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March 25, 2015

John Lubinski, Director
Division of Engineering
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852

Subject: San Onofre Nuclear Generating Station Lessons Learned

Reference: Patrick L. Hiland's letter to me dated August 13, 2014 (ML14206A841)

Dear Mr. Lubinski:

In the referenced letter, the NRC staff requested a discussion on specific actions planned or taken by the industry to address the San Onofre operating experience, including any actions to add, develop, or modify industry design and fabrication standards/guidance and any actions to develop guidance on critical thermal hydraulic parameters to eliminate the potential for fluid-elastic instability.

In an NRC meeting on February 12, 2015, the Steam Generator Task Force discussed plans to generically investigate the onset of in-plane fluid-elastic instability through a series of tests at Canadian Nuclear Laboratories (CNL). The Electric Power Research Institute (EPRI) is in the beginning stages of contract agreements, but was able to provide a high-level overview of the proposed tests. Plans are to conduct air flow tests to develop a basic understanding of in-plane vibration and fluid elastic instability behavior. Following the air flow tests, we anticipate that preparations will be made to conduct two-phase freon tests. This work is planned to begin in 2015 and is scheduled to take approximately three years to complete. The test results are expected to provide a better understanding of the critical parameters that play a role in in-plane fluid-elastic instability.

EPRI is also developing a new state-of-the-art steam generator thermal hydraulic code, *Triton*, which is expected to be an additional assessment tool for considering potential changes in the thermal hydraulic conditions of operating steam generators as a result of steam generator tube plugging, changes to reactor T_{hot} or T_{ave} , power uprates, and buildup of deposits on the secondary side of the steam generator. Work has also been initiated on a flow induced vibration analysis package which is expected to help estimate wear and fatigue usage rates for steam generator tubing. Knowledge gained from the tests at CNL is expected to be incorporated into the flow induced vibration analysis package.

I further understand that EPRI, vendors, and certain utilities plan to participate in the new American Society of Mechanical Engineers (ASME), Boiler and Pressure Vessel Code, Section III, Appendix N Task Group on flow induced vibration.

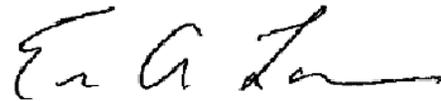
Mr. John Lubinski, Director

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We will continue to update the NRC staff on progress and any resulting actions through biannual meetings of the EPRI Steam Generator Task Force with the NRC. The next scheduled meeting is August 2015.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric Larson". The signature is fluid and cursive, with a long horizontal stroke at the end.

Eric Larson, Executive Chairman
Steam Generator Management Program