.

The 2009 Survey contained questions on trending analysis and the feedback of the trending analysis to corrective actions processes. Forty contractors were reported as doing trending analysis of corrective actions and forty-six were reported to use trending analysis of some kind for feedback and improvement.

The 2009 Survey also included questions related to management and independent assessments for both DOE program and field offices. All ten DOE program offices confirmed that they had and completed management assessments in FY08 and FY09 but the responses to the questions on independent assessments were mixed, including non-responses and a statement that one DOE program office does not perform independent assessments of their field offices.

The three Power Marketing Administrations separately reported that they have established management and independent assessment processes, as well as processes to identify and track corrective actions.

Thirty-three out of thirty-four DOE field offices reported that they have established management and independent assessments. Most reported having completed those assessments in FY08 and FY09. Thirty-two out of thirty-four DOE field offices also reported having processes to identify and track corrective actions.

Eight out of the twelve reporting DOE staff and support offices responded that have established management and independent assessments and seven reported having processes to identify and track corrective actions.

Positive Observation

Improvement noted in reporting of management and independent assessments and in corrective action tracking. DOE field offices showed improvement in the area of assessments and corrective actions compared to the responses submitted to the 2007 Survey. This was identified as an area needing improvement in the 2007 Survey Report.

3.7. Safety Software QA

By definition, SSQA applies only to nuclear facilities. Thus the DOE staff and support offices, which do not have responsibilities related to safety software, are not discussed in this section.

SSQA is an area of increasing focus as DOE relies more and more on software for safety applications, especially as it transitions from analog to digital systems. Because of the reliance on safety software to perform functions related to safety, the use of safety software requires the same level of discipline as that imposed upon the design and operation of safety structures, systems, and components. The reliability of safety software is an area of interest for the Nuclear Regulatory Commission and for the Defense Nuclear Facilities Safety Board; furthermore the American Society of Mechanical Engineers (ASME) has established a special subcommittee to address safety software issues in NQA-1, *Quality Assurance for Nuclear Facility Applications*. DOE continues to support SSQA through the Safety Software Central Registry, which lists “toolbox” codes that have been evaluated for compliance to SSQA requirements, and the development of the Safety Software Communications Forum, which will provide a web-based opportunity for improved communication for DOE safety software users. Safety software is a high-paced area where one version of a code may be barely validated for use before a new and improved version is available making the effort to keep the Safety Software Central Registry up to date a distinct challenge. The SSQA questions included in the 2009 survey were designed to measure the implementation of QA applied by DOE program and field offices relating to the use of safety software and to the qualification and training of individuals using and reviewing the use of that software.

Many of the questions included in the 2009 Survey relating to SSQA were new to the survey providing a basis for comparison for in future surveys; however some questions, such as training to DOE-STD-1172 and approved procedures for SSQA have been repeated from the previous survey providing a basis for comparison in this report.

Ongoing questions in the 2009 Survey included the number of individuals qualified to DOE-STD-1172 (See discussion in Section 3.2 on Training and Qualification) and the number of DOE program and field offices with approved procedures for SSQA. As discussed in Section 3.2, few DOE staff are qualified to DOE-STD-1172, however not all DOE program and field offices have responsibilities related to safety software. When adjusted for applicability (i.e., offices that use safety software), improvement was noted for both DOE program and field offices with respect to the number of offices with approved SSQA procedures as reported in 2009.

The 2009 Survey added questions specifically for assessments and tracking of corrective actions for SQA⁵. The SQA assessment questions were reported as not applicable to twenty-five out of sixty-six contractors for which responses were received. Of the remaining forty-one contractors, DOE field offices reported having annual assessments for

⁵ Note this set of questions was written as SQA, not SSQA and some respondents replied for SSQA and others responded for the broader issue of all software. This question will be clarified for the next survey.

thirty-two contractors, performing trending analysis for corrective actions for twenty-four contractors, and using use trending analysis of SQA for feedback and improvement for twenty-seven contractors. Diligence may be needed to ensure that all DOE offices with responsibility for SSQA meet these responsibilities; however a number of field offices reported that they do not track assessment of SSQA separately from other assessments, so these activities may be performed within the larger QA scope for these facilities. For those DOE field offices that were able to separately report regarding corrective actions for SQA, the number of corrective actions remaining open at the end of 2009 was generally zero for most contractors.

The 2009 Survey also added questions related to grading levels, safety software inventory, the number of contractor staff qualified in SQA, approved procedures for selecting safety software for given applications, and approved lists for safety software users. The discussion on the responses to these questions is provided in greater detail in Survey Topical Area V in Appendix A. Thirty-one out of thirty-five contractors to which safety software requirements apply reported that they have DOE-approved grading levels, a safety software inventory, and an approved procedure for selecting safety software. Twenty-nine contractors were reported to have an approved list of safety software users and require their users to be trained on software prior to using it.

Opportunities for Improvement

Ensure all safety software meets expectations. Continued vigilance is needed to ensure that all contractors using safety software meet the expectations for its validation and use.

4. CONCLUSIONS

The responses to the 2009 Survey revealed a significant increase between 2007 and 2009 in the number of implementation procedures in place and assessments conducted. They also revealed continuing problems with verifying that QA requirements are flowed down to subcontractors and with completing DOE program and field office qualification to FAQs related to QA and the need for continued vigilance to ensure all DOE offices and contractors meet the applicable QA requirements which are designed to ensure items and services meet DOE expectations.

The Quality Council will continue to monitor the success of DOE in implementing QA requirements and identify opportunities for improvement discovered through the Survey and other measurement tools, including information provided by survey responses that identify the need for clarifications in the QA directives (e.g., clarification of the application of DOE QA requirements to DOE work conducted away from DOE sites).

In addition, the Quality Council will use the results of the Survey when considering how to better tailor QA requirements to suit specific Departmental Elements such as Staff and support offices, government-owned government-operated (GOGO) facilities, and Power Marketing Administrations.

In the interest of streamlining the level of effort required to complete and analyze the results, HSS intends to convert future surveys to online submittals. Because the Power Marketing Administrations determined that many of the survey questions did not apply to them, specific questions that are better targeted to the Power Marketing Administrations will be considered in future surveys.

Listed below are the opportunities for improvement identified in this report.

| QA Subject Area | Opportunities for Improvement |
|--|---|
| <i>QA Program</i> | Ensure that all DOE offices have approved QAPs. |
| <i>QA Program/Training & Qualification</i> | Increase training of staff on the QAPs for DOE program, field and staff and support offices. |
| <i>QA Program</i> | Increase use of consensus standards for implementing QA. |
| <i>QA Program</i> | Ensure that the provisions of DOE O 414.1C are included in all applicable contracts in a timely manner. |
| <i>Training & Qualification</i> | Increase qualification of DOE Federal staff to the four listed FAQs. |
| <i>Training & Qualification</i> | Ensure training of Federal and contractors staff to QAPs. |
| <i>Training & Qualification /Software</i> | Ensure training in SQA where appropriate. |
| <i>Work Processes and Documentation</i> | Ensure the remaining DOE offices and contractors establish approved work processes. |
| <i>Design and Construction</i> | Ensure the remaining DOE offices and contractors establish approved design and construction processes were applicable. |
| <i>Procurement</i> | Verify that QA requirements have been appropriately flowed down to subcontractors. |
| <i>Procurement</i> | Ensure the remaining DOE offices have approved documented processes for procurement and acceptance and for performance of inspection and testing, where applicable. |
| <i>Safety Software</i> | Continue vigilance to ensure that all contractors using safety software meet the expectations for its validation and use. |

Appendix A: Summary Results of the 2009 Survey on QA Implementation for Program and Field Offices

The 2009 Survey on QA Implementation was designed to build on the information obtained from the 2007 and 2006 surveys through:

- a) repeating some of the key questions in the 2006 and 2007 surveys to gauge progress or improvement;
- b) enhancing the survey questions to gather additional details in specific key areas, such as training and qualification and software quality assurance; and
- c) adding new questions to address additional areas, such as details on corrective actions and commercial grade dedication.

The 2009 Survey for Program and Field Offices was organized in the following seven topical areas.

I Quality Assurance Program

II Flowdown of DOE O 414.1C Requirements

III Training and Qualifications

IV Assessment and Improvement

V Software Quality Assurance

VI Design and Construction

VII Other DOE Requirements

One or more questions were included for each topical area. In some cases, comment responses in these topical areas overlapped several of the ten QA criteria and/or other requirements. See Table 1 for a crosswalk from the criteria/requirements to the questions for all three surveys.

The results of the 2009 Survey responses have been rolled up taking into account the differences in functions, applicability of the QA requirements, and the expected level of rigor among the offices. Refer to Appendix C for the list of DOE program and field offices, as well as DOE staff and support offices, to which DOE O 414.1 applies.

Table 1 - DOE O 414.1C Criteria Covered by the 2006, 2007, and 2009 Survey

| QA Criteria | 2006 Survey Areas | 2007 Survey | | 2009 Survey | |
|---|-------------------|------------------------|---------------------|------------------------|---------------------|
| | | Area enhanced or added | Survey Topical Area | Area enhanced or added | Survey Topical Area |
| 1. Program | √ | Enhanced | I, II | Enhanced | I, III |
| 2. Personnel Training and Qualification | √ | Enhanced | III | Enhanced | III, V, VI |
| 3. Quality Improvement | √ | Enhanced | IV | Enhanced | II, IV |
| 4. Documents and Records | √ | √ | VIII | √ | VII |
| 5. Work Processes | √ | √ | I, VIII | √ | I, VII |
| 6. Design | √ | Enhanced | VII, VIII | Enhanced | VI, VII |
| 7. Procurement | √ | √ | I, II, VIII | Enhanced | II, V, VI, VII |
| 8. Inspection and Acceptance Testing | √ | √ | VIII | √ | VII |
| 9. Management Assessment | √ | Enhanced | IV | √ | II, IV |
| 10. Independent Assessment | √ | Enhanced | IV | √ | II, IV |
| Suspect/Counterfeit and Items (S/CI) | | Added | V | Deleted | |
| Software Quality Assurance (SQA) | | Added | VI | Enhanced | II, V |
| Corrective Action Management | | Added | VIII | Enhanced | II, IV, VII |

The DOE program offices (including headquarters program offices and their field offices, as well as the Power Marketing Administrations) received and completed the same survey. However, review of the responses made it clear that the results for Power Marketing Administrations needed to be compiled separately. For this reason Section A1 presents the results for program and field offices and Section A2 presents the results for the Power Marketing Administrations.

Thirty-six DOE field offices responded to the 2007 Survey; however, only thirty-four responded to the 2009 Survey. For the 2009 Survey the Office of Science (SC) chose to report data only for their DOE field offices responsible for hazard category 1, 2, and 3 nuclear facilities⁶ including:

- Argonne Site Office,
- Brookhaven Site Office⁷,

⁶ For the definition of hazard category 1,2,and 3 nuclear facilities, see 10 CFR Part 830, Nuclear Safety Management, and DOE-STD-1027, Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports.

⁷ EM is the program office for the nuclear facilities at Brookhaven National Laboratory; therefore SC provided only a partial response for this site.

- Chicago Office,
- Oak Ridge Office, and
- Pacific Northwest Site Office.

The number of DOE field offices and contractors for which data was received varied slightly for each question as discussed in each section.

A1 - Program and Field Offices

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

Part I-1

Survey Topical Area I-1 posed the following questions:

I Quality Assurance Program (QAP) [General Requirements, Criterion 1]

I – 1 General Requirements of the DOE QA Order – Complete for both your program office and your field offices

- 1. Do your program office and field offices have approved QAPs per DOE O 414.1C?*
- 2. Who was the approving official for your QAP?*
- 3. Who is your QA Manager?*
- 4. If in addition to DOE O 414, your QAP is required to meet a regulation or directive, or other requirement (e.g., NRC regulations) – identify it.*
- 5. Identify the standard(s) you used to implement your QAP. (e.g., NQA-1, ISO Q9001, ANSI ASQ Z1.13).*

DOE O 414.1C requires Departmental Elements to develop and implement a written QAP that integrates QA requirements (including the ten criteria) using national or international consensus standards.

DOE Program Offices

All ten DOE program offices responded to the 2009 Survey. Figure 1 illustrates the 2009 Survey responses for this set of questions for the DOE program offices.

The Survey responses indicated that all ten DOE program offices have approved QAPs in place per DOE O 414.1C. Additionally, all DOE program offices identified the approving official for their QAP and the assigned QA Manager.

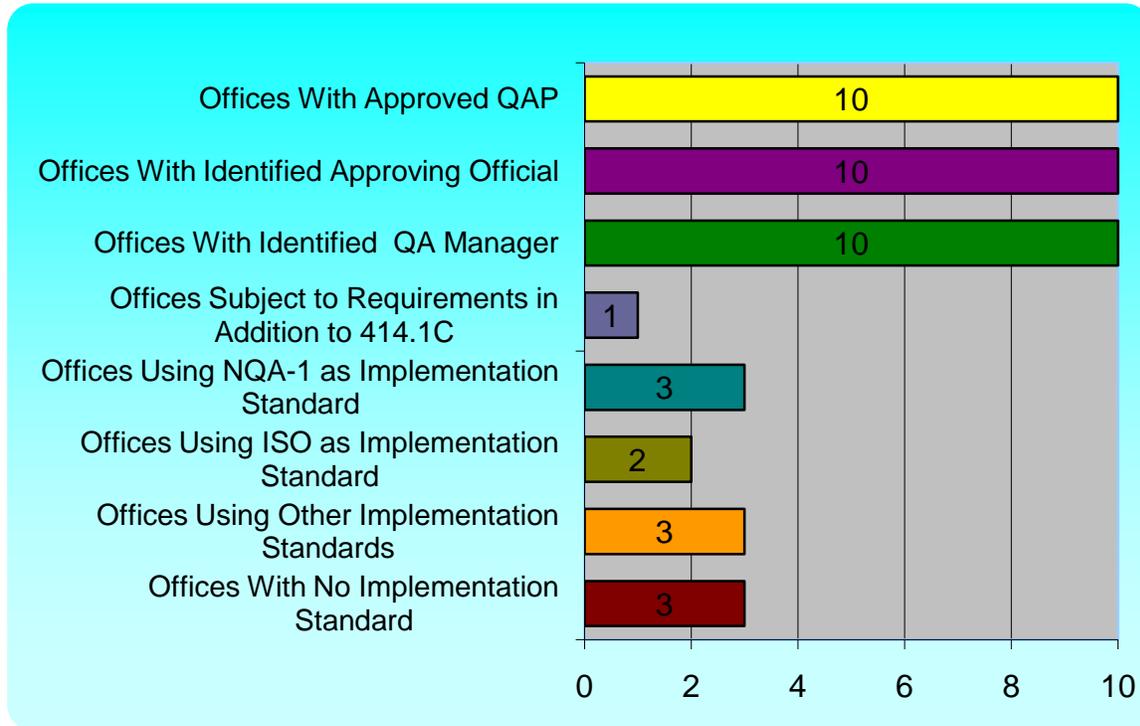
In addition to 10 CFR 830 and DOE O 414.1C, one DOE program office, the Office of Civilian Radioactive Waste Management (RW), identified that its QAP was required to meet 10 CFR 63.142, *Quality Assurance Criterion*.

The 2009 Survey continued to ask about the use of voluntary consensus standards to implement DOE program office QAPs. Out of the ten DOE program offices, three identified NQA-1 as their implementing standard, two identified International Organization for Standardization (ISO) Q9001, *Quality management systems – Requirements*, and three identified other standards.⁸ EM, identified their QAP was required to meet NQA-1-2000 and

⁸ The Office of Energy Efficiency and Renewable Energy identified that they used both ISO Q9001 and ANSI /ASQ Z1.13, *Quality Guidelines for Research*.

specified EM management expectations. Three DOE program offices did not identify any consensus standard used to implement their QAPs.

The Survey data for this section is generally consistent with the survey responses from 2007.



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

ISO = International Organization for Standardization (e.g., Q9001, 14000)

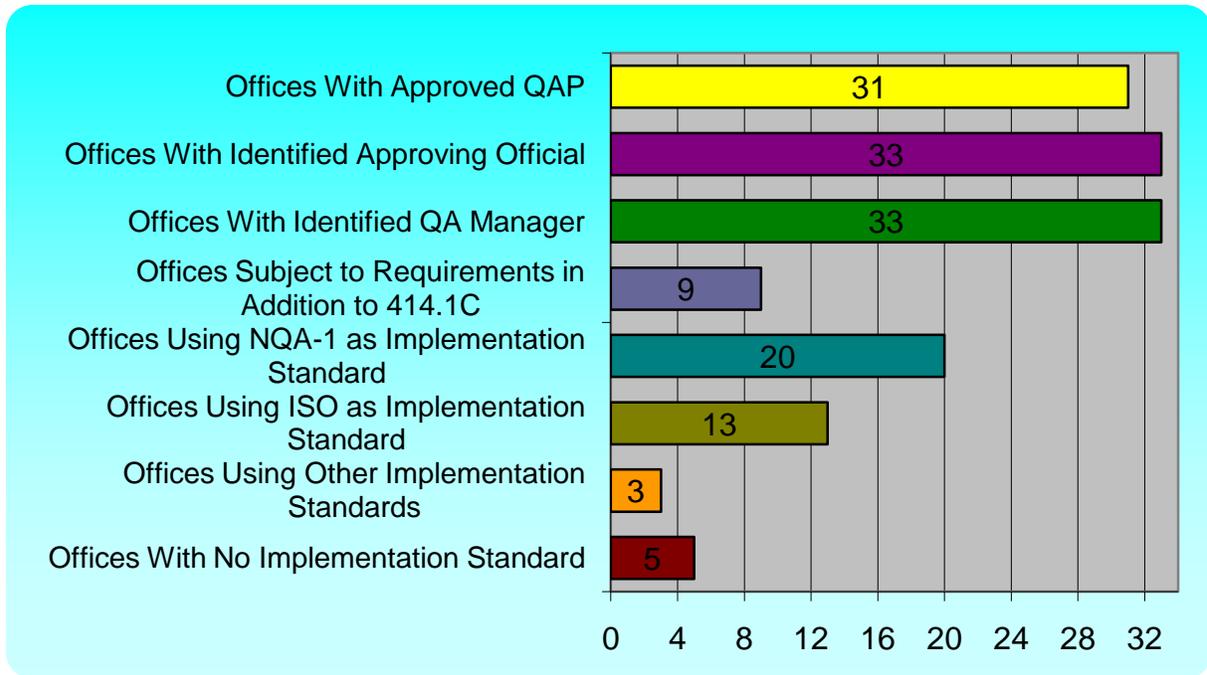
Figure 1 - Status of QAPs for DOE Program Offices

DOE Field Offices

Figure 2 illustrates the DOE field office responses to the 2009 Survey questions for this set of questions.

The responses to the 2009 Survey indicated that thirty-one of thirty-four reporting DOE field offices have approved QAPs per DOE O 414.1C (as compared to thirty-one approved QAPs out of thirty-six DOE field offices in the response to the 2007 Survey). The following DOE field offices reported draft QAPs in the 2007 report and now have approved QAPs in place:

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



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 DOE field offices use more than one implementing standard.

Figure 2 - Status of QAPs for DOE Field Offices

The National Nuclear Security Administration (NNSA) Service Center, the Golden Field Office, and the Argonne Site Office reported that they do not have approved QAPs.

In addition to 10 CFR 830 and DOE O 414.1C, one or more DOE field offices identified that its QAP was required to meet one or more of the following additional requirements:

- DOE directives and DOE program office direction
 - DOE O 226.1A, *Implementation of Department of Energy Oversight Policy*
 - DOE Manual (M) 450.4-1, *Integrated Safety Management System Manual*
 - DOE O 450.1, Admin Chg.1, *Environmental Protection Program*
 - DOE Policy (P) 470.1, *Integrated Safeguards and Security Management (ISSM) Policy*
- DOE program and field office direction
 - DOE/RW 0333P, Office of Civilian Radioactive Waste Management Quality Assurance Program Description
 - National Energy Technology Laboratory (NETL) Order 414.C
- Nuclear Regulatory Commission (NRC) requirements:
 - 10 CFR Part 21, *Reporting of Defects and Noncompliance*
 - 10 CFR 63.142, *Quality Assurance Criteria*
 - 10 CFR Part 71, *Packaging and Transportation of Radioactive Material*
 - Applicable NRC Certificates of Compliance
 - NUREG-1297, *Peer Review for High-Level Nuclear Waste Repositories (NRC 1988)*

- Environmental Protection Agency (EPA) requirements:
 - 40 CFR Part 191, *Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes*
 - 40 CFR Part 194, *Criteria for the Certification and Re-Certification of the Waste Isolation Pilot Plant's Compliance with the 40 CFR Part 191 Disposal Regulations*
- National Institute of Standards and Technology (NIST) standards
- Local government requirements
 - New Mexico hazardous waste permits
 - New York State Department of Environmental Conservation requirements
- Non-government standards
 - ASME/NQA-1-2000, *Quality Assurance Program for Nuclear Facilities*
 - ISO-QQ9001-2000, *Quality Management Systems: Requirements*
 - North American Electric Reliability Corporation standards
 - SERC Reliability Corporation standards

Thirty-three out of thirty-four DOE field offices identified an approving official for their QAP and a QA Manager (the NNSA Service Center did not respond for either question). Twenty DOE field offices are using ASME NQA-1 as their implementing standard, thirteen are using ISO-Q9001, and three reported the use of other standards as well.

Although fewer DOE field offices responded to the 2009 Survey than to the 2007 Survey, the 2009 Survey responses for this section are generally consistent with the survey data from 2007.

Parts I-2, 3, and 4 QA Procedures

These Survey Topical Areas were for DOE program offices (I-2), DOE field offices (I-3), and contractors (I-4), and they requested identification of the QA implementing procedures approved or under development. Survey Topical Areas I -2, 3, and 4 posed the following questions:

I – 2, 3, & 4 For DOE program offices, DOE field offices, and contractors respectively, check off the QA procedures approved or under development:

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

DOE O 414.1C requires implementing procedures to be written and approved to support the QAP. This survey question was designed to identify the development and approval status of

the procedures in the specified topics related to QA controls throughout the complex. A number of DOE program and field offices, as well as many contractors reported that SSQA was not applicable to them. See the discussion under Survey Topical Area V, *Software Quality Assurance*, regarding applicability of safety software.

DOE Program Offices

The Department has made significant gains in this area. All ten DOE program offices have procedures for management assessments, oversight, and document records control. Nine have procedures for independent assessments and training. Eight have procedures for corrective action effectiveness and lessons learned. One office reported that the lessons learned procedure was under development. Seven DOE program offices reported having procedures for corrective action tracking. Out of ten DOE program offices, two reported having procedures for SSQA, seven reported that SSQA was not applicable to them, and one reported that a procedure was under development. SSQA requirements are often not applicable to DOE program offices because the functions and activities of these offices do not generally require the use of safety software as defined in DOE O 414.1C (See the discussion under Survey Topical Area V, *Software Quality Assurance*).

Figure 3 shows the implementing procedure status for DOE program offices.

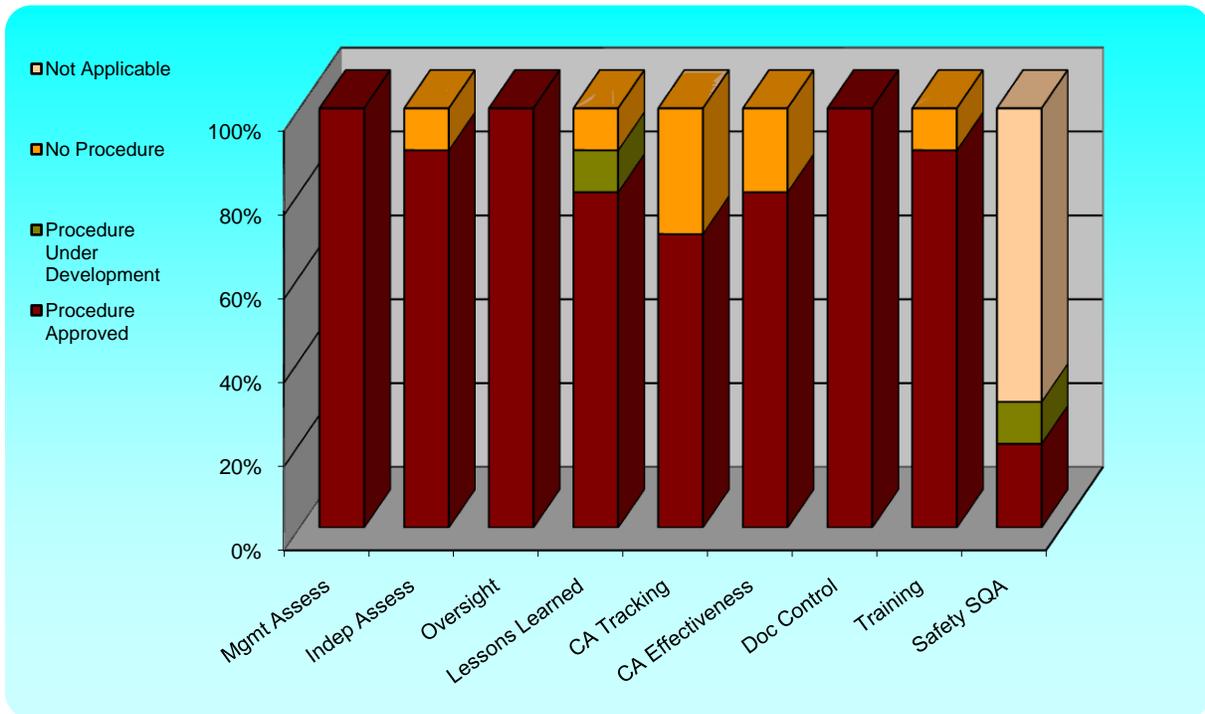


Figure 3 - Status of Implementing Procedures for DOE Program Offices

Significant progress has been made for DOE program offices in establishing approved implementing procedures for the topics queried. For example, the responses to the 2007 Survey indicated that 67% of the program offices had approved procedures for management Assessments; the responses to the 2009 Survey indicate 100% have approved procedures for

management assessment. The responses to the 2007 Survey indicated that 56% of the DOE program offices had approved procedures for document control; the responses to the 2009 Survey indicate 100% have approved procedures for document control. The responses to the 2007 Survey indicated 44% of the DOE program offices had approved procedures for lessons learned; the responses to the 2009 Survey indicate over 80% of the DOE program offices now have approved procedures for lessons learned. The progress in implementing procedures, based on where the respective procedures are reported applicable, is reflected in the responses for all of the procedures and is illustrated in Figure 4.

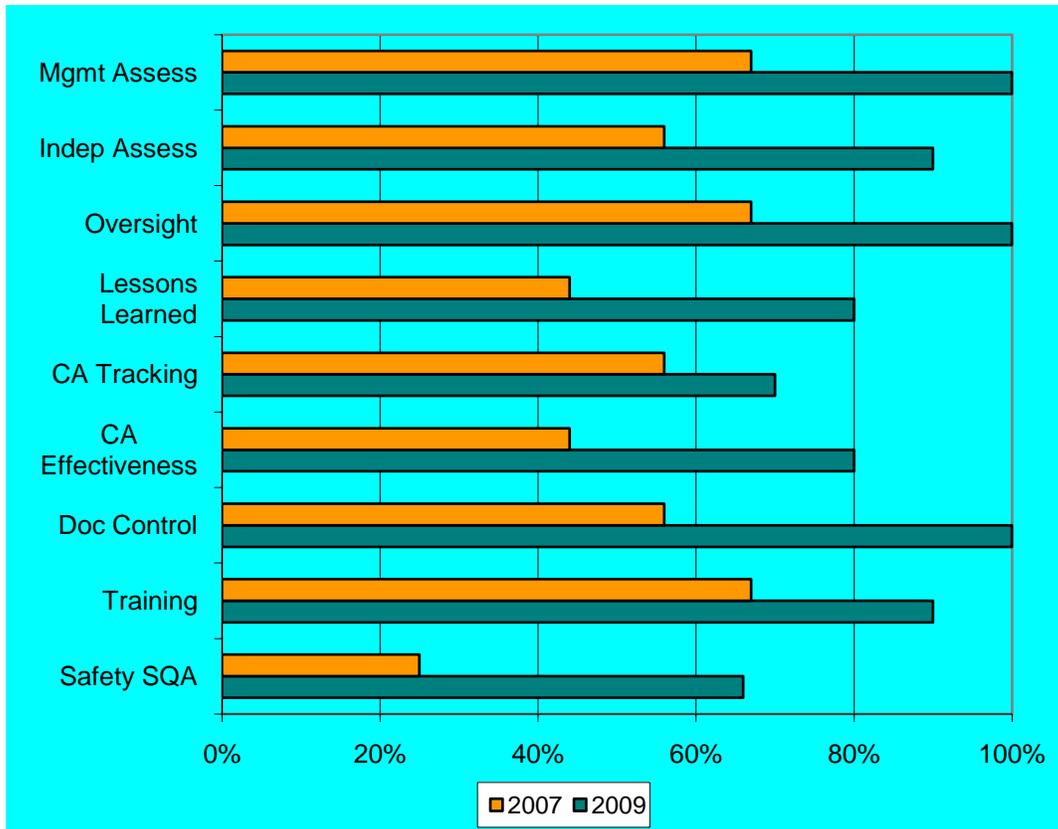


Figure 4 - Progress of Implementing Procedures for DOE Program Offices where Specific Procedures are Reported as Applicable

DOE Field Offices

Similar to the progress reflected in the DOE program offices’ responses, there has been significant field office progress in establishing approved procedures for the subjects in Survey Topical Area I. For all categories except SSQA, which was identified as not applicable to a number of offices, the majority of DOE field offices reported having approved procedures.

Figure 5 illustrates the 2009 Survey data regarding implementing procedure status for DOE field offices.

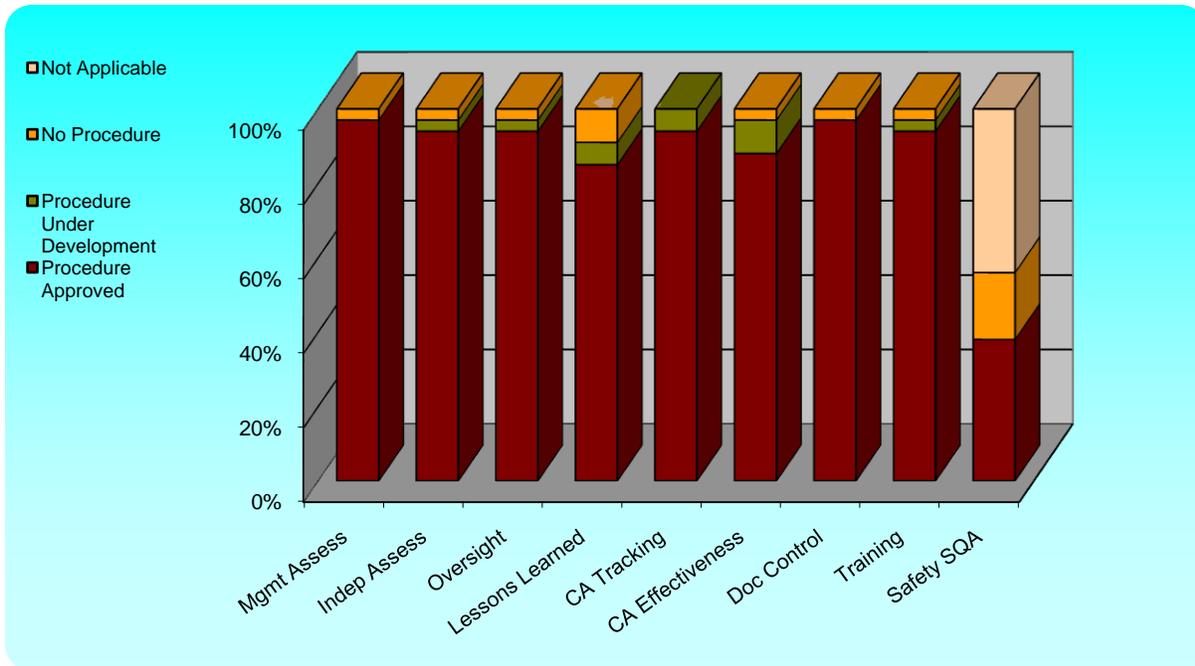


Figure 5 - Status of Implementing Procedures for DOE Field Offices

Similar to the success of the DOE program offices, the improvement in approved implementing procedures, based on field offices where the respective procedures are reported applicable, was reflected in the responses for 2009 Survey, as shown in Figure 6. For example:

- The responses to the 2007 Survey indicated that 83% of the field offices had approved procedures for management assessments; the responses to the 2009 Survey indicate 97% have approved procedures for management assessment for the applicable offices.
- The responses to the 2007 Survey indicated that 75% of the field offices had approved procedures for document control; the responses to the 2009 Survey indicate 97% have approved procedures for document control.

Contractors and GOGOs

This was a new question for contractors introduced in the 2009 Survey. DOE program offices reported 2009 Survey results for sixty-six contractors and one GOGO facility. Most contractors were reported to have approved procedures in the areas surveyed. Figure 7 illustrates the status of implementing standards for these sixty-six contractors and one GOGO.

According to the responses to the Survey, this question was not applicable to

- Five contractors in the Office of Fossil Energy which were reported to be pipeline contractors operating offsite and therefore not within the scope of the requirements in DOE O 414.1C.

- EM Consolidated Business Center (EMCBC), because the EMCBC is a support office and does not directly manage any site activities.

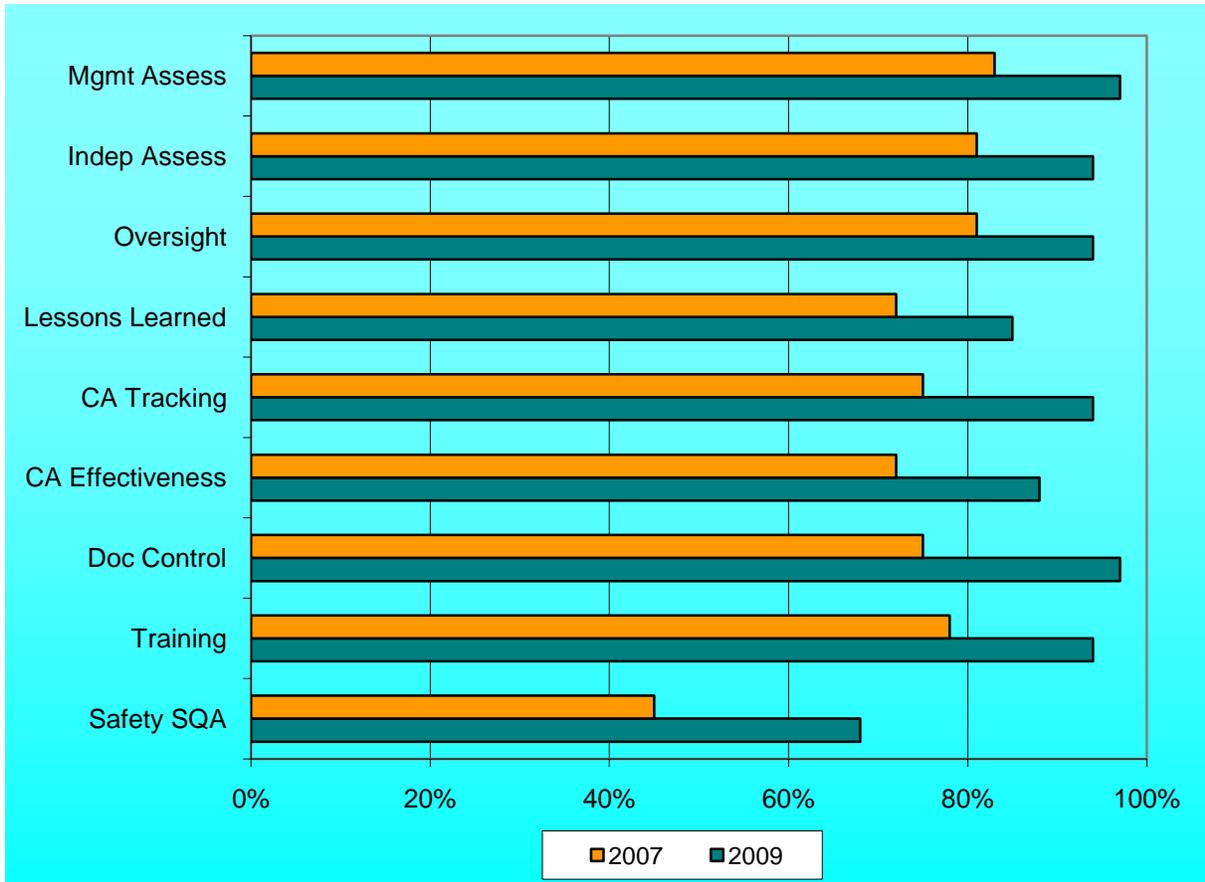


Figure 6 - Progress of Implementing Procedures for DOE Field Offices - Based on Offices where Specific Procedures are Reported as Applicable

Most of the remaining contractors were reported to have QA procedures for all of the topical areas listed with the exception of SSQA, which is not applicable to a number of the contractors. For the contractors to whom safety software does apply, roughly 87% reported having approved procedures. For the rest of the topical areas, the contractors reported roughly 95% had approved procedures for the topics that were applicable.

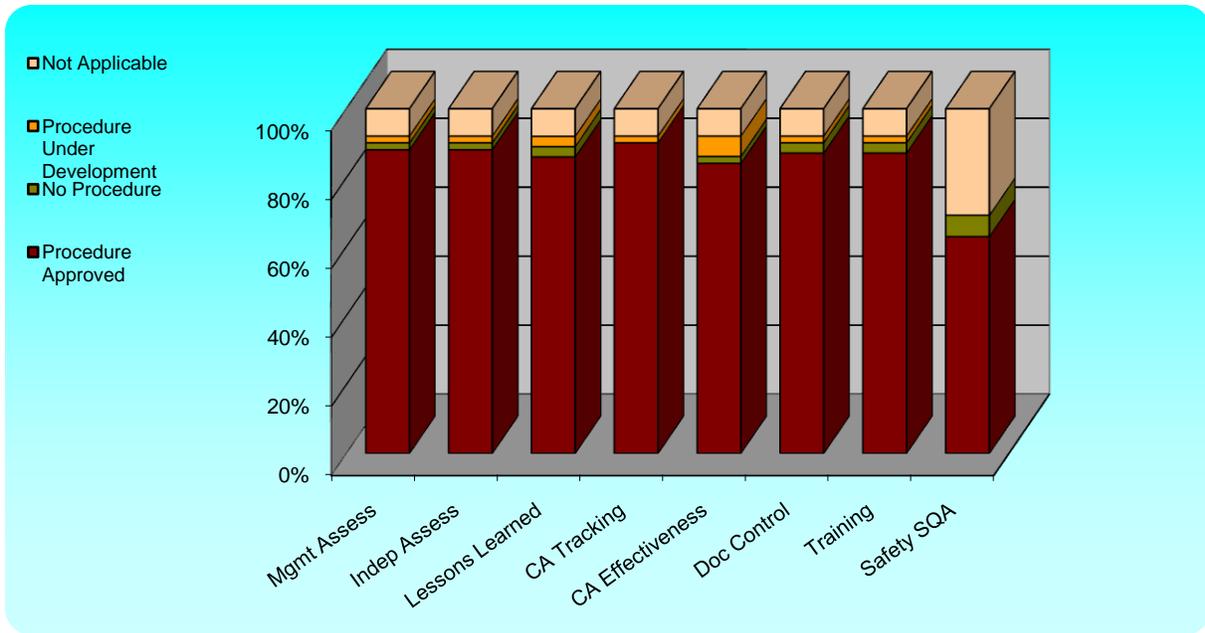


Figure 7 - Status of Implementing Procedures for DOE Contractors

Figure 8 illustrates the status of implementing procedures for DOE Contractors as adjusted for applicability.

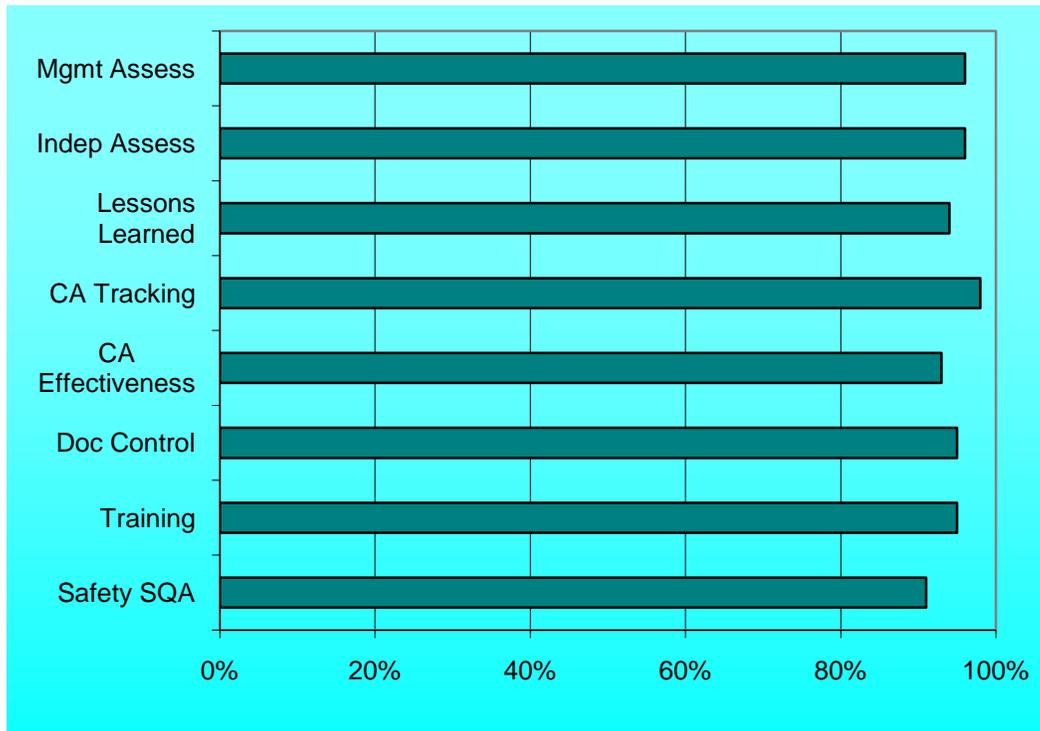


Figure 8 - Status of Implementing Procedures for DOE Contractors – Based on Contractors Reporting Procedure as Applicable

Survey Topical Area II: Flowdown of DOE O 414.1C Requirements to Contractors (Criteria 1, 7)

Survey Topical Areas II-1 and II-2 posed the following questions:

II Flowdown of DOE O 414.1C Requirements to Contractors [Criteria 1, 7]

II-1 DOE-approved contractor QAPs – Complete for each contractor

1. *Does the contractor have a DOE-approved QAP?*

II-2 Assessments and Corrective Actions – Complete for each Contractor

1. *Does your field office have an annual assessment schedule?*
2. *Did your field office complete its FY08 planned assessments of the contractor?*
3. *Is your field office on schedule for completing its planned FY09 assessments of the contractor?*
4. *Provide the number of corrective actions arising from the FY08 assessments.*
5. *What was the average time to close corrective actions in FY08?*
6. *Do you do trending analysis of identified corrective actions?*
7. *Do you feedback the results of trending analysis to a quality improvement process?*

Contractors and GOGOs

This Topical Area is similar to a set of questions posed for DOE field offices in the 2007 Survey but the 2009 Survey requested responses for each contractor, and thus greater detail was provided which cannot be directly compared with the earlier surveys. As discussed in this section, the number of contractors for which DOE program and field offices submitted responses varied from question to question. Consequently the positive responses to each question needed to be evaluated based on the total number of contractors being considered for each question.

For the question on QAPs, DOE program offices reported 2009 Survey results for sixty-six contractors⁹; of these, sixty were reported to have approved QAPs. The Office of Fossil Energy (FE) reported that five of these contractors are pipeline contractors operating offsite and therefore not within the scope of the requirements in DOE O 414.1C.

In the process of gathering data for this survey, the Office of Environmental Management (EM) reported one contractor as not having a QAP because the QA Order had not yet been incorporated into the contract. As a result of this discovery, EM is planning to incorporate the QA Order into the contract when it is renewed in 2014.

⁹ The requirement for a QAP was reported as not applicable to the EMCBC because the EMCBC is a support office and does not directly manage any site activities.

DOE program offices reported 2009 Survey results to the questions on assessments for sixty-seven contractors and one GOGO. Although EM reported data for assessments of Fluor Hanford, Inc. at Richland in the response to this question, EM did not provide data for this contractor for all other questions in the Survey; therefore, there is a set of responses for an additional contractor to this question. DOE field offices reported having annual assessment schedules for FY09 for fifty-seven of the sixty-seven contractors, as well as for the one GOGO. For eight contractors DOE field offices reported that they do not have annual assessment schedules. For two contractors (including a new contractor) DOE field offices reported that the requirement for an annual assessment schedule was not applicable to them.

The majority of field offices reported completing their planned assessments of their contractors. The Office of River Protection reported that not all of the planned assessments were completed for Bechtel National, Inc., but they did complete an ambitious 105 out of 106 assessments in FY08 and 110 of 113 assessments in FY09. Other sites may have completed their planned assessments, but scheduled far fewer of them; consequently the responses to this question should be viewed in that context.

Despite the position of the Office of Fossil Energy (FE) that five of its contractors are pipeline contractors operating offsite and not within the scope of the requirements in DOE O 414.1C, Office of Fossil Energy (FE) did report data for two of these contractors on the analysis of corrective actions and on trending analysis. Thus there is data for sixty-nine contractors and one GOGO for the questions on corrective action and trending analysis. The request for information relating to corrective actions was augmented in the 2009 Survey to include information on the average time to close corrective actions. This data provides a baseline for measuring average time to closure in future survey responses for each site. However, corrective actions are counted very differently from site to site and many sites track findings but do not have a separate tracking system for individual corrective actions.¹⁰

The range of the number of corrective actions identified for the contractors from the FY08 assessments was zero to 990. The range of corrective actions remaining open was from zero to sixty-nine. A number of the contractors with larger numbers of corrective actions had successfully closed all or most of their corrective actions. The average time each contractor took to close corrective actions ranged from 20 days to 300 days. However, it is cautioned that this was the average for each contractor, not a median number and one or two long term closure schedules could significantly change the average time to closure, especially for sites with few corrective actions.

Forty contractors out of sixty-nine were identified as doing trending analysis on the results of their corrective actions and forty-six contractors were identified as feeding the results of their trending analysis to a quality improvement process. EM indicated that for four contractors at Savannah River, trending analysis is done for identified deficiencies, but not for corrective

¹⁰ This question proved to be a difficult question for Field Offices. The Quality Council will clarify this question in the next survey.

actions. The results of those trending analyses are fed to a quality improvement process. EM did not report on trending of corrective actions for three contractors at Oak Ridge, but nevertheless confirmed that the results of some form of trending analyses were fed to a quality improvement process for those contractors. On the other hand, one contractor was identified as doing trending analysis but it did not feed the results of the analysis to a quality improvement process.

Figure 9 illustrates the status of QAPs and trending of corrective actions for contractors.

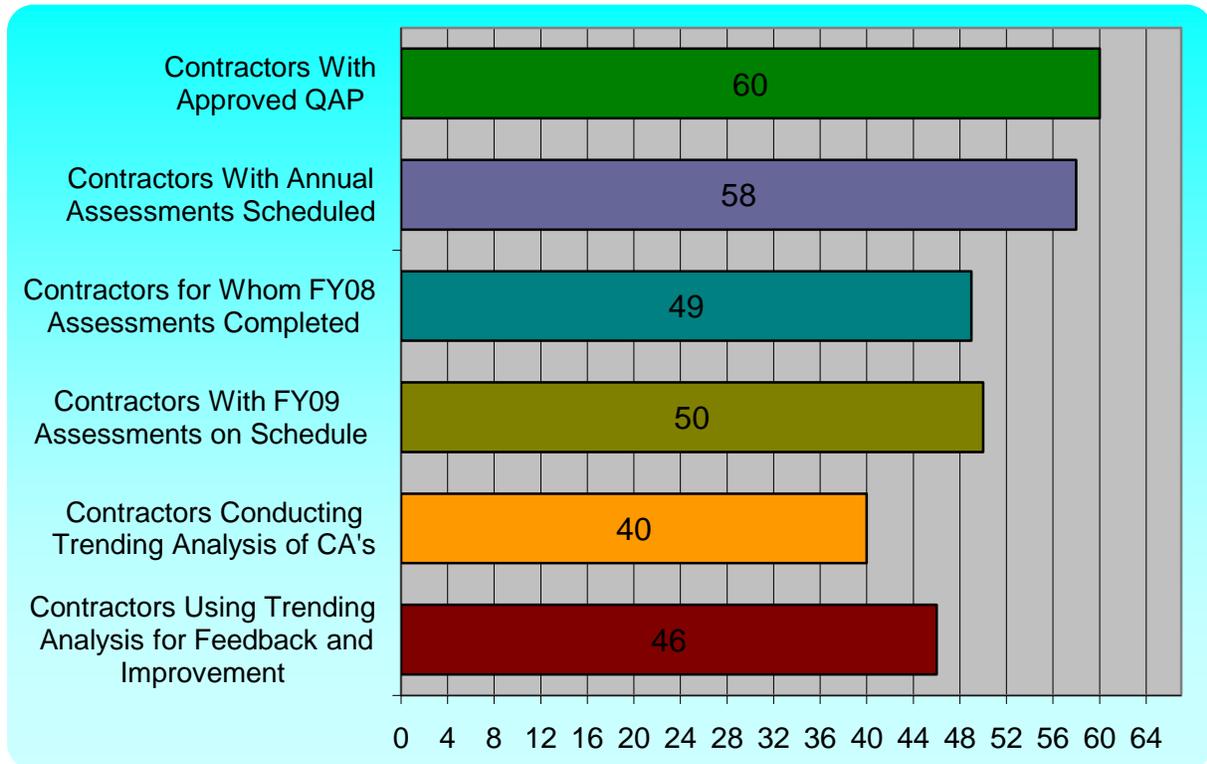


Figure 9 – Status of QAP and Trending of Corrective Actions for Contractors¹¹

¹¹ Responses were received for between 66 to 69 contractors total, depending upon the question.

II-3 Software QA (SQA) Assessments

Survey Topical Area II-3 posed the following questions:

II-3 Software QA (SQA) Assessments – Complete for each Contractor

1. *Does your field office have an SQA annual assessment schedule?*
2. *Did your field office complete its FY08 planned assessments of SQA for the contractor?*
3. *Is your field office on schedule for completing its planned FY09 assessments of SQA for the contractor?*
4. *Provide data on the number of corrective actions arising from the FY08 SQA assessments.*
5. *Do you do trending analysis of identified corrective actions for SQA?*
6. *Does your field office feedback the results of trending analysis for SQA to a quality improvement process?*

Contractors

The questions in Topical Area II-3 were new in the 2009 Survey. In this Topical Area, responses addressed both safety and non-safety software to which SQA requirements may apply. This Topical Area was reported as not applicable by twenty-five of the sixty-six contractors for which responses were provided to this question.

The activities for SQA are often implemented through site or facility wide efforts, thus making it difficult to respond to these Survey questions. Most contractors do not track SQA corrective actions separately. Of those who were able to separately report, the range of corrective actions identified was from zero to eleven and the number corrective actions remaining open at the end of FY09 was zero for most contractors. Figure 10 illustrates the data from the SQA assessment questions. Specifically,

- Thirty-two contractors were reported as having an annual SQA assessment schedule.
- Twenty-eight of the contractors were reported as having completed their SQA assessments in FY08 and thirty reported that they were on schedule for completing these assessments in FY09.
- Twenty-four contractors were reported as doing trending analysis on corrective actions for SQA.
- Twenty-seven contractors were reported as feeding back the results of their trending analysis to a quality improvement process.

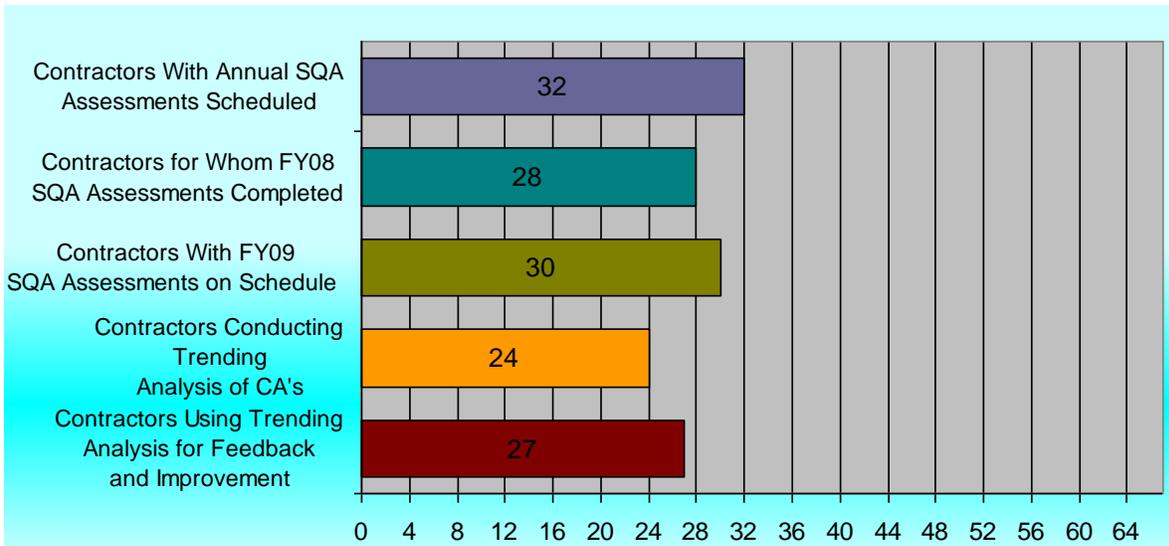


Figure 10 – Status of Contractor SQA Assessments

II-4 Flowdown of QA Requirements to Subcontractors

Survey Topical Area II-4 posed the following questions:

II-4 Flowdown of QA requirements to subcontractors – Complete for each prime contractor

1. Total number of subcontractors to prime contractors?
2. Number of subcontractors for which field office has verified flowdown of QA requirements?

DOE Field Offices

Although the questions about verification of QA requirements in subcontractor contracts in the 2009 Survey are similar to those posed in the 2007 Survey, the depth of the responses was greater. A total of 6729 subcontractors were reported in 2009; of these, the DOE program offices/field offices report to have verified that QA requirements have been flowed down to only 568 subcontractors. In at least one case, the data is incomplete as the number of confirmations was reported as a rate (five per year for 300 subcontractors) and the data recorded for this survey was “five.” Thus the accounting is not exact, but the data indicates less than ten percent of the reported subcontractors may have been verified to have the QA requirements in their contracts. In the case of one contractor, only three contracts have been verified to have the proper QA requirements out of 2300 subcontractors.

The 2009 Survey prompted the West Valley Demonstration Project to take action to perform the verifications for all twelve subcontractors before submitting the response to the 2009 Survey.

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

III-1 Qualification of Federal Staff

Survey Topical Areas III-1 and III-2 posed the following questions for DOE program and field offices:

III Training & Qualifications [General Requirements, Criterion 2]

III-1 Qualification of Federal staff – Complete for both your program office and your field offices

- 1. Do you have Federal staff assigned the responsibility to ensure implementation of QA/Oversight requirements?*
- 2. Identify the Federal staff (number) who have completed their qualification to each standard and who are in progress to complete their qualifications for the following standards: DOE-STD-1150, DOE-STD-1172, DOE-STD-1175, and DOE-STD-1151.*
- 3. For any other standards (e.g., NQA-1 lead auditor training, International Organization for Standardization or ISO Q9001 training) indicate which standards and how many staff members have completed their qualifications.*

III-2 Training on implementation of QAP – Complete for both your program office and your field offices

- 1. Does your QAP require Federal staff to be trained to your QAP?*
- 2. Has your Federal Staff been trained to your QAP?*

The question on whether Federal staff in the DOE program office is assigned the responsibility to ensure implementation of QA/Oversight was new in the 2009 Survey. In addition, at the request of the Quality Council, the 2009 Survey added a question on the number of staff with training in progress.

DOE Program Offices

Ten out of ten DOE program offices confirmed they have Federal staff assigned the responsibility for implementation of QA/Oversight.

The responses to the 2009 Survey indicated the following with respect to the specific questions on the number of Federal staff in DOE program offices qualified to specifically listed standards:

- 1. DOE-STD-1150, Quality Assurance Functional Area Qualification Standard:*

- a. Qualified: 2 persons (NNSA and EM¹²)
 - b. In training: 2 persons (NNSA and SC)
2. DOE-STD-1172, *SSQA Functional Area Qualification Standard*:
- a. Qualified: 1 person (NNSA)
 - b. In training: 1 person (NNSA)
3. DOE-STD-1175, *Senior Technical Safety Manager Functional Area Qualification Standard*:
- a. Qualified: 3 persons (NNSA and EE)
 - b. In training: 1 person (SC)
4. DOE-STD-1151, *Facility Representative Functional Area Qualification Standard*:

DOE-STD-1151 is for Facility Representatives in the field and no DOE program office employees were identified as qualified to this standard.

5. Other standards:

9 persons in 2 offices are qualified to other standards.

Six DOE program offices reported that their QAPs required their staff to be trained on the QAP; and of the six, all but one DOE program office reported that their staff has been trained. Two DOE program offices reported that their QAP does not require training on their QAP. Two offices (one that reported that training is required by the QAP and one of the two offices reported that it was not) reported that they are planning training for 2010. Two DOE program offices did not respond to these questions.

Figure 11 illustrates the DOE program office survey data on the status of QA-related training and qualification programs for Federal staff.

¹² EM corrected their report following the original submittal to report one individual in their program office qualified to DOE-STD-1150.

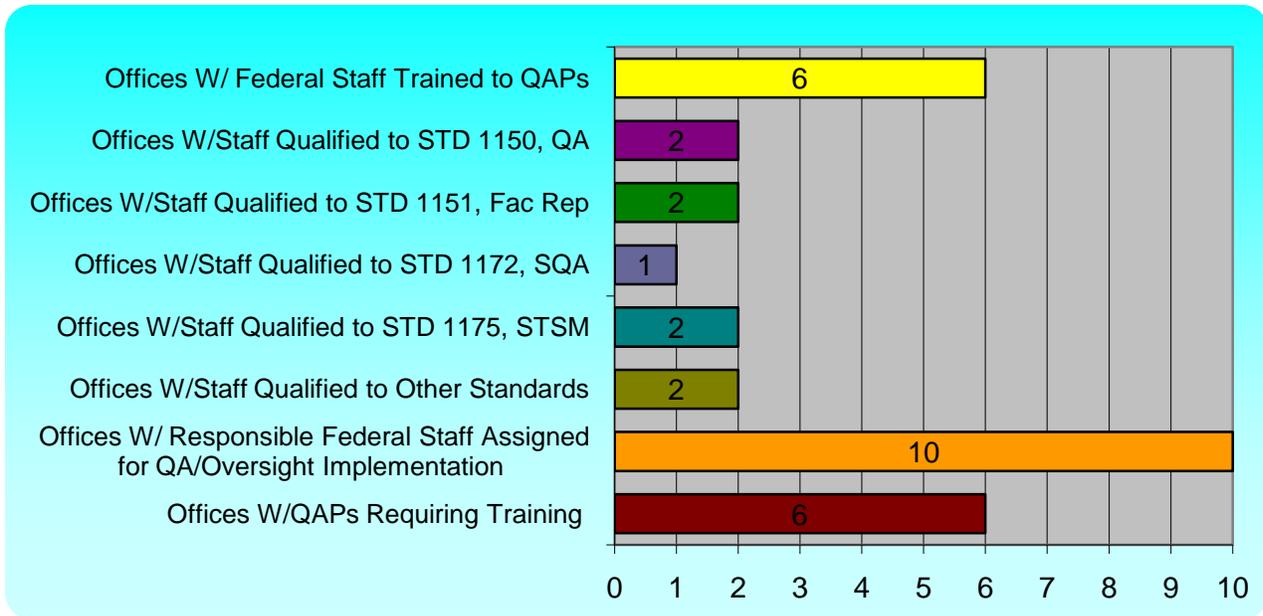


Figure 11 – Status of DOE Program Office Training and Qualification

DOE program offices have made progress from 2007 to 2009 in training their Federal employees on their QAPs as illustrated in Figure 12.

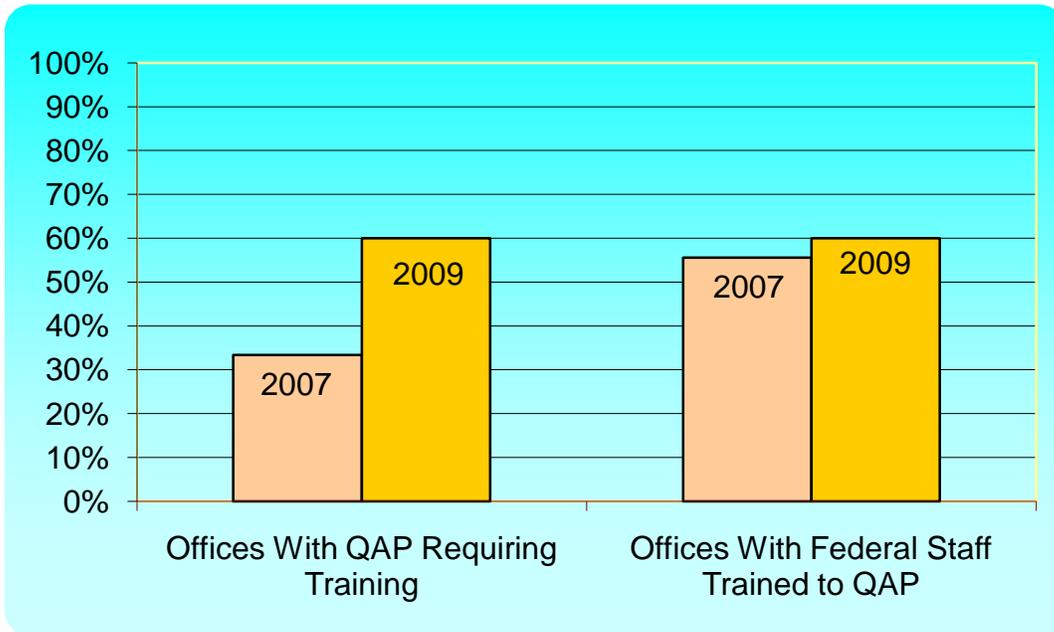


Figure 12 - DOE Program Offices QAP Training Progress

DOE Field Offices

Thirty-three out of thirty-four field offices provided a response to the questions in Survey Topical Area III on qualification and training.¹³ Thirty-two field offices confirmed that they have Federal staff assigned the responsibility for implementation of QA/Oversight. One field office reported that they do not have Federal staff assigned the responsibility to ensure implementation of QA/oversight.

The responses to the 2009 Survey indicated the following with respect to the specific questions on the number of Federal staff in field offices qualified to specifically listed standards:

1. DOE-STD-1150, *Quality Assurance Functional Area Qualification Standard*:
 - a. Qualified: 80 persons in 19 offices
 - b. In training: 20 persons in 12 offices
2. DOE-STD-1172, *SSQA Functional Area Qualification Standard*:
 - a. Qualified: 27 persons in 16 offices
 - b. In training: 14 persons in 10 offices
3. DOE-STD-1175, *Senior Technical Safety Manager Functional Area Qualification Standard*:
 - a. Qualified: 134 persons in 24 offices
 - b. In training: 4 persons in 10 offices
4. DOE-STD-1151, *Facility Representative Functional Area Qualification Standard*:
 - a. Qualified: 169 persons from 18 offices
 - b. In training: 41 from 16 offices

Twenty-three of thirty-four DOE field offices responding to the question confirmed that they require Federal staff to be trained to their QAPs and twenty-three DOE field offices reported that their staff has been trained to their QAP; however these are not all the same field offices. Three field offices that reported that their staff is required to be trained, reported that their staff is not yet trained, and three field offices that stated that their staff is not required to be trained on their QAP, nonetheless reported that their staff is trained. Eleven field offices reported that their staff is not yet trained on their QAP.

¹³ The National Energy Technology Laboratory did not respond to this question.

Figure 13 shows the DOE field office survey data on the status of QA-related training and qualification programs for Federal staff.

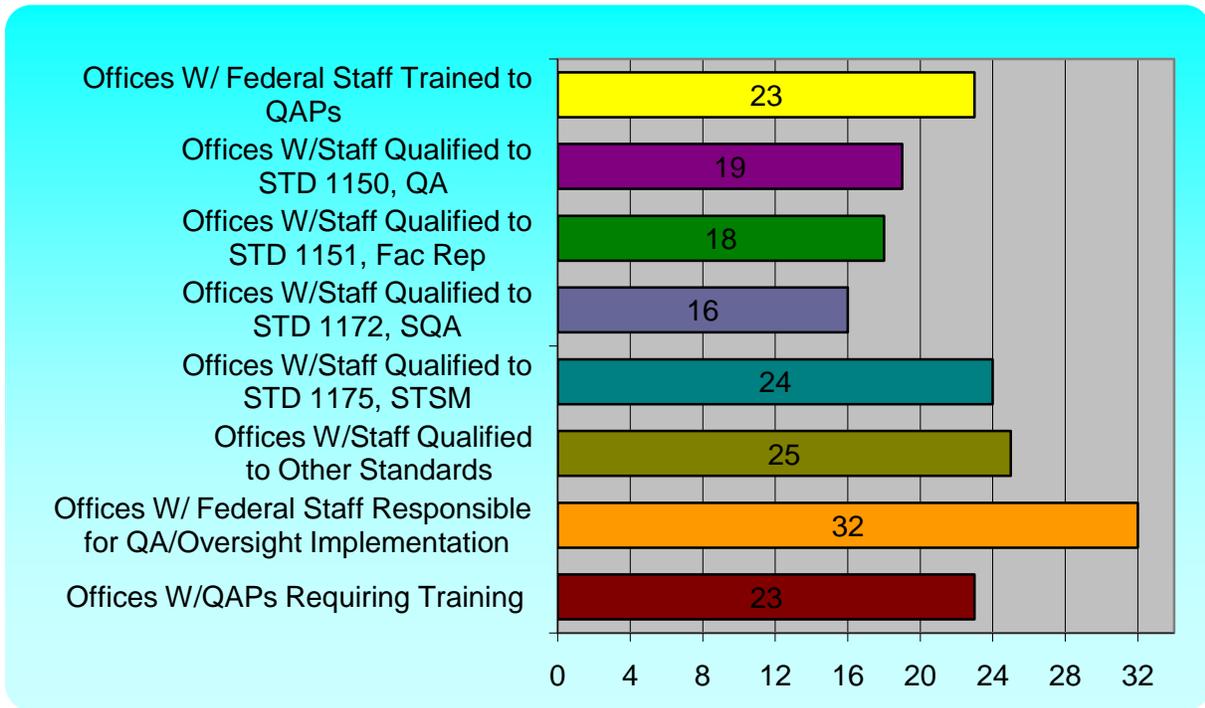


Figure 13 – Status of DOE Field Offices with Qualified Staff

DOE field offices have made significant progress from 2007 to 2009 in training their Federal employees on their QAPs as illustrated in Figure 14; however more progress is needed to ensure staff are trained and qualified.

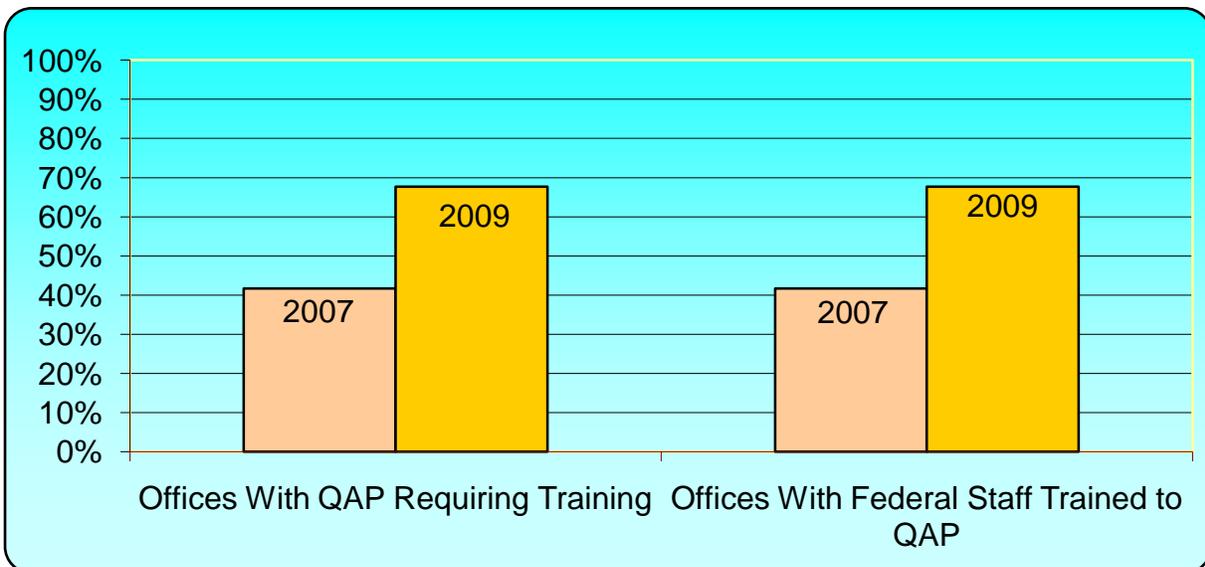


Figure 14 - DOE Field Offices QAP Training Progress

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

Survey Topical Area IV posed the following questions:

IV Assessment and Improvement [Criteria 3, 9, 10]

IV-1 Assessment and Improvement process -- Complete for both your program and field offices

- 1. 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?*
- 2. 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)?*

IV-2 Management Assessments – Complete for both your program office and field offices

- 1. Did you complete your management assessments scheduled for FY08?*
- 2. Are you on track to complete your management assessments scheduled for FY09?*

IV-3 Independent Assessments (e.g., Office of the Inspector General or IG, Government Accountability Office or GAO, HS-60 assessments, 3rd party assessments, program office for field offices) – Complete for each field office

- 1. Were there independent assessments completed on the field office activities for FY08 and FY09 (e.g., IG, GAO, HS-60 assessments, 3rd party assessments, program offices for field offices)?*
- 2. Have corrective actions been developed for your completed assessments?*

Both management and independent assessment requirements are specified as criteria in DOE O 414.1C and should be addressed in the QAP. Different DOE program and field offices count management and independent assessments in different ways; for example, some offices consider DOE program office reviews of DOE field offices to be management assessments, others consider them to be independent assessments. The 2009 Survey asked DOE program and field offices to count DOE program office reviews of field offices as “independent assessments.”

DOE Program Offices

All ten DOE program offices stated that they have established independent and management assessment processes with approved implementation schedules. All ten DOE program offices also affirmed that they completed their scheduled management assessments in FY08 and FY09 and they have a process to identify and track actions resulting from assessments and to ensure necessary improvements are achieved. Four DOE program offices stated that they completed independent assessments in FY08 and FY09. Three DOE program offices (Office of Energy Efficiency and Renewable Energy or EE, NNSA and the Office of Nuclear Energy

or NE) responded for their field offices but not for their DOE program office. SC reported that SC headquarters does not perform formal assessments of its Field Elements; however, operational performance data is used to ascertain field effectiveness. The Office of Legacy Management (LM) reported that it did not perform independent assessments of its field offices in FY08, but it did complete these assessments in FY09. Energy Information Administration (EI) reported that these questions were not applicable to it. Figure 15 shows the implementation of QA assessments for the DOE program offices.

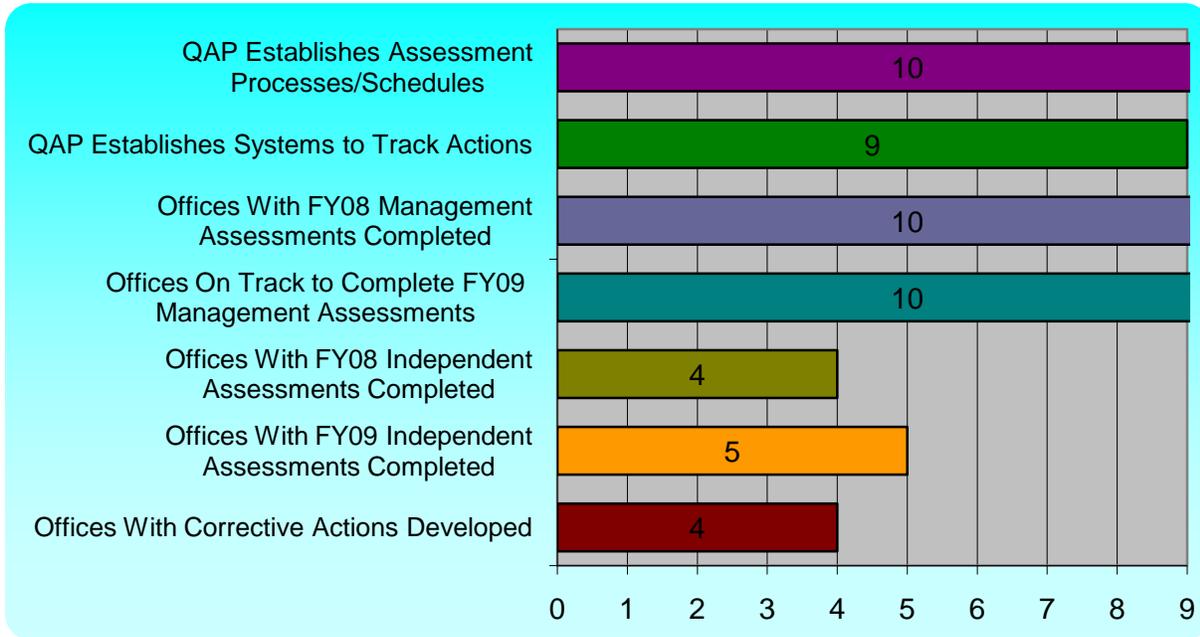


Figure 15 - Status of DOE Program Offices Implementation of QA Assessments

DOE Field Offices

Thirty-three out of thirty-four DOE field offices stated that they have established independent and management assessment processes with approved implementation schedules. The National Energy Technology laboratory (NETL) stated that it does not have an independent assessment process for its overall QA Program; however, DOE Office of Fossil Energy did conduct such an assessment in 2008 at all sites, including at NETL.

Twenty-nine out of thirty-four DOE field offices indicated that they completed their management assessments in FY08 and thirty-two DOE field offices completed their management assessments in FY09. Two field offices reported that they did not complete their management assessments in FY09:

- The Savannah River Site Office reported that it completed 69% of their management assessments in FY08 and 83% of their management assessments in FY09.

- The Strategic Petroleum Reserve Project Management Office reported that it completed its management assessments in FY08 but did not report the status of their FY09 management assessments.

Thirty-two out of thirty-four DOE field offices reported that they completed independent assessments in FY08 (two reported they were not applicable that year) and all thirty-four reported that they completed their independent assessments in FY09.

Thirty-two DOE field offices reported that corrective actions were developed for their completed assessments. The Oakland Projects Office indicated that this question was not applicable to them because the planned independent assessment was rescheduled to FY 2010. The Oak Ridge Office did not report a response to this question; however, SC has indicated that corrective actions, tailored to the nature of the effort, are always developed for SC assessments.

Thirty-two out of thirty-four DOE field offices reported that they have a process to identify and track actions resulting from assessments and to ensure necessary improvements are achieved. The NNSA Service Center stated that their QAP establishes a requirement for corrective actions, but not a process. However, in response to question I-4, the NNSA Service Center indicated that it has work processes for corrective action under development. The Portsmouth/Paducah Project Office indicated that it has a tracking system in development, but in trial mode.

Figure 16 provides a summary of the survey data for DOE field offices regarding management and independent assessments.

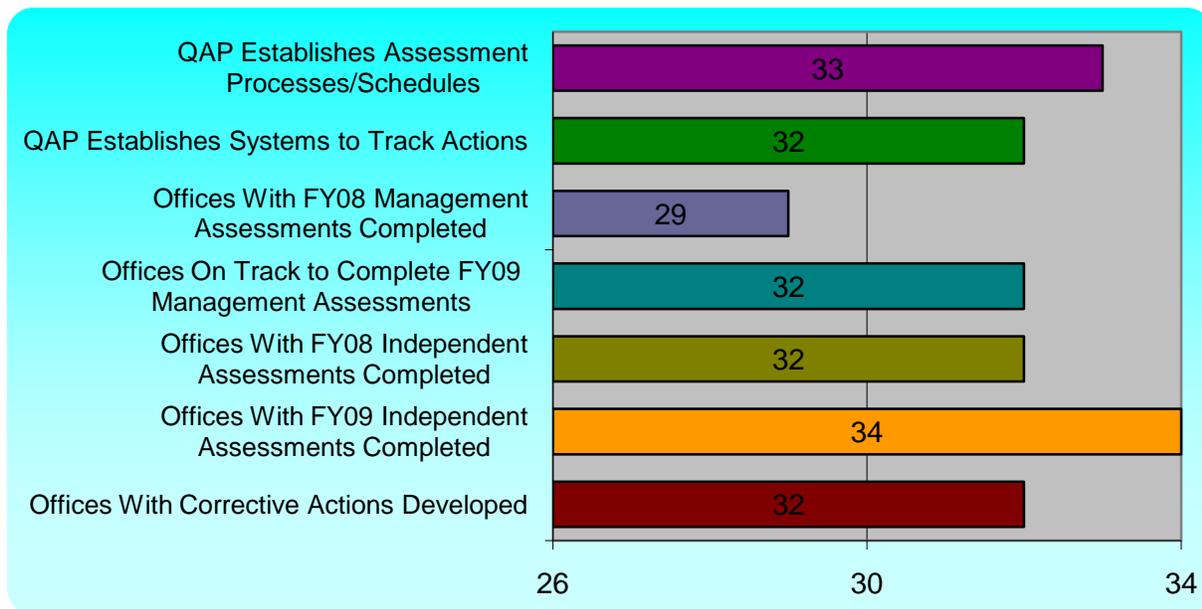


Figure 16 - Status of DOE Field Offices Implementation of QA Assessments (34 total)

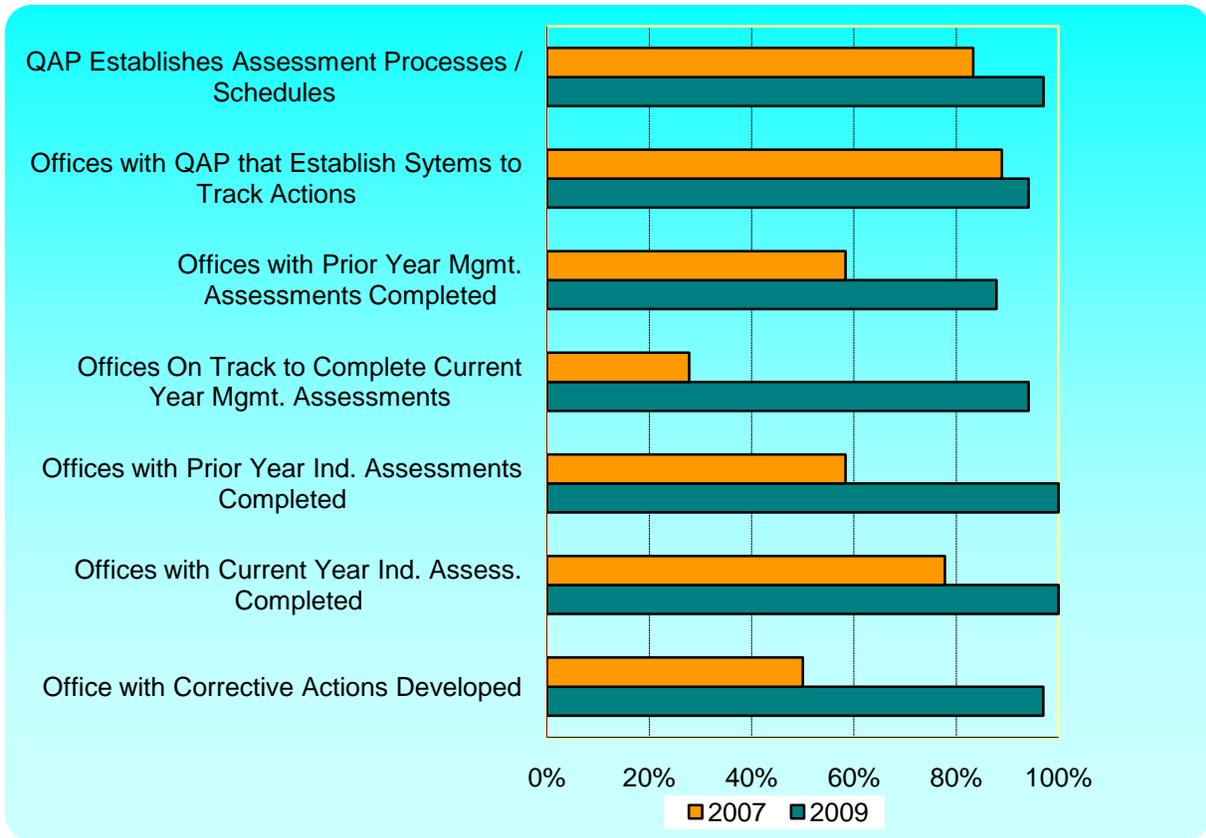


Figure 17 – Comparison of DOE Field Offices QA Assessments Reported in 2007 and 2009 Survey Responses – Based on Offices Where Reported as Applicable

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

Survey Topical Area V posed the following questions:

V Software Quality Assurance (SQA) [DOE O 414.1C – Req. 4.a.; Attachment 5]

V-1 SQA – Grading levels, inventory, qualified staff – Complete for each contractor

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, including software grading level and type?*
3. *Has the safety software inventory document been reviewed by DOE?*
4. *Provide the number of contractor staff qualified in software quality assurance (SQA) and identify the basis for the qualification.*

V-2 SQA Procedures for SQA selection and safety software users – Complete for each Contractor

1. *Does the contractor have an approved procedure for selecting safety software for given applications?*
2. *Does the contractor have an approved list of safety software users?*
3. *Are the users required to be trained on the specific software prior to using it?*

These questions were added in the 2009 Survey to gather information on the implementation of SSQA as required by DOE O 414.1C. DOE O 414.1C, Attachment 5, *Safety Software Quality Requirements*, establishes the SSQA requirements and identifies them as applicable to safety software. DOE O 414.1C defines safety software as:

1. *Safety System Software.* Software for a nuclear facility that performs a safety function as part of a structure, system, or component (SSC) and is cited in either (a) a DOE approved documented safety analysis or (b) an approved hazard analysis per DOE P 450.4, *Safety Management System Policy*, dated 10-15-96, and the DEAR clause.
2. *Safety and Hazard Analysis Software and Design Software.* Software that is used to classify, design, or analyze nuclear facilities. This software is not part of an SSC but helps to ensure the proper accident or hazards analysis of nuclear facilities or an SSC that performs a safety function.
3. *Safety Management and Administrative Controls Software.* Software that performs a hazard control function in support of nuclear facility or radiological safety management programs or technical safety requirements or other software that performs a control function necessary to provide adequate protection from nuclear facility or radiological hazards. This software supports eliminating, limiting, or mitigating nuclear hazards to workers, the public, or the environment as addressed in 10 CFR 830, 10 CFR 835, and the DEAR ISMS clause [48 CFR 952.223-71 Integration of Environment, Safety and Health into waste planning and execution].

By this definition, safety software is only applicable for DOE nuclear facilities and the survey questions related to safety software will not be applicable to many organizations surveyed.

DOE O 414.1C requires that a safety software inventory be identified, documented and maintained. In addition DOE O 414.1C requires that grading levels be established for safety software and that those grading levels be documented in the QAP which is to be approved by DOE.

DOE Program and Field Offices

Because safety software applies only to DOE nuclear facilities, these questions did not apply directly to DOE program offices and field offices.

Contractors and GOGOs

Sixty-six contractors are included in the discussion in this section. Because safety software is not applicable for all DOE facilities, these questions were not applicable to thirty-one of the sixty-six contractors. One GOGO reported that it does not use safety software.

1. *Have contractor safety software grading levels been submitted in the contractor QAP and approved by DOE?*

For thirty-one of the thirty-five contractors to which safety software requirements are applicable, contractor safety software grading levels had been approved. Two additional contractors were reported to have submitted software grading levels but they have not yet been approved. Two contractors were reported as not having submitted safety software grading levels in their QAP.

2. *Has a safety software inventory been identified, documented and maintained, including software grading level and type?*

Thirty-one contractors were reported to have identified, documented and maintained a safety software inventory. Two contractors were reported to have approved grading levels although they do not use safety software. One contractor identified using only one piece of software and that was for the tracking of hazardous chemicals. Another contractor indicated that it does not differentiate on the basis of safety versus non-safety software.

3. *Has the safety software inventory document been reviewed by DOE?*

Twenty-seven of the thirty-five contractors were reported to have had their software inventory documents reviewed by DOE.

4. *Provide the number of contractor staff qualified in SQA and identify the basis for the qualification.*

Twenty-six of the thirty-five contractors using safety software had one or more persons qualified in safety software. Four were reported as not applicable with respect to qualification in SQA. Five reported zero persons were qualified. Of those with qualified staff most reported numbers in the single digits, three contractors reported in the double digits ten to thirty), and one (Savannah River Nuclear Solutions) reported in the triple digits (120).

5. *Does the contractor have an approved procedure for selecting safety software for given applications?*

Thirty-one of thirty-five contractors to which safety software requirements are applicable, as well as an additional three contractors who do not currently have safety software, were reported as having approved procedures for selecting safety software for given applications (total of 34). Four contractors who use safety software were reported as not having an approved procedure specifically for selecting safety software.

6. *Does the contractor have an approved list of safety software users?*

Twenty-nine contractors were reported to have an approved list of safety software users, (although some of them may not use safety software). Seven contractors were reported as not having an approved list of safety software users although safety software was in some way applicable to them.

7. *Are the users required to be trained on the specific software prior to using it?*

Twenty-nine contractors were reported to require users to be trained on the specific software prior to use, although some of them may not use safety software. Seven contractors were identified as not requiring users to be trained prior to using safety software.

Figure 18 illustrates the Survey data for contractors regarding SSQA.

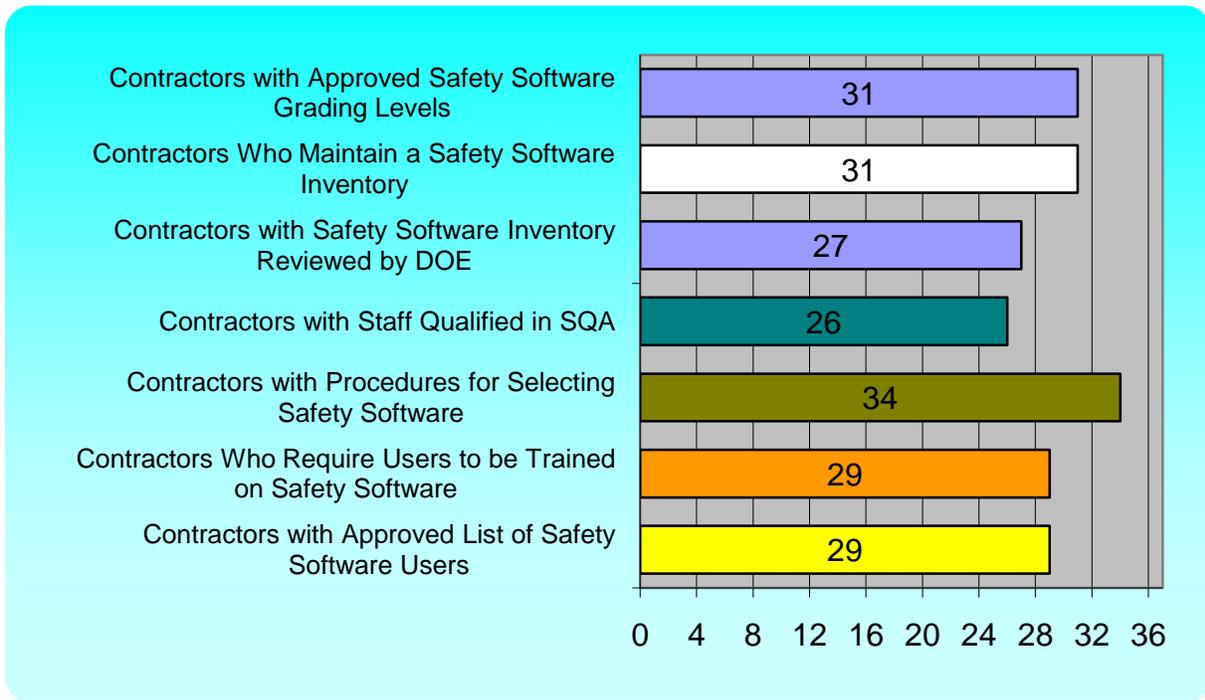


Figure 18 - Status of Contractor SSQA Implementation

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

Survey Topical Area VI posed the following questions:

VI Design and Construction (Criterion 6) – Complete for each contractor

- 1. Does your contractor have an approved vendor list for safety SSCs?*
- 2. Does your contractor have a program of annual vendor audits for approved vendors?*
- 3. Has your contractor implemented an approved procedure for commercial grade dedication?*
- 4. Are your contractor's design and engineering staff trained on applicable work processes which implement QA?*
- 5. How many qualified contractor staff personnel are engaged in onsite quality control of construction?*

Although these questions relate to basic QA activities such as work processes required by DOE O 414.1C, many of these questions are new in the 2009 Survey. They are meant to measure the implementation of QA in design and construction activities.

DOE Program and Field Offices

The 2009 Survey requested responses for the design and construction questions for each contractor, not for each DOE program and field office.

Contractors and GOGOs

This section discusses the responses for sixty-six contractors and one GOGO.

- 1. Does your contractor have an approved vendor list for safety SSCs?*

Thirty-seven contractors out of sixty-six were reported as using approved vendor lists. Data was not provided in response to this question for three contractors. This question was reported as not applicable to twenty contractors (including the five FE pipeline contractors). Six contractors were reported to not use approved vendor lists.

One GOGO reported that it does not use an approved vendor list.

- 2. Does your contractor have a program of annual vendor audits for approved vendors?*

Thirty-three contractors out of sixty-six were reported as having a program for annual vendor audits. Data was not provided in response to this question for three contractors. This question was reported as not applicable to nineteen contractors (including the five FE pipeline contractors). Eleven contractors were reported to not have a program for annual vendor audits.

One GOGO reported that it does not have a program for annual vendor audits.

- 3. Has your contractor implemented an approved procedure for commercial grade dedication?*

Twenty-nine contractors out of sixty-six were reported as having a procedure for commercial grade dedication. Data was not provided in response to this question for three contractors. This question was reported as not applicable to twenty-one contractors (including the five FE pipeline contractors). Thirteen contractors were reported to not have an approved procedure for commercial grade dedication.

One GOGO reported that this question was not applicable to them.

4. *Are your contractor’s design and engineering staff trained on applicable work processes which implement QA?*

Forty contractors out of sixty-six were reported as having design and engineering staff trained on applicable work processes which implement QA. Data was not provided in response to this question for three contractors. This question was reported as not applicable to twenty-three contractors (including the five FE pipeline contractors).

One GOGO reported that this question was not applicable to them.

5. *How many qualified contractor staff personnel are engaged in onsite quality control of construction?*

Thirty contractors were reported to have one or more person engaged in onsite quality controls of construction. The number of qualified contractor staff members identified as engaged in quality control was generally in the single digits for each contractor. For four contractors qualified staff members numbered in the double digits. For Bechtel National, Inc., the number of qualified staff members was identified as 179. For thirteen contractors and one GOGO this question was reported as not applicable. No response was provided for this question for eleven contractors. Twelve contractors were reported to have zero persons engaged in onsite quality controls of construction.

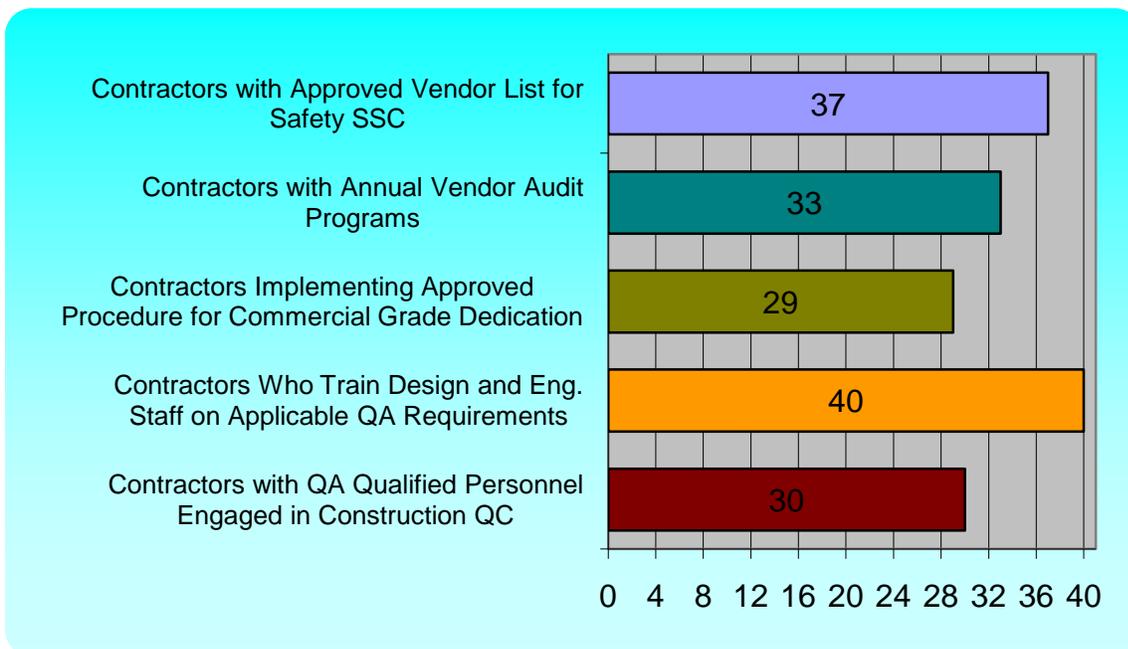


Figure 19 provides a summary of the survey data for contractors for design and construction.

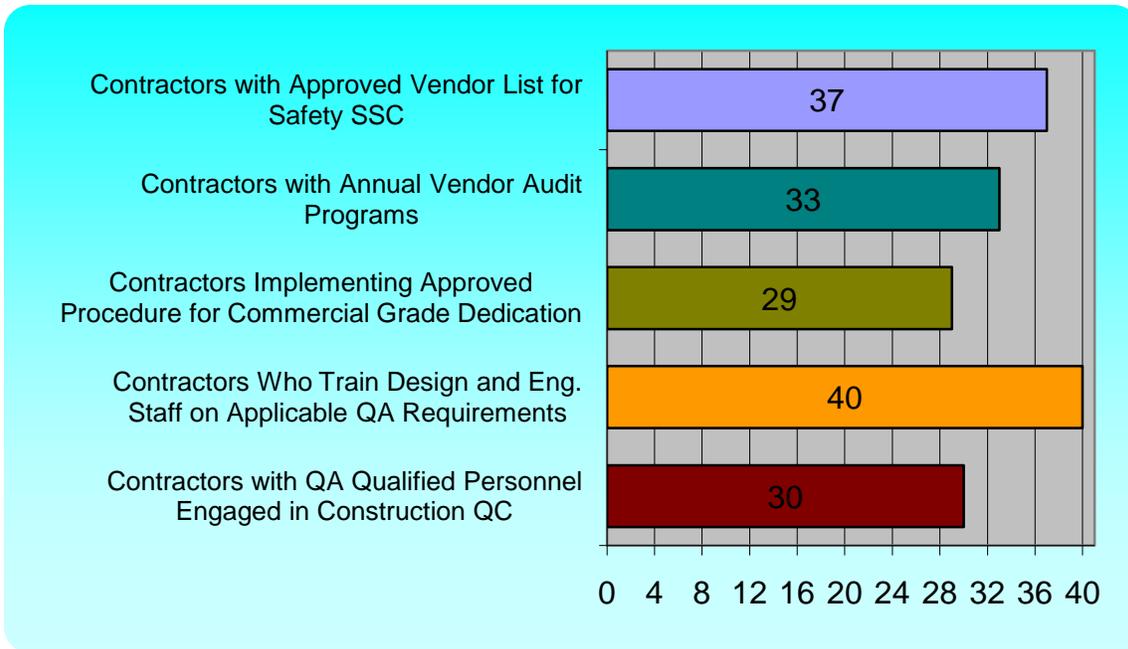


Figure 19 - Status of Contractor Design and Construction

Survey Topical Area VII: Other DOE O 414.1C Requirements

Survey Topical Area VII posed the following questions:

VII Other DOE O 414.1C Requirements – Complete for each program office and field office

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 for ensuring procured items and services meet requirements, for specifying products and service, evaluating and selecting vendors, 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 questions in this topical area are intended to obtain summary level information on the implementation of DOE O 414.1C requirements that have not been addressed by other 2009 Survey topical areas and are unchanged from the 2007 Survey.

DOE Program Offices

The Offices of NE, SC, and the Energy Information Administration (EI) all indicated that the requirement to establish a documented process to inspect and test items, services, and processes to ensure that they meet established acceptance and performance criteria was not applicable to them. The Office of Electricity and Delivery and Energy Reliability (ED) and EI both indicated that a documented process for defining, performing, validating, approving and controlling design activities was not applicable to them. The EI also reported that the Corrective Action Management Program was not applicable to them. Other than these indications of applicability, the ten DOE program offices all indicated that their QAPs establish or describe these processes, procedures, and systems.

This is an improvement over the status of implementation reported in the responses to the 2007 Survey, particularly with respect to procedures in the areas of Documents/Records Management, Inspections and Testing, and Corrective Action Management Program Implementation.

Figure 20 illustrates the status of DOE program office QAPs establishing documented processes and procedures.

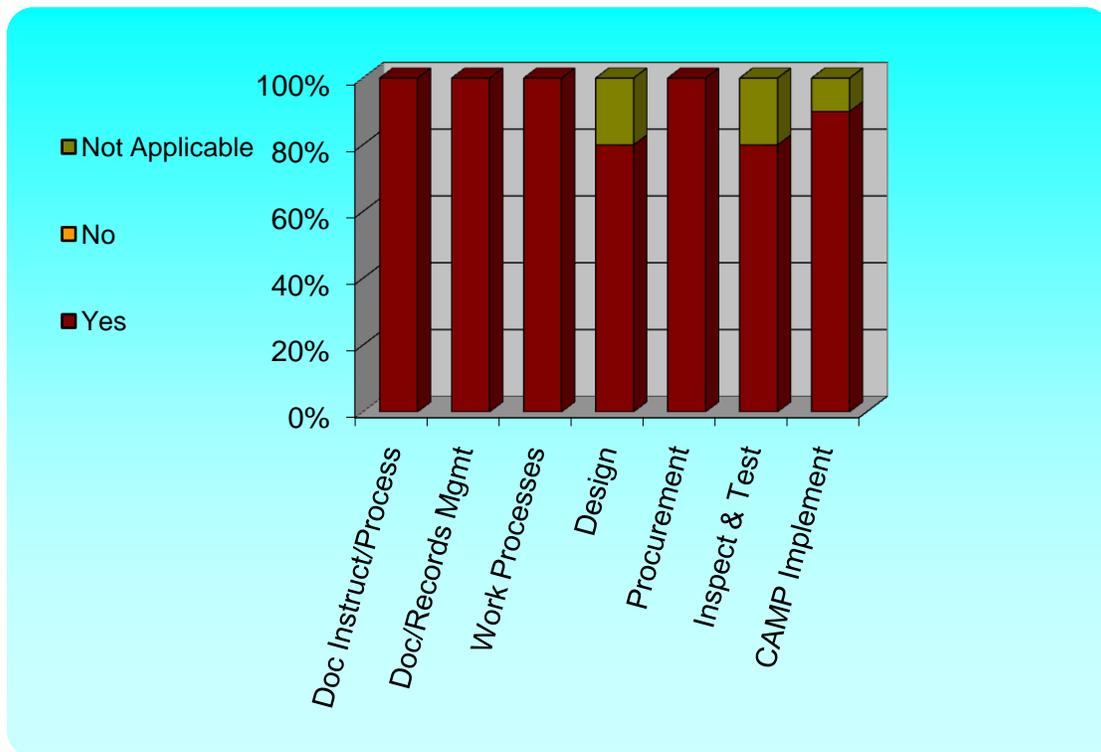


Figure 20 - Status of DOE Program Offices QAPs Establishing Documented Processes and Procedures

DOE Field Offices

Documented instructions and procedures that prescribe processes, specify requirements, or establish design

Thirty-two of the thirty-four field offices confirmed they have documented work processes for design activities. Two field offices did not provide a response to this question. This is an improvement over the response to the 2007 Survey where 8% indicated not having these work processes.

Documents/records management system

Thirty-two of the thirty-four field offices confirmed they have a documents/records system. Two field offices did not provide a response to this question. This is an improvement over the response to the 2007 Survey where 11% indicated not having a documents/records management system.

Work processes to ensure work is performed consistent with technical standards, administrative controls, and hazard controls

Thirty-one of the thirty-four field offices confirmed they have work processes to ensure work is performed consistent with technical standards, administrative controls, and hazard controls. Two field offices did not provide a response to this question. One office (NNSA Service Center) indicated that they do not have such work processes.

Work processes for defining, performing, validating, approving and controlling design activities

Nineteen of thirty-four field offices stated that they have work processes for defining, performing, validating, approving and controlling design activities. Eleven field offices indicated that this question was not applicable to them. The percentage of field offices identified as having these work processes in the responses to the 2009 Survey was lower than indicated in the responses to the 2007 Survey. Two field offices did not provide a response to this question. Two field offices indicated that they do not have such work processes.

Work processes for procurement

This question relates to documented processes for ensuring procured items and services meet requirements, specifying products and service, evaluating and selecting vendors, and ensuring that services and products continue to meet requirements. Twenty-eight out of thirty-four field offices stated that they had such processes. Two field offices did not provide a response to this question. Two field offices responded that this question is not applicable to them. Two field offices indicated that they do not have such work processes. The percentage of field offices reporting to have work processes for procurement is generally consistent with the responses to the 2007 Survey.

Work processes for inspection and testing

This question relates to a documented process to inspect and test items, services, and processes to ensure that they meet established acceptance and performance criteria and it related to Criterion 8 in DOE O 414.1C. Twenty-one field offices out of thirty-four reported

that they have such processes. Two field offices did not provide a response to this question. Seven reported that such processes are not applicable to them. Four field offices reported that they did not have such work processes.

Corrective Action Management Program implementation

Thirty-one of thirty-four field offices reported that they have a Corrective Action Management Program in place. Two field offices did not provide a response to this question. One field office reported that it does not have a corrective actions management program, but that it expects that full implementation of ePegasus in 2010 will address this issue. This is a significant improvement over the responses to the 2007 Survey which reported that nineteen percent of field offices did not have a corrective actions management program.

Figure 21 shows DOE field office survey data related to documented processes and procedures for DOE O 414.1C requirements.

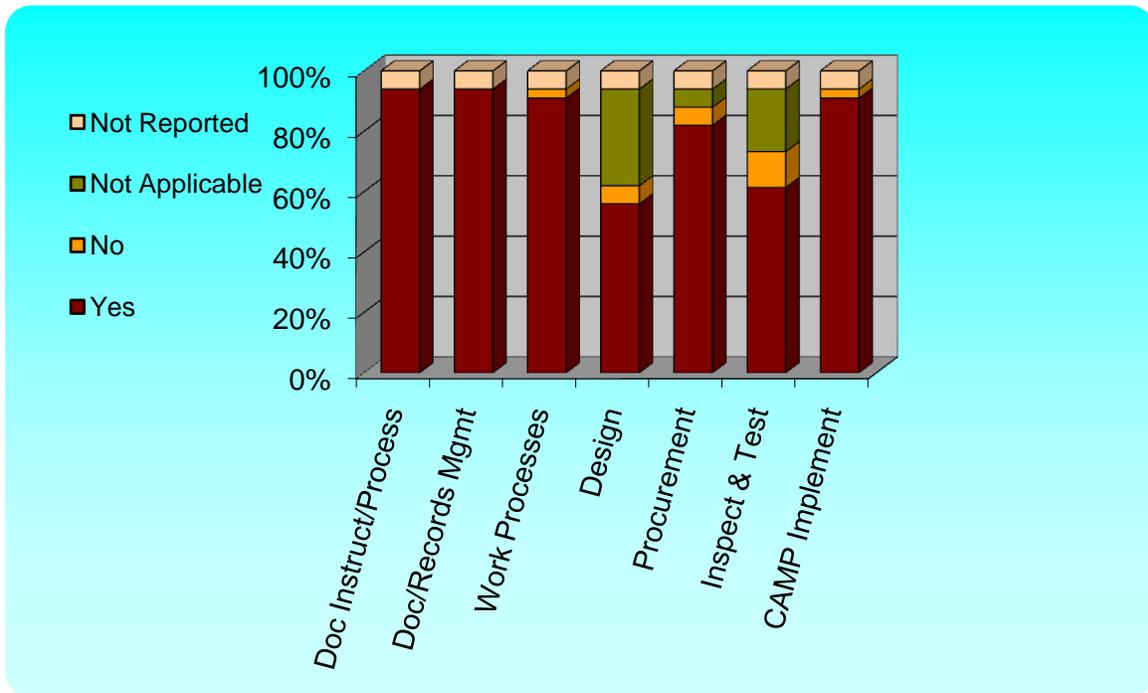


Figure 21 - Status of DOE Field Offices QAP Establishing Documented Processes and Procedures

Figure 22 provides a comparison of the responses for the 2007 and the 2009 Surveys based on where the specific criteria are reported applicable. The responses in 2009 report a larger number of field offices stating that the questions on design and for inspection and testing are “not applicable.” This may have contributed to the reduced number of field offices reporting documented processes for 2009 in these areas.

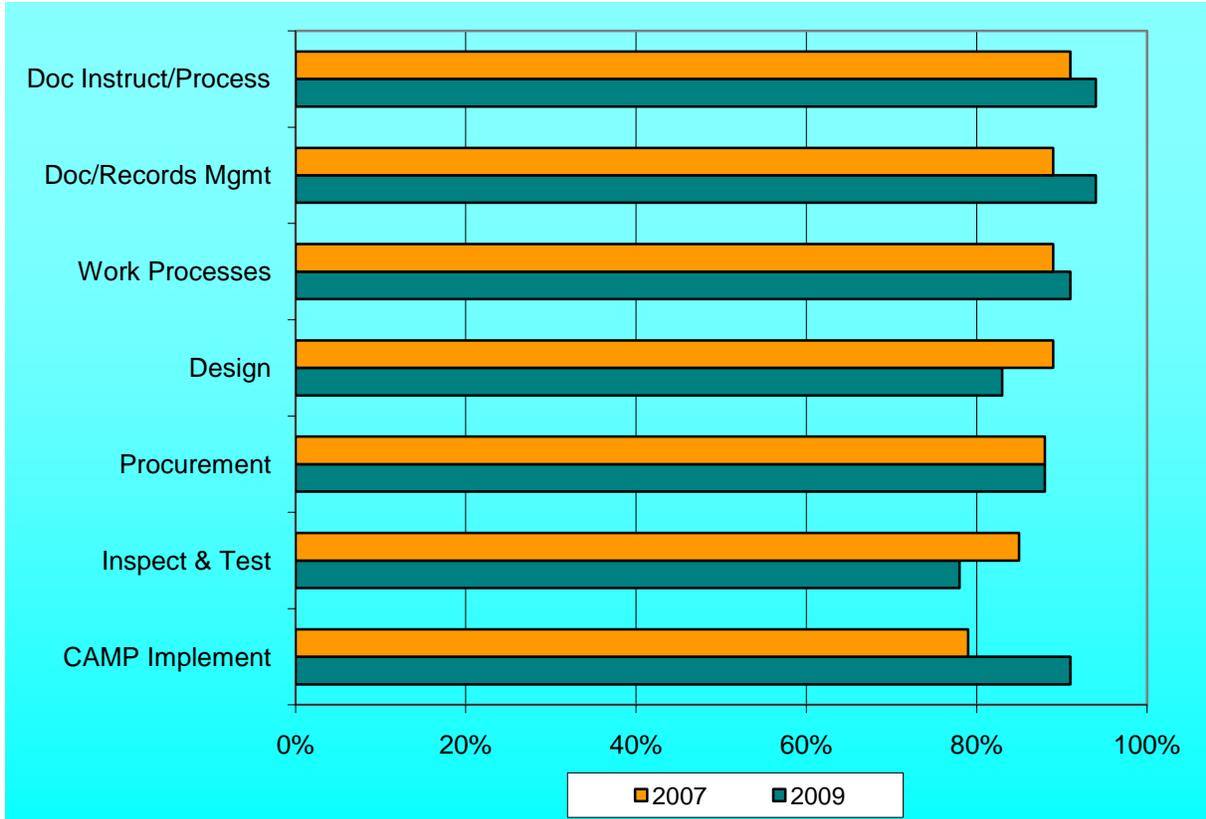


Figure 22 – Comparison of DOE Field Offices QAP Documented Processes with 2007 Survey Responses– Based on Offices Where Reported as Applicable

A2 - Power Marketing Administrations

The Power Marketing Administrations completed the 2009 Survey for Program and Field Offices. The Power Marketing Administrations include the WAPA, SEPA, SWPA, and Bonneville Power Administration (BPA). BPA was not sent a copy of the 2009 Survey and is not included in this report because BPA is specifically excluded from the requirements of DOE O 414.1C. The Power Marketing Administration activities are a unique group of GOGO activities and all have indicated that they apply QA in an imbedded fashion. Because their responses collectively were similar to each other but significantly different from the rest of DOE, we have reported on the results of their responses separately.

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

Part I-1

Survey Topical Area I -1 posed the following questions:

Quality Assurance Program (QAP) [General Requirements, Criterion 1]

I – 1 General Requirements of the DOE QA Order (O) – Complete for both your program office and your field offices

- 1. Does your program office or field office have an approved QAP per DOE O 414.1C?*
- 2. Who was the approving official for your QAP?*
- 3. Who is your QA Manager?*
- 4. If in addition to DOE O 414, your QAP is required to meet a regulation or directive, or other requirement (e.g., NRC regulations) – identify it.*
- 5. Identify the standard(s) you used to implement your QAP. (e.g., NQA-1, ISO Q9001, ANSI ASQ Z1.13).*

DOE O 414.1C requires Departmental Elements to develop and implement a written QAP that integrates QA requirements (including the ten criteria) using national or international consensus standards.

SEPA, SWPA, and WAPA all reported that they have approved QAPs and noted the approving official. SEPA and WAPA identified their QA Management Official. SWPA stated that the question was not applicable to them. SWPA reported that it uses ISO 14001, *Environmental Management*, to implement their QAP. SEPA and WAPA both reported that they use other standards.

Part I-2 QA Procedures

Survey Topical Areas I-2, requested identification of the QA implementing procedures approved or under development and posed the following questions:

I – 2 Program Office Procedures – Complete for your program office only **Check off the QA procedures approved or under development:**

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

DOE O 414.1C requires implementing procedures to be written and approved to support the QAP. This survey question was designed to identify the status throughout the complex of development and approval of the procedures in the specified topical areas related to QA controls. SSQA was considered to be not applicable to the Power Marketing Administrations.

All three Administrations reported that they have implementing procedures for:

- Management Assessment
- Independent Assessment
- Oversight
- Training
- Lessons Learned
- Corrective Action Tracking
- Document/Records Control

Only SWPA reported having an implementing procedure for corrective action effectiveness.

Survey Topical Area II: Flowdown of DOE O 414.1C Requirements to Contractors [Criteria 1, 7]

Survey Topical Areas II-1 and II-2 posed the following questions:

II. Flowdown of DOE O 414.1C Requirements to Contractors [Criteria 1, 7]

II-1 DOE-approved contractor QAPs – Complete for each contractor

1. *Does the contractor have a DOE-approved QAP?*

II-2 Assessments and Corrective Actions – Complete for each contractor

2. *Does your field office have an annual assessment schedule?*
3. *Did your field office complete its FY08 planned assessments of the contractor?*
4. *Is your field office on schedule for completing its planned FY09 assessments of the contractor?*
5. *Provide the numbers of corrective actions arising from the FY08 assessments.*
6. *What was the average time to close corrective actions in FY08?*
7. *Do you do trending analysis of identified corrective actions? (Yes/No)*
8. *Does your field office feedback the results of trending analysis to a quality improvement process?*

All three Power Marketing Administrations reported this Topical Area as not applicable to them because they are GOGOs.

II-3 Software QA (SQA) Assessments

Survey Topical Area II-3 posed the following questions:

II-3 Software QA (SQA) Assessments – Complete for each contractor

1. *Does your field office have an SQA annual assessment schedule?*
2. *Did your field office complete its FY08 planned assessments of SQA for the contractor?*
3. *Is your field office on schedule for completing its planned FY09 assessments of SQA for the contractor?*
4. *Provide data on the numbers of corrective actions arising from the FY08 SQA assessments.*
5. *Do you do trending analysis of identified corrective actions for SQA?*
6. *Does your field office feedback the results of trending analysis for SQA to a quality improvement process?*

All three Power Marketing Administrations reported this Topical Area as not applicable to them because they do not use safety software as defined in DOE O 414.1C.

II-4 Flowdown of QA Requirements to Subcontractors

Survey Topical Area II-4 posed the following questions:

II-4 Flow down of QA requirements to subcontractors – Complete for each prime contractor

- 1. Total number of subcontractors to prime contractors?*
- 2. Number of subcontractors for which field office has verified flowdown of QA requirements?*

All three Power Marketing Administrations reported this Topical Area as not applicable to them because they are GOGOs.

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

III-1 Qualification of Federal Staff

Survey Topical Areas III-1 and III-2 posed the following questions:

III Training & Qualifications [General Requirements, Criterion 2]

III-1 Qualification of Federal staff – Complete for both your program office and your field offices

- 1. Do you have Federal staff assigned the responsibility to ensure implementation of QA/Oversight requirements?*
- 2. Identify the Federal staff (number) who have completed their qualification to each standard and who are in progress to complete their qualifications for the following standards: DOE-STD-1150, DOE-STD-1172, DOE-STD-1175, and DOE-STD-1151.*
- 3. For any other standards (e.g., NQA-1 lead auditor training, ISO Q9001 training) indicate which standards and how many staff members have completed their qualifications.*

III-2 Training on implementation of QAP – Complete for both your program office and your field offices

- 1. Does your QAP require Federal staff to be trained to your QAP?*
- 2. Has your Federal Staff been trained to your QAP?*

The question on whether Federal staff is assigned the responsibility to ensure implementation of QA/Oversight was new in the 2009 Survey. All three Administrations reported that they have Federal staff assigned the responsibility to ensure implementation of QA/Oversight requirements.

For the question on qualification to DOE-STD-1150, DOE-STD-1175, and DOE-STD-1151, all three Administrations reported them as not applicable. SWPA reported that their staff is qualified to ISO 14001.

All three Power Marketing Administrations reported that they require their staff to be trained on their QAPs and that they are trained.

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

Survey Topical Area IV posed the following questions:

IV Assessment and Improvement [Criteria 3, 9, 10]

IV-1 Assessment and improvement process -- Complete for both your program and field offices

- 1. 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?*
- 2. 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)?*

IV-2 Management assessments – Complete for both your program office and field offices

- 1. Did you complete your management assessments scheduled for FY08?*
- 2. Are you on track to complete your management assessments scheduled for FY09?*

IV-3 Independent assessments (e.g., IG, GAO, HS-60 assessments, 3rd party assessments, program office for field offices) – Complete for each field office

- 1. Were there independent assessments completed on the field office activities for FY08 and FY09 (e.g., IG, GAO, HS-60 assessments, 3rd party assessments, program offices for field offices)?*
- 2. Have corrective actions been developed for your completed assessments?*

Both management and independent assessment requirements are specified as criteria in DOE O 414.1C and should be addressed in the QAP. All three Power Marketing Administrations reported that they establish independent assessment and management assessment processes with approved implementation schedules and they establish processes to identify and track actions resulting from assessments.

All three Power Marketing Administrations reported that they completed their assessments in 2008 and 2009 and that corrective actions have been developed for these assessments. In particular, SWPA reported that they completed assessments and identified corrective actions for:

- Gore Maintenance Facility
- Jonesboro Maintenance Facility
- Springfield Maintenance Facility

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

Survey Topical Area V posed the following questions:

V Software Quality Assurance (SQA) [DOE O 414.1C – Req. 4.a.; Attachment 5]

V-1 SQA – Grading levels, inventory, qualified staff – Complete for each contractor

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, including software grading level and type?*
3. *Has the safety software inventory document been reviewed by DOE?*
4. *Provide the number of contractor staff qualified in software quality assurance (SQA) and identify the basis for the qualification.*

V-2 SQA Procedures for SQA selection and safety software users – Complete for each Contractor

1. *Does the contractor have an approved procedure for selecting safety software for given applications?*
2. *Does the contractor have an approved list of safety software users?*
3. *Are the users required to be trained on the specific software prior to using it?*

The definition of safety software in DOE O 414.1C limits it to specific software for nuclear facilities. All three Power Marketing Administrations reported this Topical Area as not applicable because they do not use safety software.

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

Survey Topical Area VI posed the following questions:

VI Design and Construction (Criterion 6) – Complete for each contractor

1. *Does your contractor have an approved vendor list for safety SSCs?*
2. *Does your contractor have a program of annual vendor audits for approved vendors?*
3. *Has your contractor implemented an approved procedure for commercial grade dedication?*
4. *Are your contractor's design and engineering staff trained on applicable work processes which implement QA?*
5. *How many qualified contractor staff personnel are engaged in onsite quality control of construction?*

All three Power Marketing Administrations reported Topical Area VI as not applicable to them because they are GOGOs.

Survey Topical Area VII: Other DOE O 414.1C Requirements Criteria 4, 5, 6, 7 and 8)

Survey Topical Area VII posed the following questions:

VII Other DOE O 414.1C Requirements – Complete for each program office and field office

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 for ensuring procured items and services meet requirements, for specifying products and service, evaluating and selecting vendors, 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 questions in this topical area are intended to obtain summary level information on the implementation of DOE O 414.1C requirements that have not been addressed by other 2009 Survey topical areas and are unchanged from the 2007 Survey. All three Power Marketing Administrations reported affirmatively to all questions in this section and confirmed that they have:

- Documented work processes for design activities
- Documents/records management system
- Work processes to ensure work is performed consistent with technical standards, administrative controls, and hazard controls
- Work processes for defining, performing, validating, approving and controlling design activities
- Work processes for procurement

- Work Processes for inspection and testing
- A Corrective Action Management Program in place and in use

Appendix B: Summary Results of the 2009 Survey on QA Implementation for Staff and Support Offices

In the report on the results of the 2007 Survey on Quality Assurance Implementation issued in June 2008, DOE acknowledged the need to prepare different survey questions for DOE program and field offices and for DOE staff and support offices with queries tailored to those offices. The 2009 Survey introduced separate questions for DOE staff and support offices which were better tailored to those offices. The DOE staff and support office survey questions were shorter and two sections of the survey (flowdown of requirements to contractors and detailed questions on safety software) were deleted entirely. The responses to the 2009 Survey questions will be used to determine further tailoring that can be done to future surveys and to help these offices focus on opportunities for improvement. Furthermore HSS plans to offer staff and support offices assistance assessments to help them identify cost effective ways to enhance their quality programs and ensure their products meet their expectations.

The 2009 Survey on QA Implementation for Staff and Support Offices was designed to build on the information obtained from the 2007 and 2006 surveys through:

- a) repeating some of the key questions in the 2006 and 2007 surveys to gauge progress or improvement and
- b) enhancing the survey questions to gather additional details in specific key areas, such as training and qualification.

The 2009 Survey for on QAQ Implementation for Staff and Support Offices was organized in the following five topical areas.

- I Quality Assurance Program
- II Training and Qualifications
- III Assessment and Improvement
- IV Design and Construction
- V Other DOE Requirements

One or more questions were included for each topical area. In some cases comment responses in these topical areas overlapped several criteria and/or other requirements DOE O 414.1C. See Table 2 for a crosswalk from the criteria/requirements to the questions for all three surveys, including the questions for the 2009 Survey for QA Implementation for Staff and Support Offices.

The results of the 2009 Survey for Staff and support offices responses have been rolled up taking into account the differences in functions, applicability of the QA requirements, and the expected level of rigor among the DOE staff and support offices. Refer to Appendix C for the list of DOE staff and support offices that participated in the 2009 Survey on QA Implementation for Staff and Support Offices.

Table 2 - DOE O 414.1C Criteria Covered by the 2006 and 2007 Surveys and the 2009 Survey for Staff and Support Offices

| QA Criteria | 2006 Survey Areas | 2007 Survey | | 2009 Survey | |
|--|-------------------|------------------------|---------------------|------------------------|---------------------|
| | | Area enhanced or added | Survey Topical Area | Area enhanced or added | Survey Topical Area |
| 1. Program | √ | Enhanced | I, II | Enhanced | I, II |
| 2. Personnel Training and Qualification | √ | Enhanced | III | Enhanced | I, II |
| 3. Quality Improvement | √ | Enhanced | IV | Enhanced | I, III |
| 4. Documents and Records | √ | √ | VIII | √ | I, V |
| 5. Work Processes | √ | √ | I, VIII | √ | I, VII |
| 6. Design | √ | Enhanced | VII, VIII | Enhanced | I, III, IV, V |
| 7. Procurement | √ | √ | I, II, VIII | Enhanced | V |
| 8. Inspection and Acceptance Testing | √ | √ | VIII | √ | V |
| 9. Management Assessment | √ | Enhanced | IV | √ | I, II, IV |
| 10. Independent Assessment | √ | Enhanced | IV | √ | I, II, IV |
| Suspect/Counterfeit and Defective Items (S/CI) | | Added | V | Deleted | |
| Software Quality Assurance (SQA) | | Added | VI | Enhanced | I |
| Corrective Action Management | | Added | VIII | Enhanced | I, III, V |

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

Part I-1

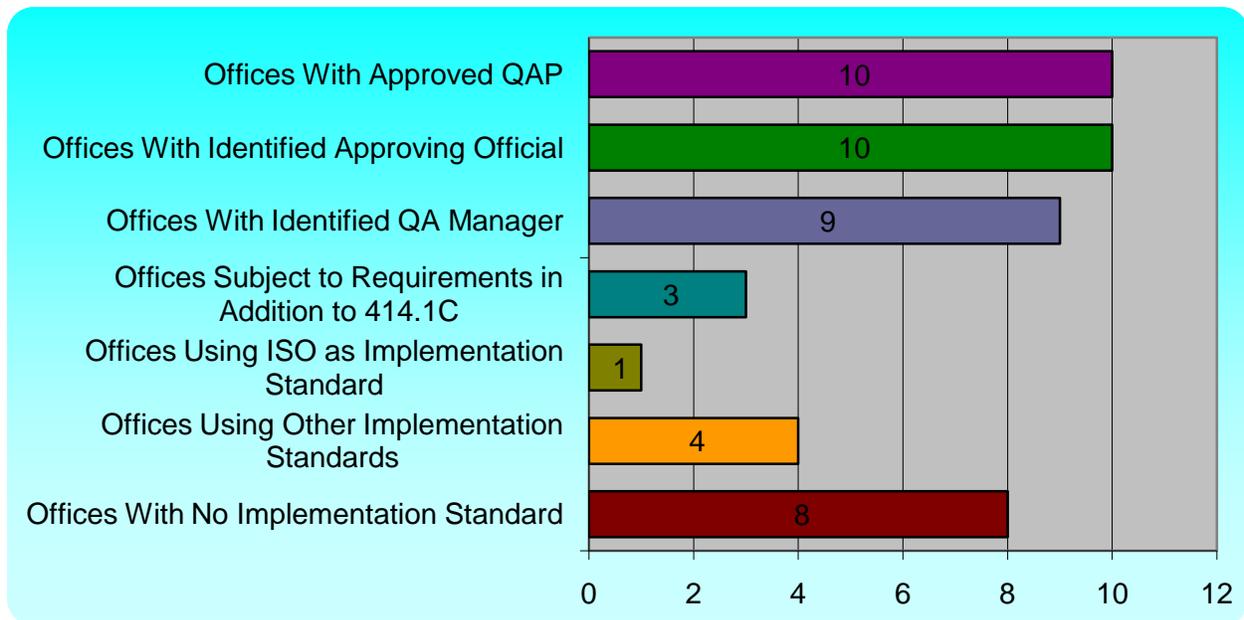
Survey Topical Area I-1 posed the following questions:

I Quality Assurance Program (QAP) [General Requirements, Criterion 1]

I – 1 General Requirements of the DOE QA Order

1. Name of staff or support office
2. Does your office have an approved QAP per DOE O 414.1C?
3. Who approved your QAP (title/ position)?
4. Who is your QA manager?
5. If in addition to DOE O 414, your QAP is required to meet a regulation or directive, or other requirement (e.g., NRC regulations) – identify it.
6. Identify the implementing standard(s) you used to implement your QAP. Include version dates/numbers.

Twelve of thirteen DOE staff and support offices responded to the 2009 Survey (the Office of Public Affairs did not respond); of these, ten reported approved QAPs. The Office of General Council (GC) and the Office of Hearings and Appeals indicated that they have draft, but not approved, QAPs. In the process of responding to the 2009 Survey GC has begun to review their draft QAP to determine what changes are needed to approve it. All ten of the offices reporting approved QAPs also identified the approving official. Nine of the ten offices with approved QAPs also identified their QA Managers. The Office of the Chief Financial Officer (CF) stated that they had evaluated the risk involved concerning QA and determined that a “dedicated employee responsible for QA is not required.” None of the Staff and support offices identified NQA-1 as the standard used to implement their QAPs, which is to be expected as none of these offices is responsible for the operation of nuclear facilities. One office identified ISO Q9001, four identified other standards, and nine did not identify any implementing national or international consensus standards used to implement their QAPs. Figure 23 illustrates the status of QAPs for DOE staff and support offices.



ISO = International Organization for Standardization (e.g., 9000, 14000)
 Note: Six offices did not report on use of implementing standards.

Figure 23 – Status of QAPs for DOE Staff and Support Offices

Parts I-2 QA Procedures

Survey Topical Area I-2 was for QA implementing procedures approved or under development. It posed the following question:

I – 2, DOE Staff or Support Offices Procedures – identify procedures approved or under development for the following topical areas:

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

DOE Staff and Support Offices

DOE O 414.1C requires implementing procedures to be written and approved to support the QAP. About half of the DOE staff and support offices have approved procedures for all or most of the applicable QA topical areas questioned. About a third of the reporting DOE staff and support offices have few approved procedures.

The responses to the 2009 Survey on QA Implementation show greater than 150% increase in the overall number of approved implementing procedures over the responses to the 2007 Survey.

- *Management Assessment*

Eleven of the twelve reporting DOE staff and support offices reported having approved procedures for management assessments. One office reported that it does not have an approved procedure for management assessments, nor does it have one under development, but it is considering developing procedures.

- *Independent Assessment*

Nine out of the twelve reporting DOE staff and support offices reported having approved procedures for independent assessments. Three offices reported that they do not have procedures for independent assessments, either approved or under development.

- *Oversight*

Seven of twelve reporting DOE staff and support offices reported having approved procedures for oversight; five offices do not.

- *Lessons Learned*

Six of twelve reporting DOE staff and support offices reported having approved procedures for lessons learned. Five offices reported that they do not have procedures for lessons learned, and one office reported that it has a procedure under development.

- *Corrective Action Tracking*

Seven of twelve reporting DOE staff and support offices reported having approved procedures for corrective action tracking, and five offices reported that they do not.

- *Corrective Action Effectiveness*

Seven of twelve reporting DOE staff and support offices reported having approved procedures for corrective action effectiveness and five offices reported that they do not.

- *Document/Records Control*

Nine of twelve reporting DOE staff and support offices reported having approved procedures for documents/records control and three offices do not.

- *Training*

Seven of twelve reporting DOE staff and support offices reported having approved procedures for training. Three offices reported that they do not have procedures for training and two offices reported that they have procedures under development.

- *SSQA*

As discussed earlier in this report, safety software is used for specific applications at nuclear facilities and thus is generally not applicable to DOE staff and support offices. Ten of the twelve reporting DOE staff and support offices stated that this topic was not applicable to them. Two DOE staff and support offices (Office of Management or MA and HSS) reported that they have procedures for SSQA.

Figure 24 shows the 2009 Survey data regarding implementing procedure status for DOE staff and support offices.

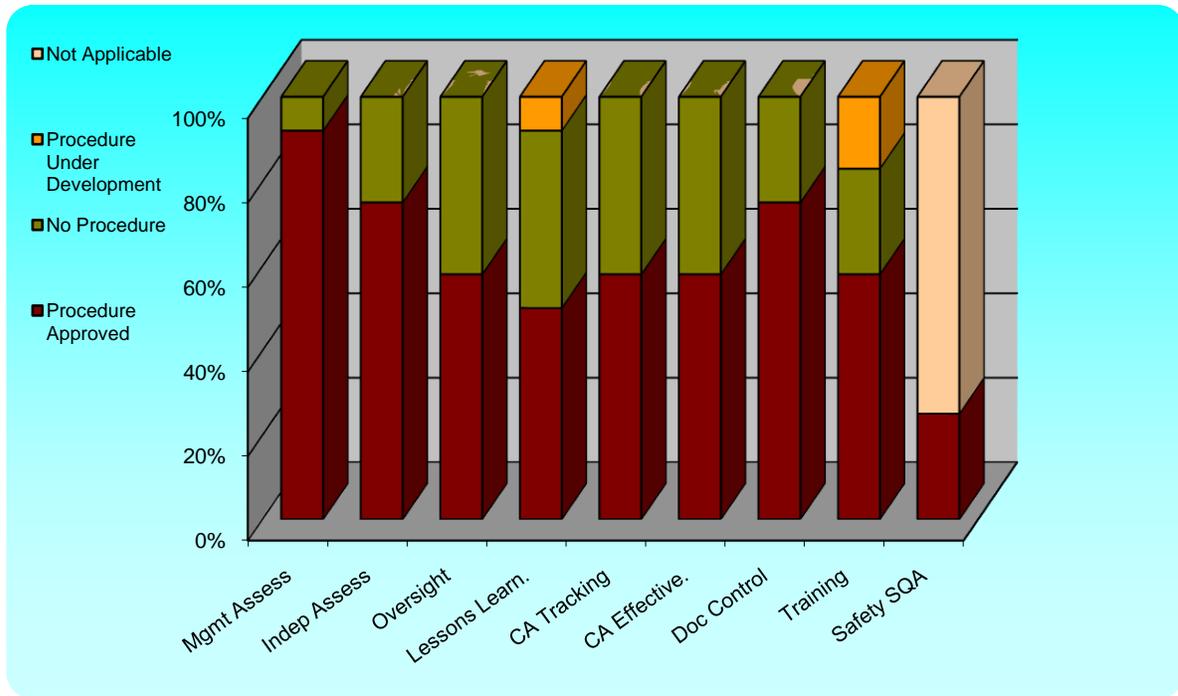


Figure 24 - Status of Implementing Procedures for DOE Staff and Support Offices

Figure 25 illustrates the increased number of approved implementing procedures for DOE staff and support offices over the two surveys based on where the specific criteria are reported applicable.

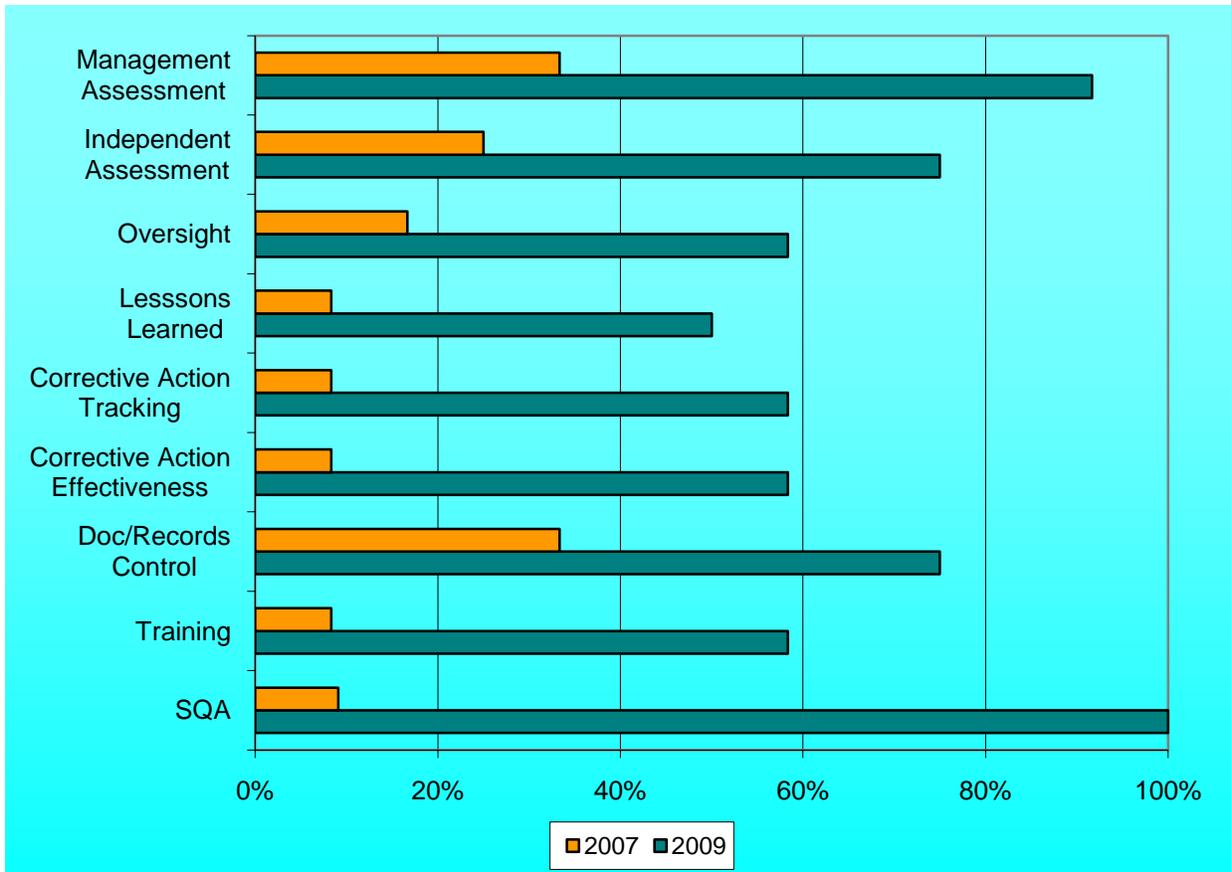


Figure 25 – Comparison of Status of Implementing Procedures for DOE Staff and Support Offices from the 2007 and 2009 Surveys

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

Survey Topical Areas II-1 and II-2 posed the following questions for DOE staff and support offices:

II Training & Qualifications [General Requirements, Criterion 2]

II-1 Qualification of Federal Staff

1. *Do you have Federal staff assigned the responsibility to ensure implementation of QA/oversight requirements?*
2. *Identify the Federal staff (number) who have completed their qualification to each standard and who are in progress to complete their qualifications for the following standards: DOE-STD-1150, DOE-STD-1172, and DOE-STD-1175.*
3. *For any other standards (e.g., ISO Q9001 training) indicate which standards and how many staff members have completed their qualifications.*

II-2 Training on implementation of QAP

1. *Does your QAP require Federal staff to be trained to your QAP?*
2. *Has your Federal Staff been trained to your QAP?*

Five out of the twelve reporting DOE staff and support offices confirmed that they have Federal staff assigned the responsibility to ensure implementation of QA/oversight requirements. Seven out of the twelve reporting DOE staff and support offices confirmed that they do not have Federal staff assigned the responsibility to ensure implementation of QA/oversight requirements.

The majority of DOE staff and support offices reported that DOE-STD-1150, DOE-STD-1172, and DOE-STD-1175 were not applicable to them. Only HSS reported qualified staff for this item as follows:

| <i>Standard</i> | <i>Qualified</i> | <i>In Training</i> |
|-----------------|------------------|--------------------|
| DOE-STD-1150 | 0 | 7 |
| DOE-STD-1172 | 3 | 0 |
| DOE-STD-1175 | 12 | 10 |

Most DOE staff and support offices reported that other standards (e.g., ISO Q9001 training) were not applicable to them. The following offices reported staff qualified to other standards:

- The Office of the Chief Information Officer (IM) – 4 persons
- The Office of the Chief Human Capital Officer (HC) – 11 persons
- MA - 1 person
- HSS- 98 persons

Five out of the twelve reporting DOE staff and support offices stated that their QAPs require Federal Staff to be trained on their QAPs. This number is consistent with the number reported in response to the 2007 Survey.

Four out of the twelve reporting DOE staff and support offices stated that their staff has already been trained on their QAPs. This reflects an additional three DOE staff and support offices over the number reported in the 2007 Survey.

Survey Topical Area III Assessment and Improvement (Criteria 3, 9, and 10)

Survey Topical Area III posed the following questions:

III Assessment and Improvement [Criteria 3, 9, 10]

III-1 Assessment and Improvement Process

- 1. Does your 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?*
- 2. 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)?*

III-2 Management Assessments

- 1. Did you complete your management assessments scheduled for FY08 and FY09?*

III-3 Independent Assessments (e.g., IG, GAO, HS-60 assessments, 3rd party assessments)

- 1. Did you complete your independent assessments scheduled for FY 08 and FY 09?*
- 2. Have corrective actions been developed for your completed assessments?*

Eight out of the twelve reporting DOE staff and support offices responded that their QAPs establish independent assessment and management assessment processes. That number is generally consistent with the number reported in 2007.

Seven out of the twelve DOE staff and support offices reported that their QAPs establish processes to identify and track actions resulting from assessments and ensure necessary improvements are achieved (i.e., a feedback and improvement or corrective action process).

Nine out of out of the twelve DOE staff and support offices responded that they completed their management assessments scheduled for FY08 and FY09.

Eight out of the twelve DOE staff and support offices reported that they completed their independent assessments scheduled for FY08 and FY 09.

Six out of the eight DOE staff and support offices that reported they completed their independent assessments in FY08 and FY09 also indicated that they have developed corrective actions for those assessments.

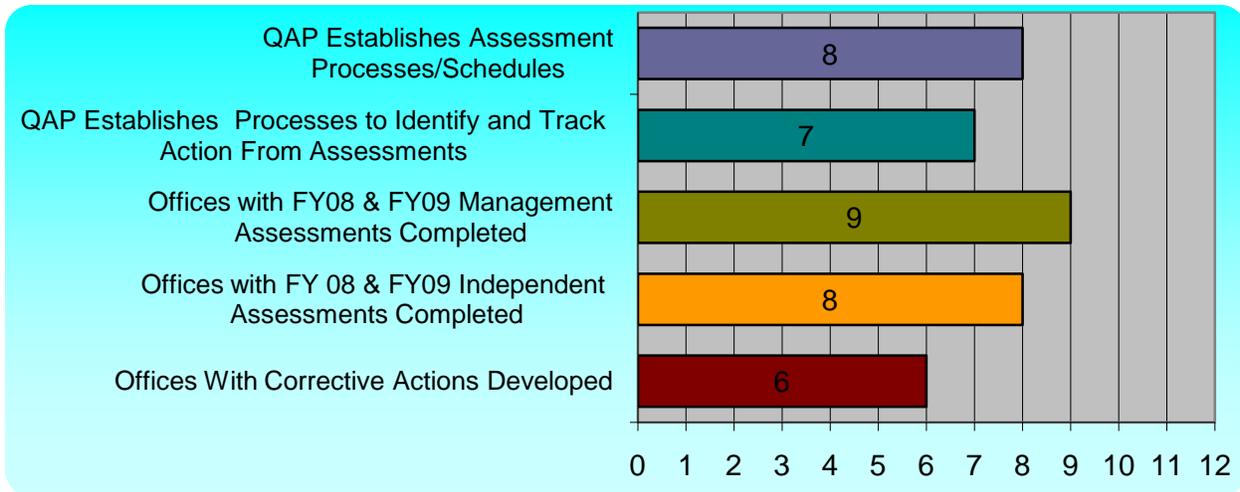


Figure 26 - Status of DOE Staff and Support Office Implementation of QA Assessments

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

Survey Topical Area IV posed the following questions:

IV Design and Construction – Complete for each contractor other than support services contractors

1. Do your contractors have a process in place to ensure implementation of QA in design and construction?
2. During FY08, did your organization conduct oversight/assessment activities to evaluate the effectiveness of the process in place to ensure quality in design and construction?
3. Are your contractor's design and engineering staff trained on applicable work processes which implement QA?
4. How many qualified contractor staff personnel are engaged in onsite quality control of construction?

The first two questions in this section are the same as questions asked in the 2007 Survey. The third and fourth questions are new. These questions relate to basic QA activities such as work processes which are required by DOE O 414.1C. They are meant to measure the implementation of QA in design and construction activities. All DOE staff and support offices with the exception of MA reported that this question IV did not apply to them. MA provided responses for three contractors (Devmar, Government Services Integrated Process Team, and Energy Solutions) and confirmed that all three:

- Have a process in place to ensure implementation of QA in design and construction.
- Had oversight/assessment activities during FY08 to evaluate the effectiveness of the process in place to ensure quality in design and construction.

- Have design and engineering staff trained on applicable work processes which implement QA.

For the fourth question MA reported that the question was only applicable to one contractor and confirmed that three qualified people from that contractor are engaged in onsite quality control of construction.

Survey Topical Area V: Other DOE O 414.1C Requirements (Criteria 4, 5, 6, 7 and 8 and Corrective Action Management Program)

Survey Topical Area VII posed the following questions:

V Other DOE O 414.1C Requirements

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 for ensuring procured items and services meet requirements, for specifying products and service, evaluating and selecting vendors, 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 questions in this topical area are intended to obtain summary level information on the implementation of DOE O 414.1C requirements that have not been addressed by other 2009 Survey topical areas and are unchanged from the 2007 Survey. The affirmative responses to these questions for the DOE staff and support offices generally increased in the 2009 Survey over the responses to the 2007 Survey, most notably in the area of Corrective Action Management Program implementation which jumped from 59% to 89% (adjusted for applicability).

Documented instructions and procedures that prescribe processes, specify requirements, or establish design

Nine out of the twelve reporting DOE staff and support offices stated that they have documented instructions and procedures consistent with this question. One office stated that this question was not applicable to it. One office stated that it does not have such instructions/procedures but plans to have them by the fourth quarter of 2010. One office did not respond to this question.

Documents/records management system

Ten out of the twelve reporting DOE staff and support offices reported having a documents/records management system. One office stated that this question was not applicable to it. One office stated that it does not have a documents/records management system but plans to have one by the fourth quarter of 2010.

Work processes to ensure work is performed consistent with technical standards, administrative controls, and hazard controls

Nine out of the twelve reporting DOE staff and support offices stated that they have work processes to ensure work is performed consistent with technical standards, administrative controls, and hazard controls. Three offices reported that this question was not applicable to them.

Work processes for defining, performing, validating, approving and controlling design activities

Five out of the twelve reporting DOE staff and support offices stated that they have work processes for defining, performing, validating, approving and controlling design activities. Seven offices reported that this question was not applicable to them.

Work processes for procurement

Seven out of the twelve reporting DOE staff and support offices stated that they have work processes for procurement. Five offices reported that this question was not applicable to them.

Work processes for inspection and testing

Five out of the twelve reporting DOE staff and support offices stated that they have work processes for inspection and testing. Seven offices reported that this question was not applicable to them.

Corrective Action Management Program implementation

Eight out of the twelve reporting DOE staff and support offices stated that they have a Corrective Action Management Program in place. Three offices reported that this question was not applicable to them. One office stated that it is still checking to determine if corrective action will be needed.

Figure 27 shows DOE staff and support office Survey data for documented processes and procedures for DOE O 414.1C requirements.

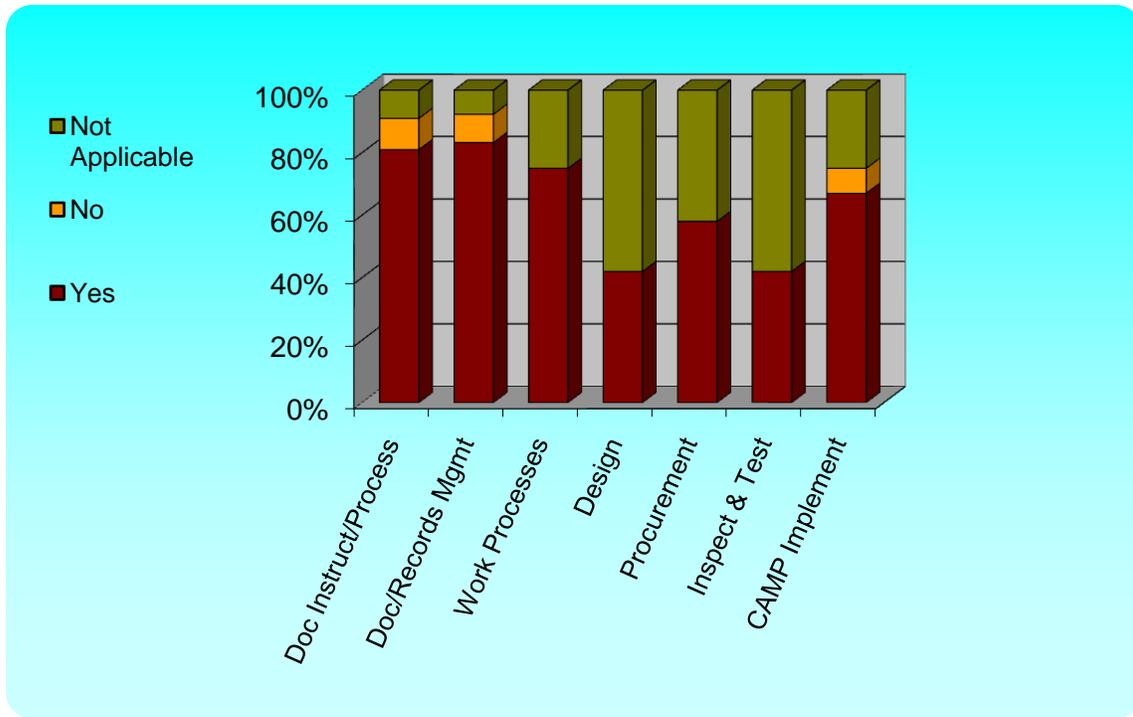


Figure 27 - Status of DOE Staff and Support Offices Documented Processes and Procedures

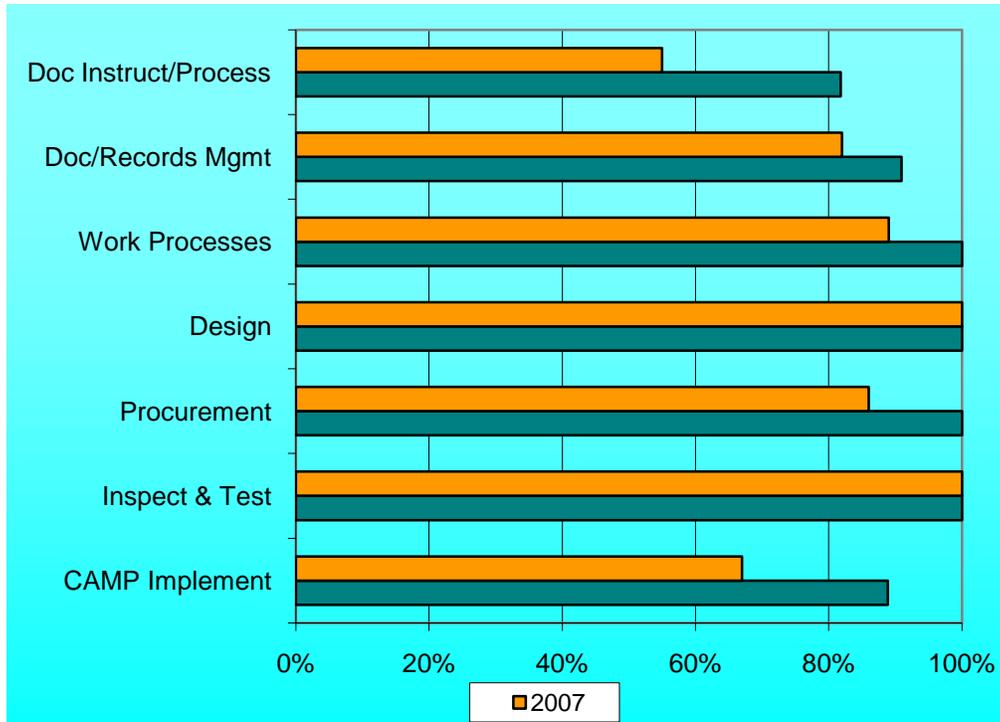


Figure 28 - Comparison of Documented Process and Procedures for DOE Staff and Support Offices from the 2007 and 2009 Surveys

Appendix C: QA IMPLEMENTATION SURVEY ORGANIZATIONS

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

Listed below are the DOE organizations that received the 2009 Survey on QA Implementation and their field offices.

Program Offices

| | |
|---|--|
| Energy Information Administration (EI) | Office of Nuclear Energy (NE) |
| National Nuclear Security Administration (NNSA) | Office of Civilian Radioactive Waste Management (RW) |
| Office of Environmental Management (EM) | Office of Energy Efficiency and Renewable Energy (EE) |
| Office of Fossil Energy (FE) | Office of Electricity Delivery and Energy Reliability (OE) |
| Office of Science (SC) | |
| Office of Legacy Management (LM) | |

Field Offices

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

Staff and Support Offices

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| Chief Financial Officer (CF) | Office of the Chief Human Capital Officer (HC) |
| Chief Information Officer (IM) | Office of Intelligence and Counterintelligence (IN) |
| Office of Congressional and Intergovernmental Affairs (CI) | Office of Management (MA) |
| Office of General Counsel (GC) | Office of Hearings and Appeals (HG) |
| Office of Health, Safety and Security (HSS) | Office of Economic Impact and Diversity (ED) |
| Office of Policy and International Affairs (PI) | Office of Public Affairs (PA)* |
| Office of the Inspector General (IG) | |

* Has not responded to the 2009 Survey

Power Marketing Administrations

Southwestern Power Administration (SWPA)
Western Area Power Administration (WAPA)
Southeastern Power Administration (SEPA)

(Note: Bonneville Power Administration is exempt from the requirements of DOE O 414.1C and thus was not included in the Survey.)

Appendix D: ACRONYMS

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| ASME | American Society of Mechanical Engineers |
| BPA | Bonneville Power Authority |
| CF | Office of the Chief Financial Officer |
| CFR | Code of Federal Regulations |
| CRD | Contractor Requirements Document |
| DOE | Department of Energy |
| ED | Office of Electricity and Delivery and Energy Reliability |
| EE | Office of Energy Efficiency and Renewable Energy |
| EI | Office of the Energy Information Administration |
| EM | Office of Environmental Management |
| EMCBC | EM Consolidated Business Center |
| FAQS | Functional Area Qualification Standards |
| FE | Office of Fossil Energy |
| FY | Fiscal Year |
| GAO | Government Accountability Office |
| GC | Office of General Council |
| GOGO | Government-Owned Government-Operated |
| HC | Office of the Chief Human Capital Officer |
| HSS | Office of Health, Safety and Security |
| IG | Inspector General Office |
| IM | Office of the Chief Information Officer |
| ISO | International Organization for Standardization |
| ISSM | Integrated Safeguards and Security Management |
| LM | Office of Legacy Management |
| M | Manual |
| MA | Office of Management |
| NE | Office of Nuclear Energy |
| NETL | National Energy Technology Laboratory |
| NNSA | National Nuclear Security Administration |
| O | Order |
| OE | Office of Electricity Delivery and Energy Reliability |
| P | Policy |
| QA | Quality Assurance |
| QAP | Quality Assurance Program |
| RW | Office of Civilian Radioactive Waste Management |
| SC | Office of Science |
| S/CI | Suspect/Counterfeit Items |
| SEPA | Southeastern Power Administration |
| SSC | Structure, System, or Component |
| SSQA | Safety Software Quality Assurance |
| STD | Standard |
| SWPA | Southwestern Power Administration |
| WAPA | Western Area Power Administration |

Appendix E: REFERENCES

1. DOE O 414.1C, *Quality Assurance*
2. Secretarial Delegation Order Number 00-033.00B, *To the Administrator and Chief Executive Officer of Bonneville Power Administration*
3. *Report on the 2007 Survey on Quality Assurance Implementation*, issued June 2008
4. 10 CFR 830, *Nuclear Safety Management*
5. ASME/NQA-1, *Quality Assurance Requirements for Nuclear Facility Applications*
6. ISO Q9001, *Quality management systems -- Requirements*
7. ANSI ASQ Z1.13, *Quality Guidelines for Research*
8. DOE O 226.1A, *Implementation of Department of Energy Oversight Policy*
9. DOE Manual 450.4-1, *Integrated Safety Management System Manual*
10. DOE Order 450.1, Admin Chg.1, *Environmental Protection Program*
11. DOE Policy 470.1, *Integrated Safeguards and Security Management (ISSM) Policy*
12. DOE/RW-0333P, *Office of Civilian Radioactive Waste Management Quality Assurance Program Description*
13. National Energy Technology Laboratory Order 414.C
14. 10 CFR Part 21, *Reporting of Defects and Noncompliance*
15. 10 CFR § 63.142, *Quality Assurance Criteria*
16. 10 CFR Part 71, *Packaging and Transportation of Radioactive Material*
17. NUREG-1297, *Peer Review for High-Level Nuclear Waste Repositories (NRC 1988)*
18. 40 CFR Part 191, *Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes*
19. 40 CFR Part 194, *Criteria for the Certification and Re-Certification of the Waste Isolation Pilot Plant's Compliance with the 40 CFR Part 191 Disposal Regulations*
20. DOE-STD-1150, *Quality Assurance Functional Area Qualification Standard*
21. DOE-STD-1172, *Safety Software Quality Assurance Functional Area Qualification Standard*
22. DOE-STD-1175, *Senior Technical Safety Manager Functional Area Qualification Standard*
23. DOE-STD-1151, *Facility Representative Functional Area Qualification Standard*
24. 10 CFR 835, *Occupational Radiation Protection*
25. 48 CFR 952.223-71, *Integration of environment, safety, and health into work planning and execution*