<u>Oconee SLRA: Breakout Questions</u>

SLRA Section A4.2.3, PTS TLAA

TRP: 142.03

Question Number	SLRA Section	SLRA Page	Background / Issue (As applicable/needed)	Discussion Question / Request
1	A4.2.3	Pg. 2105	**Section 5.4 of ANP-3898P regarding margin values.** The staff seeks a general discussion for better understanding on the information provided.	Briefly explain how the Margin values specific to forging, plates, and Linde 80 welds changed for most CLB values?
2	A4.2.3	Pg. 2105	**Section 5.4 of ANP-3898P regarding chemistry factor values.** The staff seeks a general discussion for better understanding on the information provided.	Were the chemistry factor values all taken from the tables provided in Reg. Guide 1.99? If not, what was the method for calculating the chemistry factor specific to forgings, plates, and welds.
3	A4.2.3	Pg. 2105	**Section 5.4 of ANP-3898P regarding fluence factors.** The staff seeks a general discussion for better understanding on the information provided.	Did fluence factors change from the current CLB values to SLRA
4	A4.2.3	Pg. 2105	**Section 5.4.2 of ANP-3898P regarding nickel content.** The cited CLB values for Ni Wt% content are provided in the licensing renewal application (ADAMS Accession Number ML15254A151). Specific to Unit 1, US/LS longitudal welds with Heat number 8T1762, a value of 0.57% is provided instead of the CLB value of 0.55%. The licensing renewal application states: “CF is a function of the material's copper and nickel content expressed as weight percent. "Best estimate" copper and nickel contents are used which is the mean of measured values for the material. For Oconee, best estimate values were	Explain the difference in the “best estimate” approach versus the six weld qualification samples.

			obtained from the following FTI reports: BAW-1820, BAW-2121P, BAW-2166, and BAW-2222 [Footnote 14] [References 5.4-21, 5.4-22, 5.4-23, and 5.4-24]. In the SLRA, the licensee states: "The value of 0.57% for heat 8T1762 is the mean value of 6 weld qualification samples and is identical to the nickel wt% reported in the NRC RVID2."	
5	A4.2.3	Pg. 2105	**Section 5.4.2 of ANP-3898P regarding Bellefonte forging and plates.** The licensee states that the CLB values for the mean and standard deviation for initial RT_{NDT}, specific to forgings and plates, were calculated using a dataset comprised of Bellefonte Unit 1 and Unit 2 (BLN-1 and BLN-2) reactor vessel forgings and reactor vessel & steam generator plates, respectively. The licensee further states that BLN-1 and BLN-2 are later generation B&W units and "may have" more favorable initial RT_{NDT} values than would be representative of earlier vintage B&W units. Therefore, applicable to SLRA, the licensee is excluding the BLN values and recalculating the initial RT_{NDT} and associated σI of traditional beltline plates, forgings, and welds fabricated with Linde 80 flux. The new values are provided in Table 5-7 consisting of 24 welds and Table 5-8 consisting of 31 welds in the SLR application.	Looking for a general discussion on the topic to include the following specific questions: How many forgings and plates (independently), including Bellefonte welds, were used to calculate the CLB values? How does that compare to the number of forgings and plates (independently) that were used for SLR values? What are the RT_{NDT} values for the Bellefonte forgings and plates? What was the reasons taken into consideration to assume that the Bellefonte welds "may have" more favorable initial RT_{NDT} values?
6	A4.2.3	Pg. 2105	**Section 5.4.2 of ANP-3898P regarding LS Plates C-2800-1 and C-2800-2**. The licensee	The licensee stated that forging material Heat No. 4680 (i.e., found

			states that Framatome located archive ONS Unit 3 LNB forging material. The licensee states that Framatome performed testing on this material in accordance with ASTM E208-06 to determine the nil-ductility transition temperature. Furthermore, the licensee states the following as a result to the testing performed: "As such, σ_i values have been reduced to 0.0F for ONS Unit 1 plates C3265-1 and C2800-2 based on test data reported in Table 5-7. In each case, initial RT_{NDT} values have increased and are based on the measured values reported in Table 5-7."	archive) was tested per ASTM E208-06. Heat Number C2800-1 and C2800-2 are plates. Were these materials also tested by Framatome to allow for an σ_i value of 0.0. Unit 1, LS Plates, C2800-1 and 2800-2 have same CLB initial RT_{NDT}, same σ_i but have different SLRA initial RT_{NDT} in accordance to Table 5.7. a. Why is ΔRT_{NDT} and Margin different for C2800-1 and C2800-2, if the CLB values show them as having identical properties.
7	A4.2.3	Pg. 2105	**Section 5.4.1 of ANP-3898P**. The licensee provides Table 5-1, which establishes the initial (mean) generic RT_{NDT} value of 7.7 F for ONS Unit 1 and Unit 2 RPV inlet and outlet nozzle forgings, Unit 1 and Unit 2 transition forgings, and Unit 3 inlet nozzle forgings.	Applicable to beltline forgings, what is the difference from the initial RT_{NDT} value established in Table 5-1 and those established in the Current Licensing Basis for Heat No. ZV-2861(Unit 1) and 123T382 (Unit 2)? Why is the value of 7.7 F not applicable to the other Unit 2 US and LS forgings (Heat No. 3P2359 and 4P1885)? Looking for a general discussion regarding where the values in the Table 5-1 come from. Were these values also used to establish the current CLB RT_{NDT} values? If not, what is the difference?

8	A4.2.3	Pg. 2105	**Section 5.4.1 of ANP-3898P.** Regarding extended beltline Linde 80 welds which establish an initial RT_{NDT} value of -4.9 F and -7 F (specific to Heat No. 299L44). The initial RT_{NDT} values were obtained from the generic mean value coming from statistical evaluations provided in Table 5-3 and Table 5-4. The licensee states that these RT_{NDT} were based on the values from seven plants including two values from ONS Unit 3.	Looking for a general discussion on RT_{NDT} values for Linde 80 welds for all three units to include the following specific questions Why did the licensee calculate two different initial RT_{NDT} values? In Table 5-3, three RT_{NDT} values come from weld ID WF-25 heat number 299L44 (RT_{NDT} values of +7, +33, -13). To note, Unit 2 CLB values (surveillance) include this heat number but with an initial RT_{NDT} value of -5. Where did the values for heat No. 299L44 in Table 5-3 come from? Why did the surveillance values from Unit 2 not used? • These RT_{NDT} values do not appear to have been used in Table 5-4. Why not? Regarding the current licensing basis RT_{NDT} values for Linde 80 welds from all ONS units. Why were these Weld ID/Heat No. not used in the calculation of initial RT_{NDT} value for extended beltline welds? Table 5-3, Weld ID/Heat No. SA-1036/61782 has the same heat number as SA-1035. Is the weld ID correct?

				The Unit 2 current licensing basis value for heat number 299L44 has an initial RT_{NDT} of -5 F and a margin value of 68.5. The Unit 1 SLR value for heat number 299L44 has an initial RT_{NDT} of -7 F and a margin value of 66.3. **What makes these two values different if they have the same heat number?**
9	A4.2.3	Pg. 2105	**Section 5.4. of ANP-3898P regarding surveillances.** The CLB values has surveillance data for all three Units used in correlation to Regulatory Guide 1.99, Position 2.1.	Was this information taken into considerations for Units 1 and 2? Is the surveillance used for Unit 3 a newer surveillance than provided in the current CLB information?
10	A4.2.3	Pg. 2105	**Section 3.4.1 of ANP-3898P regarding Copper Wt %.** The licensee states regarding forging AMX-77, [proprietary information]. The licensee does not appear to provide specific justifications for other materials where the copper wt% changed from the CLB values.	The staff is looking for a general discussion on how the copper wt% values change regarding the stated evaluation and for other materials.
11	A4.2.3	Pg. 2105	**Section 2.3 of ANP-3898P regarding forging to transition welds.** The license identifies the lower shell forging to transition forging circumferential welds (WF-9, WF-112, WF-169-1) as a traditional beltline weld. These welds were not identified in the CLB table.	The staff is looking for a general discussion on these welds and the values identified for them.