LIST OF QUESTIONS RELATED TO MATERIALS RELIABILITY PROGRAM 2017-009, ATTACHMENT TO MATERIALS RELIABILITY PROGRAM LETTER 2017-011, "TRANSMITTAL OF "NEEDED" INTERIM GUIDANCE REGARDING BAFFLE FORMER BOLT INSPECTIONS FOR U.S. PRESSURIZED-WATER REACTOR PLANTS AS DEFINED IN WESTINGHOUSE NUCLEAR SAFETY ADVISORY LETTER -16-01" DATED MARCH 23, 2017

Question 1

Item A.2 on p.2 indicates that the baseline Ultrasonic Testing (UT) examination for Nuclear Safety Advisory Letter (NSAL)-16-1 Rev. 1 Tier 2 plants is to be performed no later than 30 Effective Full-Power Year (EFPY). For Tier 2 plants that already have over 30 EFPY as of the issue date of Materials Reliability Program (MRP) Letter 2017-009, clarify the schedule for initial BFB UT examination.

Question 2

For Tier 3 plants, NSAL 16-1 recommends that 4-loop Tier 3 plants that have operated in a downflow configuration for more than 20 calendar years should evaluate the need to perform a UT volumetric inspection of baffle-former bolts on an accelerated schedule considering the plant-specific condition and design parameters compared to the Tier 1 a plants. However, in MRP 2017-009, the baseline UT schedule for Tier 3 plants is included under A.3 Remaining Plants, and initial baseline UT examination would be required no later than 35 EFPY, which is the same maximum EFPY as the MRP-227-A recommendation. What is the basis for not recommending an accelerated baseline examination schedule for 4-loop Tier 3 plants that operated in downflow for a significant time period before converting to upflow?

Question 3

Discuss the basis for the six-year maximum interval for subsequent examinations for downflow plants with ≥ 3% indications or clustering and upflow plants with ≥ 5% indications or clustering. Is there a generic analysis supporting this interval? If so, describe this generic analysis, including any assumptions of the analysis such as neutron fluences, operating time, Irradiation-Assisted Stress-Corrosion Cracking initiation rates, stresses, and pattern of intact and degraded bolts.

Question 4

MRP 2017-009 states on p. 1 that this guidance is NOT intended to modify the Westinghouse Commercial Atomic Power (WCAP)-17096-NP-A acceptance criteria, nor the expansion criteria associated with MRP-227, Section 5. These criteria may be adjusted in the future via other guidance. However, the staff points out that the maximum UT re-exam period in the table effectively does modify the acceptance criteria of WCAP-17096-NP-A, which allow a ten-year

interval for subsequent UT examination if more than 50% of the margin bolts are degraded, since 3% or 5% of the bolts is generally going to be less than 50% of the margin bolts. Clarify if these statements are in conflict, and identify any changes to eliminate the conflict.

Question 5

The table on p. 2 of MRP 2017-009 provides recommended intervals for subsequent UT examination based on whether the plant is downflow or upflow, the percentage of BFBs with indications, and whether clustering is present. Since MRP Letter 2017-009 states that the interim guidance is to be implemented in the first refueling outage after March 1, 2018, and the table does not specify the examination coverage for the subsequent examinations, the staff requests the following information:

1. Does this table apply to all UT examination results for BFBs or only those performed after March 1, 2018? For example, are the table recommendations retroactive to a plant that performed its MRP-227-A baseline UT examination of BFBs in 2012?

2. Is the coverage for the subsequent UT examination the same as the initial UT examination (100% of accessible BFBs)?

Question 6

Item C of MRP Letter 2017-009 states that, as an alternative to performing UT inspections, a plant may perform proactive bolt replacements as preventative maintenance justified by plant-specific evaluation using established methodologies (for example, WCAP-15029-P-A or equivalent). The plant-specific evaluation shall also establish and justify the UT re-examination period resulting from the bolt replacements performed.

Since a plant may replace a number of original bolts less than the number that would be required for an acceptable bolt pattern with only replacement bolts, some original bolts may still be relied upon for structural integrity of the baffle-former assembly. Also, for plants that replaced sufficient bolts to constitute an acceptable bolting pattern with only replacement bolts, the interval for subsequent UT examination is not specified, so is assumed to be a maximum of ten years. In addition, there are a few plants that replaced some BFBs during the late 1990's, such as Point Beach, Unit 2, Ginna, and Farley Units 1 and 2. It is not clear if these early replacements could be credited under Item C as an alternative to initial UT examination. The staff therefore requests the following information:

1. Clarify the initial examination schedule for original bolts if the plant replaces some original bolts, but not enough to constitute an acceptable minimum bolting pattern.

2. Clarify the schedule for subsequent examinations for a plant that has replaced sufficient BFBs to constitute an acceptable bolting pattern with only replacement bolts. Could such a plant go more than ten years before examining replacement BFBs?

For plants that replaced BFBs earlier in plant life, is there any adjustment to the initial UT examination schedule or coverage in consideration of these replacements?