

This is the first in a series of newsletters designed to provide updates to the Quality Assurance community on Software Quality Assurance (SQA) activities to improve communications and support of field activities.

WHAT'S NEW?

Approach to Grading Safety Software for DOE Directives

The SQA Implementation Plan outlines actions for the Department to issue new/revised directives that will invoke industry or Federal agency standards for SQA. One of the first areas that is being addressed is how to apply a graded approach to safety software categorization for SQA. Existing industry standards, DOE site specific procedures, and accepted industry practices are being reviewed to prepare a draft framework for software classification. Eventually the software classification will be included in a future revision to DOE O 414.1, *Quality Assurance*. However, the next step in the process is to obtain input from subject matter experts (SMEs) at each site and applicable Headquarters organizations. Around the end of January 2004, a concept paper will be distributed to members of the SQA SME Panel. It is intended that this concept paper will initiate a discussion and promote an exchange of ideas on this important topic. This will allow us to cooperatively establish a graded approach that will facilitate the development of SQA directive(s) for DOE's nuclear facilities. For further information, please contact Bud Danielson at (301) 903-2954 Bud.Danielson@eh.doe.gov or Debra Sparkman at (301) 903-6888 Debra.Sparkman@eh.doe.gov.

SQA Knowledge Portal

Last year two efforts were initiated to promote the flow of SQA information throughout the DOE complex. First was the establishment of the Central Registry as part of the Technical Standards Program. The initial concept for the Central Registry was that it would be set up as a repository for the six existing toolbox codes. However, because the codes are proprietary and not controlled or owned by DOE, they could not be posted on the Central Registry web site as originally planned. Information about the codes and their use along with other SQA Implementation Plan documents have been posted on the Central Registry and can be downloaded. The second effort was the SQA list server that was designed to facilitate communication throughout the SQA community. SQA information and inquiries can be posted and the list server then sends out e-mail notifications to registered subscribers. The list server has experienced only limited use within the SQA community.

The role of the Central Registry and the list server continue to evolve and to improve both functions, a web-based SQA Knowledge Portal is being established. The purpose of the SQA Knowledge Portal is to facilitate

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the creation, sharing, and reuse of SQA knowledge. The Portal will provide the SQA community with a single Internet gateway to all existing SQA documents, procedures and assessments. In addition to providing seamless access to documents, the Portal will also contains a virtual collaborative workspace were members of the SQA community can work collaboratively on new documents such as new polices and procedures. The Portal will also contains an on-line discussion forum were members can dialogue in real time on issues of importance to them. The on-line discussion forum will replace our existing SQA list server

e-mail notification as our primary means of communication.

Portions of the Portal involving discussion forums and subject matter expert lists will be password protected and will require registration. We believe that the Knowledge Portal will greatly improve the dissemination of SQA information. The current schedule is to have the Knowledge Portal up and running by the end of February 2004. For further information, please contact Chip Lagdon at (301) 903-4218 Chip.Lagdon@eh.doe.gov or Charlie Thayer at (301) 903-5605 Charlie.Thayer@eh.doe.gov.

CURRENT ACTIVITIES

Safety System Software Assessments

Environmental Management (EM) and the National Nuclear Security Administration (NNSA) have established schedules to complete the identification, selection, and assessment of safety system software and firmware, and safety software currently used to support analysis and design of defense nuclear facilities. Some assessments are in progress and most will be completed during the first half of this year. Sites will be asked to post assessment results, plans and lessons learned on the new SQA Knowledge Portal. DOE Headquarters points of contact for the assessments are Larry Vaughan for EM and Rabi Singh for NNSA.

Toolbox Code Gap Analysis

The three remaining gap analyses interim reports for the MELCOR, GENII, and CFAST toolbox codes will be completed by the end of January 2004. The codes were evaluated against software qualification criteria. The gap analysis reports will provide guidance on their proper application, and will be available on the Central Registry to facilitate maintenance, technical support, configuration management, training, and notification to users of problems and revisions to these codes. Code developer review of the interim toolbox code gap analysis reports will begin shortly. Final toolbox code gap analysis reports for the six current codes will be issued by March 31, 2004.

Design Code Survey

A design code survey was conducted to determine if any currently used design codes should be included as part of the toolbox. EH received survey data from thirteen organizations at ten DOE sites. This activity has been helpful in identifying and characterizing the design codes that are in use at multiple sites or by multiple organizations. No additional codes were identified for inclusion in the toolbox based on the survey results. The design codes identified in the report are proprietary and are being maintained externally and some have also been through a software quality assurance program. However, the web-based SQA Knowledge Portal will be used as the primary mechanism where the DOE users can share vendor's design software information, notices and upgrades and to report software errors or defects.

Energy Facility Contractors Group (EFCOG) Safety Basis Workshop

Tony Eng from EH-23 and Kevin O'Kula from Westinghouse Safety Management Solutions (WSMS) will be making a presentation on Software Quality Assurance at the Workshop in Albuquerque on January 27, 2004. See event schedule at <http://www.efcog.org/>

FUTURE ACTIVITIES

Defense Nuclear Facility Safety Board (DNFSB) Briefing

The third briefing to the DNFSB on the status of the SQA Implementation Plan will be conducted in late February 2004. At this briefing, the Office of Environment, Safety and Health (EH), Office of Environmental Management (EM) and National Nuclear Security Administration (NNSA) representatives will provide updates on progress made in implementing SQA Implementation Plan commitments. For further information, please contact Chip Lagdon at (301) 903-4218 Chip.Lagdon@eh.doe.gov.

Headquarters and Field FRA Documents

The revised FRAM, which incorporates Federal responsibilities and authorities for SQA was issued on December 31, 2003. Next the Headquarters and

Field Element FRA documents must be revised by April 30, 2004 to incorporate SQA responsibilities and authorities.

SQA Training

In the upcoming months, SQA training will be provided to assist individuals in meeting Functional Area Qualification Standard competencies. A review of the American Society for Quality (ASQ) Software Quality Engineering (SQE) course indicates that there is a good match to DOE SQA training requirements. The course is based on industry-accepted practices and has as its foundation ASQ's SQE body of knowledge that has been used for years to certify software quality engineers. For further information, please contact Chip Lagdon at (301) 903-4218 Chip.Lagdon@eh.doe.gov or Debra Sparkman at (301) 903-6888 Debra.Sparkman@eh.doe.gov.

FUTURE NEWSLETTER TOPICS

Please provide your comments and requests for future SQA Newsletter topics to Chip Lagdon at (301) 903-4218 Chip.Lagdon@eh.doe.gov.