From: Sreenivas, V
To: Loomis, Thomas R:(GenCo-Nuc) (thomas.loomis@exeloncorp.com); Helker, David P:(Exelon Nuclear)
Cc: Greives, Jonathan; Patel, Jigar; Krepel, Scott; Danna, James; Suber, Gregory; Lehman, Bryce
Subject: RE: Limerick Generating Station, Unit 1 (LGS): Suppression Pool Relief Request Verbal Authorization related to COVID-19 issues
Date: Tuesday, March 31, 2020 2:08:00 PM

Effective today, March 31, 2020, and as discussed in today's 12:00 pm call, the NRC staff communicated its verbal authorization to Exelon Generation (the licensee) for the following Relief Request:

> By letter dated March 28, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20088B022), Exelon Generation Company, LLC. (the licensee), proposed an alternative to the requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, Table IWE-2500-1, Item Number E4.11, and subparagraph IWE-2420(b), for Limerick Generating Station, Unit 1 (LGS).

Please see below the transcript of the NRC staff's verbal authorization. These are added to ADAMS as a publicly available official agency record, documenting the staff's aforementioned approval. The NRC staff's formal safety evaluation will be transmitted via separate correspondence. Please contact me if you have any questions regarding this licensing action.

The following link may not be available during a declaration waiting period. The transcript is also copied below for a quick reference.
View ADAMS Properties ML20089A007
Open ADAMS Document (Limerick Generating Station, Unit 1 - Verbal Authorization by the Office of Nuclear Reactor Regulation for Relief Request I4R-23 (EPID L-2020-LLR-0044))

If you have any questions, please contact me at (301) 415-2597 or V.Sreenivas@nrc.gov

Docket Nos. 50-352

V. Sreenivas, Ph.D., CPM.,
Licensing Project Manager
Limerick and Ginna Nuclear Plants
Plant Licensing Branch I
Division of Operating Reactor Licensing

Office of Nuclear Reactor Regulation

VERBAL AUTHORIZATION BY THE OFFICE NUCLEAR REGULATION
10 CFR 50.55a REQUEST TO POSTPONE AUGMENTED EXAMINATION OF
CONTAINMENT SURFACES DUE TO PANDEMIC-RELATED HARDSHIP
LIMERICK GENERATING STATION, UNIT 1
EXELON GENERATION COMPANY, LLC
DOCKET NO. 50-352
March 31, 2020

Technical Evaluation read by Scott Krepel, Acting Chief of the Piping and Head Penetrations Branch, Division of New and Renewed Licenses, Office of Nuclear Reactor Regulation

By letter dated March 28, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20088B022), Exelon Generation Company, LLC. (the licensee), proposed an alternative to the requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, Table IWE-2500-1, Item Number E4.11, and subparagraph IWE-2420(b), for Limerick Generating Station, Unit 1 (LGS).

Pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(z)(2), the licensee submitted Alternative Request, I4R-23, requesting NRC approval of a proposed alternative to postpone required ASME Code, Section XI inspections of submerged areas of the suppression pool liner and suppression pool vent system. The licensee has concluded that complying with the specified ASME Code requirement to conduct successive inspections would result in hardship without a compensating increase in the level of quality or safety, noting that it would not be possible to conduct the inspections while implementing the recommendation for social distancing due to the COVID-19 outbreak. The licensee requested approval of the proposed alternative for the first period of the third containment inservice inspection (ISI) interval and noted that the inspections will be completed no later than the next refueling outage (Li1R19 - Spring 2022).

On March 13, 2020, the United States government declared a national emergency associated with the COVID-19 outbreak. In response to the outbreak, the Centers for Disease Control (CDC) is recommending social distancing, which is defined as remaining out of congregate settings, avoiding mass gatherings, and maintaining distance (approximately 6 feet or 2 meters) from others when possible. The licensee noted that the inspections of containment surfaces require work in close spaces and cannot be completed while implementing the recommendation for social distancing. Due to the COVID-19 pandemic, and to comply with CDC guidance, the licensee requested relief associated with performing successive and augmented inspections of the suppression pool liner and downcomers during the Spring 2020 refueling outage, which are required by ASME Section XI IWE-2420(b) and Examination Category E-C, Item Number E4.11. These inspections are required for locations that did not meet acceptance criteria during the previous inspection (Spring 2016, LiR16) and were accepted for continued service by engineering evaluation. The licensee proposed to perform the required inspections during the next refueling outage in Spring 2022 (Li1R19).

During the Spring 2016 refueling outage, an underwater inspection of 100 percent of the accessible areas of the suppression pool liner and downcomers was performed. The results of that inspection were as follows:

- all areas of localized corrosion greater than 45 mils were recoated;
- the maximum depth of localized corrosion on the liner that was not recoated was 44.7 mils;
- the maximum depth of general area corrosion on the liner was 44 mils for the liner; and
- the maximum depth of localized corrosion identified on any downcomer was 35 mils.

In addition to the results from 2016, results from inspections during outages in 1996, 2004, 2012, and 2016 have been used to develop a general corrosion rate. This data has shown a corrosion rate of approximately 1 to 2 mils per year with a maximum rate between of 3.6 mils per year between 2012 and 2016.

The licensee also developed site-specific acceptance criteria for the suppression pool and downcomers which ensure the structural integrity of the components is maintained. Based on the analysis, the maximum allowable metal loss was determined to be 125 mils for general area of the liner plate, 187.5 mils for localized areas, and 62.5 mils for the downcomers. Using the most recent data from the 2016 inspection, and the corrosion rate of 3.6 mils, the licensee estimated the most restrictive location would be the downcomers, and the metal loss at the beginning of the 2022 refueling outage on the downcomers would be 56.6 mils. This value is below the associated acceptance criteria of 62.5 mils.

Based on the information provided above, the NRC staff finds that the licensee has adequately projected the metal loss in the suppression pool liner and downcomers, and the remaining metal thickness at the 2022 refueling outage is adequate to ensure the structural integrity and leaktightness of the suppression pool and to ensure the downcomers can perform their intended function. Therefore, it is acceptable for the licensee to defer the required ASME Section XI, IWE-2420(b) inspections of the submerged portions of the suppression pool and dowcomers until no later than the Spring 2022 refueling outage.

The NRC staff finds that the proposed alternative will provide reasonable assurance that the structural integrity of the suppression pool liner and downcomers will be maintained until the next scheduled refueling outage in Spring 2022, when the required ASME Code inspections will be performed.

Authorization read by James Danna, Chief of the Plant Licensing Branch I, Office of Nuclear Reactor Regulation

As Chief of the Plant Licensing Branch I, Office of Nuclear Reactor Regulation, I agree with the conclusions of the Piping and Head Penetration Branch.

The NRC staff concludes that the proposed alternative will provide reasonable assurance that the structural integrity and leaktightness will be maintained until the next scheduled refueling outage in Spring 2022, when the required ASME Code inspections will be performed. The NRC staff finds that complying with the requirements of the ASME Code,

Section XI, would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. Accordingly, the NRC staff concludes that the licensee has adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(z)(2).

Therefore, effective March 31st, 2020, the NRC authorizes to defer the required ASME Section XI, IWE-2420(b) inspections of the submerged portions of the suppression pool and dowcomers until no later than the Spring 2022 refueling outage.

All other requirements in ASME Code, Section XI for which relief was not specifically requested and approved in this relief request remain applicable, including third-party review by the Authorized Nuclear Inservice Inspector.

This verbal authorization does not preclude the NRC staff from asking additional clarification questions regarding the proposed alternative while subsequently preparing the written safety evaluation.
