Oconee SLRA: Breakout Questions

SLRA Section AMP: Water Chemistry

TRP: 2

Question Number	SLRA Section	SLRA Page	Background / Issue (As applicable/needed)	Discussion Question / Request
1	B2.1.2 SLR-ONS-AMPR-XI.M2, "Water Chemistry AMP Evaluation Report (GALL-SLR Program XI.M2," Rev. 1	B-30	The SLRA AMP description for "NUREG-2191 Consistency" of the Water Chemistry program (B2.1.2) description refers to "enhancements described below," but no enhancements or exceptions are identified in that section or in Table B2-1. Document SLR-ONS- AMPR-XI.M2 follows the same pattern. The AMP description in Appendix B refers to enhancements, but Sections 3.4 and 3.5 state there are no exceptions or enhancements.	Please clarify if there are no enhancements to the Water Chemistry program or describe the enhancements.
2	CSD-CP-ONS-0002, Rev. 1, "Oconee Secondary Water Chemistry Strategic Plan"	34 of 50 Section 6.2.2	The Action Level 2 condition for Oconee appears to require a return from the condition within 100 hours, and if this is not achieved then an additional 24 hours to be in in the reactor-not-critical condition. In the EPRI Secondary Water Chemistry Guidelines, the Action Level 2 condition requires **[[**XX**]].**	Please clarify the Oconee Action Level 2 requirements and describe and provide the basis for any differences between the Oconee and EPRI Action Level 2 requirements.
3	3.1	3-202 Table 3.1.2-4	The following component, material, and environment combinations in these steam generator aging management evaluations are not clear to the staff:	Please clarify the application of the combinations identified. Specifically,

			1. Tube Support Plate Assembly (support rods), stainless steel a) In Treated Water (External) b) In Treated Water (Internal) 2. Tube Support Plate Assembly (tube support plates), stainless steel a) In Treated Water (Internal) 3. Tubesheet, steel with nickel alloy cladding a) Air – Indoor Uncontrolled (External) b) Air with Borated Water Leakage (External) c) Reactor Coolant (Internal) 4. Tube-to-Tube Sheet Welds, nickel alloy a) Reactor Coolant (Internal) b) Secondary Feedwater (External)	1.a. Describe the treated water environment and conditions for the support rods that are different from secondary feedwater. 1.b. Explain what internal environment means for the support rods. 2.a. Explain the meaning of internal environment for the tube support plates and describe the treated water environment and conditions that are different from secondary feedwater. 3.a. Describe the indoor uncontrolled external environment and location for the nickel alloy clad SG tubesheet. 3.b. Describe the location of the air with borated water leakage external environment for the nickel alloy clad SG tubesheet. 3.c. Describe the location of the internal environment for the nickel alloy clad SG tubesheet.

				4.a. Describe the location of the internal environment for the SG tube-to-tubesheet welds. 4.b. Describe the location of the external environment where the SG tube-to-tubesheet welds are exposed to secondary feedwater.
4	AD-CP-ALL-0011, Rev 0, “Startup Chemistry Program” Section 3.0	4 of 10	Definitions 1, 2, and 3, related to chemistry analysis, appear to have errors or differ from standard chemistry definitions (using “solute” where “solvent” or “solution” would typically be used): 1. cc/kg is defined in “Startup Chemistry Program” as a volume of hydrogen gas to mass of solute, with hydrogen and water being used in the example. However, based on standard chemical definitions, in this example hydrogen would be the solute and water would be the solvent. 2. Similarly, ppb is defined in the procedure as the amount of analyte to solute. In this case the analyte (e.g. sodium) would also be a solute, and water is the solvent.	Please discuss whether these definitions of concentration in “Startup Chemistry Program” differ from the way they are defined for the EPRI water chemistry guidelines. If there are differences, please discuss the implications for the Oconee Water Chemistry program.

			3. The same comments apply to the definition of ppm.	
5	Section 3.1	3-110 to 3-133 Table 3.1.2-2	The staff notes that SLRA Table 1 Item 3.1.1-087 (GALL-SLR Item IV.B4.RP-24) is associated in Table 3.1.2-2 with specific reactor internals components. However, this GALL item is intended to address loss of material due to pitting or crevice corrosion for all stainless steel and nickel alloy reactor internals using the Water Chemistry program. These aging mechanisms are not addressed by MRP-227 and XI.M16A. In addition, associating Item 3.1.1-087 with specific reactor internals components in Table 3.1.2-2 means it does not address pitting or crevice corrosion for the other reactor internals components.	Please clarify how aging management addresses loss of material due to pitting or crevice corrosion for all stainless steel and nickel alloy reactor internals using the Water Chemistry program, considering Item 3.1.1-087 is associated only with specified primary or expansion category internal components in SLRA Table 3.1.2-2. This approach does not cover the “no additional measures” components in MRP-227.