NEI Member Suggestions and Considerations for Prioritizing Codes and Standards Reviews

ASME Code Revisions

- HDPE piping (i.e., ASME Section III Non-mandatory Appendix XXVI) and other non-metallic repairs (i.e., Section XI Code Case on Repair by Carbon Fiber Wrap).
- Section NC of ASME Section III requires RT of all class 2 piping butt welds over 4 inches. Downgrading the NDE to PT/MT like Class 3 piping would be reasonable.
- ASME Code Section XI (ASME) should clearly address NRC expectations for examination of containment leak chase channel configurations.
- Proposed ASME Section XI Appendix Z could impose additional costly requirements on the utilities that will not improve equipment reliability.
- ASME should modify IWA-4340 to address forthcoming NRC conditions in next draft 50.55a rulemaking.
- Regulatory process should account for industry level submittals to save time and effort when implementing changes to requirements. For example, the recent elimination of Reactor Vessel Flange Ligament examinations across the fleet.
- Either issue ASME guidance on inspection and testing of buried piping as a non-mandatory appendix or simply modify IWA-5244 in accordance with NRC feedback received at May 2018 TG on Buried Piping.
- Develop a technical justification and eliminate requirements to examine cast austenitic stainless steel (CASS) materials. Significant efforts underway to qualify UT techniques for this material which has not experienced any problems.
- ASME needs to exam its use of the term “return to service” given more examinations/tests are performed online.
- ASME needs to be cautious with developing rules applicable to 50.56 to avoid creating additional requirements.
- ASME/NRC should consider eliminating hold times for pressure testing.
- ASME should develop more expeditious development and review processes for rules.
- ASME increase scheduling flexibility to accommodate multiple sets of inspection requirements.
- ASME to incorporate Code Cases mandated for use by NRC into the code.
- ASME to evaluate potential elimination of Category B-N requirements for BWR due to BWRVIP.
- ASME to consolidate Section III and Section XI PSI requirements.

IEEE Revisions

- There are IEEE standards that apply to overcurrent testing of circuit breakers and fuses. Circuit breakers are probabilistic devices (mechanical device, which actuates on overcurrent). Fuses are generally deterministic. This is a destructive test that provides minimal value.

- Diesel Generator Testing – there are various IEEE standards on DC and DG Testing (e.g., 308-1974, 450-1975.) These are out of date and not in step with the existing performance requirements. They should be revised to reflect the improved reliability and reduce the surveillance frequency for all tests to better reflect the maturity of the technology. The 18 month DG tests for example should be extended to 36 months staggered (1 per 18 months) or 48 months staggered (1 per 24 months for plants on a 24 month cycle, to reduce the challenges incorporated by the testing.
- IEEE-603 or IEEE-379 should be formally revised to define "CCF." The industry achieved alignment on a definition with the NRC during the NEI 16-16 meetings, but it does not appear in any NRC endorsed IEEE standards.
- The revision to standards IEEE-603 or IEEE-379 should clearly define the difference between "protection systems" and "safety systems".
- IEC-61508: Functional safety of electrical/electronic/programmable electronic safety-related systems.
- IEC-62443: Security for industrial automation and control systems.
- ISO/IEC/IEEE-15288: Systems and software engineering -- System life cycle processes.
- ISO/IEC/IEEE-15289: Systems and software engineering - Content of life-cycle information items (documentation).
- ISO/IEC/IEEE-12207: Systems and software engineering - Software life cycle processes.
- ISO/IEC/IEEE 24765: Systems and software engineering – Vocabulary.
- IEC 61511: Functional safety - Safety instrumented systems for the process industry sector.
- IEC 61513: Nuclear power plants - Instrumentation and control important to safety - General requirements for systems.
- ISO/IEC/IEEE 29148: Systems and software engineering -- Life cycle processes -- Requirements engineering.
- IEC 42010: Systems and software engineering -- Architecture description.

ANS/ANSI

- ASME/ANS PRA standard for fire Incipient Detection modeling.
- ANSI/ANS-3.5, Nuclear Power Plant Simulators for Use in Operator Training and Examination.
- ANSI/ANS 19.10 Methods for Determining Neutron Fluence in BWR and PWR Pressure Vessel and Reactor Internals.
- ANSI-N18.2 Section 2.1 Conditions for Design, Nuclear Safety Criteria Water Reactor Plants (superseded by ANSI/ANS 51.1).
- ANSI/ANS 51.1 Section 3.2 Plant Conditions and Plant Nuclear Safety.
- ANS-19.6.1-2011, Reload Startup Physics Tests for Pressurized Water Reactors.
- ANSI/ N-15.8-2009 (R2015), Methods of Nuclear Material Control - Material Control Systems - Special Nuclear Materials Control and Accounting for Nuclear Power Plants.
- ANSI/ANS-58.9, Single Failure Criteria for LWR Safety-Related Fluid Systems.