**2018 CMBG Breakout MA2 - Digital Engineering Process, 6/25/18**

7 participants

Topics discussed / Takeaways:

1. Training and Qualifications
	1. INPO Advanced Eng Training (AET) self-study course for digital
	2. EPRI courses (being revised for NISP / revised digital design guide
	3. Qual card – will meet all ACAD requirements for digital and individual needs; one qual, knowledge-based; even if qualified, supervisors will still need to choose appropriate RE for digital mod based on level of skill, identify during pre-job brief; doing digital mods will result in experience, learn lessons, etc.
2. NRC Buy-in on New Digital Process?
	1. EPRI has been in communication with NRC, they are aware, not opposed, well received.
	2. NEI working on new Appendix to NEI 96-07 for 50.59 guidance on digital changes, will get NRC approval on this.
	3. Concern is that NRC may buy-in now but then raise issues later on in future.
	4. Don’t need NRC endorsement of the new digital process, NRC will inspect licensees after they implement, using their inspection guidance.
3. Managing Configuration from Conceptual Design Phase Up to Operational Phase
	1. Biggest challenge, for complex designs, assign team from start to finish
	2. Utilize specs for minimum requirements, consistent and easier for vendor to meet standard spec.
4. Cyber Security
	1. Get cyber engineers on board early in the process, especially for high complexity digital changes (for less complex, may be able to bring on board a little later in process).
	2. Cyber Security Assessment Team Process – industry procedure offers an alternative method for this, based on EPRI documents, includes standard forms for identifying cyber threats, attack surfaces, mitigation strategies (akin to material safety data sheets for chemicals).
5. Requirements Traceability / Management
	1. Can be cumbersome to manage, can use manual Excel spreadsheet or pre-configured software tool such as Rational DOORS (Dynamic Object oriented Requirements) system.
6. Vendor Quality
	1. Many utilities have encountered lack of proficiency in vendors with regard to digital, not used to nuclear, don’t fully understand the importance of CM, need culture change.
	2. Example: Vendor brings in laptop without having it scanned.
	3. Some sites may not question the vendor enough (need to be tech conscience, have questioning attitude).