EFCOG SQA Notes - 10/16/2018

NQA-1 SQA Subgroup update

- 2019 Guidance - most sites are still working to 2000 or 2008/9 on how to move from older versions to the newest (I.e., 2019) - what's changed
    - Complaint is that each new version of NQA-1 only does that comparison between the new version on the most recent old version; however, most sites are on older versions than that, so they have to do the crosswalk through multiple versions
    - **Maybe EFCOG SQA group could put those crosswalks together and put them out on Box site or eventually on the EFCOG SQA page**
- Quality affecting activities/SW (not just safety software) - part 302 was replaced with CGD, but critical activities what weren't part of a component was missed
- Tester qualifications - Req. 2 qualifications and training does not include tester qualification. That is being looked at, not sure if it will make the cut
- Strategic planning - what should the NQA-1 SQA group work on over the next 2-3 years
    - Cloud SW
    - Cyber security
- You can submit inquiries to the subcommittee that will be addressed
- 2019 scheduled to be published at end of 2019

Possible Tasks:

- **Create crosswalks between version of NQA-1 (from 1998 to 2019)**
- **List of codes to add to the Central Registry +**
    - **Ideas on how to better qualify codes, sharing resources and qualifications other sites have done for a code, make the process more efficient → aka. a MASL for Software**
    - **What needs to be done, short of a full re-qualification, to qualify new versions of a qualified code?**
- **Create process flow diagrams for the Firmware White Paper. Add as an attachment/appendix to the paper once completed**

SQA Meeting - 10/17/2018

Nathaniel Hein's Presentation on SQA Chapter in LANL Engineering Standards Manual:

- SQA SMEs - LANL has a procedure that states the SQA requirements from 414.1D, NQA-1, and IEEE
- The SQA professionals don't really have a problem with these, but what about everyone else - the scientists and engineers who are also developing code?
- The Engineering group added SQA to their Engineering Standards Manual. This section parallels the SQA Procedure but is written in a way that has the same look and feel of the other engineering standards they use.
- LANL developed a standard form that determines safety/non-safety, type of software (Development control) and risk level. The result governs the number and rigor of SQA practices that must be performed.

- Everyone uses the form; at point when you determine if safety SW or not, safety continues to rest of form, non-safety can stop at that time. Beginning to make the form electronic so that they are able to keep a more complete SW inventory than in the past.
- Q: do you have high risk software that is not safety software (INL); A: yes, especially in area of weapon-related SW; Q: do you manage that non-safety SW at the same levels of rigor; A: yes - Chp 21 includes both safety software and other high-risk software. (PNNL includes high-risk, non-safety SW on their inventory, it is just marked as non-safety; INL does this, too)
- Several sites expressed frustration because upper level management want to focus just on nuclear/radiological software and not on other high-risk software
- The PNNL presentation this morning was not safety-SW-centric, it was the base processes for all software
- Suggest using increased credibility to sell a better SQA program to non-safety applications
- Wrote the SW data sheet requirements in a "How", "When", "Who" format
    - <u>How</u> do you do this requirement/process (this is the most detailed; with steps as needed)
    - <u>When</u> do you do it
    - <u>Who</u> does it and who approves it
- Non- engineers are saying they prefer the Chapter 21 format
- By having engineering create their own version of the SQA program/requirements, they now feel an ownership of that, including training their people in SQA
- Their Chapter 21 included both blank and example completed forms to help users know how to fill things out
- The SQA group had a champion within Engineering who helped bridge gap to getting this work done

SQA Meeting - 10/18/2018

<u>Possible topics for upcoming meetings and tasks</u>:

- SQA Processes:
    - Requirements
    - Design
    - Test → test cases, plans, results, qualifications
    - Traceability
    - Configuration control
    - Code and peer reviews (including independence)
    - Release approval (for production use)
    - Change requirements
    - Bugs
    - Inventory requirements (version, etc.)
    - User manual/instructions
    - NQA-1/ISO/other standards

<u>NOTES for Next Time:</u>

1. Remember to pause - introduce SQA leadership and ask members what EFCOG means to them, what our purpose is
2. Have introductions - at least names and sites - every morning - table tents with names and sites

3. Ask what issues they really want to address at this meeting and the monthly meetings between now and the next meeting
4. Come up with a quick, easy, activity to do at least once while we are meeting (maybe one a day?)
5. Review notes at end of each day - put up a One Note site for notes
6. At end of each day ask what worked and what didn't; how / what we need to change for the next day

People Calling In:

- Sandra Schindler
- Carrie Carlson
- Millie Birrenbach
- Marina Tiede
- Christian Palay