

St Lucie Units 1 and 2 SLRA

Breakout Audit Questions

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TRP 148.3 – Unit 1 Core Support Barrel Repairs TLA

#	SLRA Section	SLRA Page	Question / Issue	Why are we asking?	Outcome of Discussion
1	4.7.3	4.7-11	The applicant stated that "...A visual and mechanical inspection of the CSB was performed during the 1986 PSL Unit 1 refueling outage after one cycle of operation..." (1) Discuss whether the visual inspection performed in 1986 satisfies the VT-1, VT-2, or VT-3 examination per the ASME Code, Section XI definition. If not, discuss how the visual inspection is performed and the industry standards and acceptance that were used in the visual inspection performed in 1986. (2) Describe the standards and acceptance criteria used in the mechanical inspection performed in 1986 because the ASME Code, Section XI does not prescribe mechanical inspections. (3) Discuss the industry standards and acceptance criteria that were used in the CSB inspections performed in 1983 and 1984.	The staff is not clear how the inspections were performed on the repaired CSB in 1983, 1984, and 1986.	
2	4.7.3	4.7-11	The applicant stated that for the future, visual inspections of the CSB every 10-year interval are sufficient. (1) Discuss the technical basis for this inspection requirement. (2) Discuss whether a visual	The staff is not clear the technical basis of a visual inspection every 10 year for the repaired CBS.	

			inspection every 10 years is consistent with the inspection guidance in MRP-227, Revision 1-A, "Pressurized Water Reactor Internal Inspection and Evaluation Guidelines." If not, discuss the adequacy of the visual inspection every 10 year.		
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TRP 148.4 – Reactor Coolant Pump Flywheel Fatigue Crack Growth TLAA

#	SLRA Section	SLRA Page	Question / Issue	Why are we asking?	Outcome of Discussion
1	4.7.4	4.7-13	Discuss examination history of the reactor coolant pump (RCP) flywheel, including examination results, examination method, and years performed.	We ask this question to determine the condition of the flywheel and whether the applicant's fatigue crack growth analysis is based on the actual crack size detected in the flywheel	
2	4.7.4	4.7-13 and 4.7-14	The applicant stated that "...Section 5.5.5.3 of the Unit 1 UFSAR states that the number of RCP starting cycles required to cause a reasonably small crack in the RCP flywheel to grow to the critical size is more than 100,000..." However, page 4.7-14 states that 4000 cycles will be used for Units 1 and 2. (1) Discuss whether Section 5.5.5.3 of the Unit 1 UFSAR needs to be revised to reflect that 4000 cycle is the limit for the Unit 1 RCP flywheel. (2) Discuss whether Unit 2 UFSAR needs to be revised to include the discussion of the fatigue crack growth calculation of the RCP flywheel.	This question is to ensure that the latest fatigue crack growth calculations are documented properly in the UFSAR because the fatigue crack growth calculations are part of the design basis.	
3	4.7.4	4.7-14	The evaluation of the RCP flywheel TLAA for Unit 2 stated that the projected lifetime occurrences of plant heatups and cooldowns is 500 cycles based on the	The staff is not clear on the "4" in (500 x 4). Is this "4" representing the events, activities, or cycles?	

			<p>original plant 40-year design life and that the RCPs are cycled when filling and venting the RCS prior to Unit start-up. (1) Clarify the following statement "...three RCP start/stop cycles per fill and vent activity and a fill and vent activity for each heatup and cooldown results in (500 x 4) or 2000 RCP start/stop cycles the 60-year PEO, which is well within the 4000 cycles assumed in topical report SIR-94-080..." e.g., what does "4" represent in the expression "500 x 4"? (2) Discuss how many actual cycles occurred in RCP start/stop and heatup and cooldown cycles so far at Units 1 and 2.</p>		
4	4.7.4	4.7-14	<p>The applicant indicated that the assumed 2000 RCP start/stop cycles determined for the Unit 2 60-year PEO is also applicable to the 80-year SPEO. The applicant stated that this conclusion is because the 500 heatup and cooldown cycle limit for the 60-year PEO remain applicable for the 80-year SPEO for both Units 1 and 2. Clarify how 2000 start/stop cycles and 500 heatup and cooldown cycles are applicable to the 80 years when they are applicable to 60 years.</p>	<p>The applicant did not provide technical basis to explain how 2000 start/stop cycles and 500 heatup and cooldown cycles are applicable to the 80 years when they are applicable to 60 years.</p>	
5	4.7.4	4.7-14	<p>The applicant stated that "...For the SPEO, since to 4000 RCP stop/start cycle limit for Unit 2 is more restrictive than the 100,000 stop/start cycle limit for Unit 1, the 4000 RCP stop/start limit will be evaluated for both units..." (1) Provide the evaluation for both units using the 4000 RCP stop/start cycles.</p>	<p>The applicant discussed evaluation for both units without providing or referencing the actual evaluation. The staff needs to review the applicant's evaluation</p>	