UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

September 07, 2016

MEMORANDUM TO: Michael F. Weber
Director of Nuclear Regulatory Research

FROM: Marissa G. Bailey, Chair ***/RA/***
Generic Issue Review Panel

SUBJECT: SCREENING RESULTS FOR PRE-GI-017, PROPOSED GENERIC ISSUE ON THE POTENTIAL LOSS OF ULTIMATE HEAT SINK FROM STORM-WAVE INTERACTIONS OR SEICHE COMBINED WITH LOW GREAT LAKES WATER LEVELS

This memorandum documents the completion of the Generic Issue Review Panel (GIRP) screening of the proposed generic issue (GI) relating to the possible loss of access to the ultimate heat sink (UHS) from severe storm-wave interactions or seiche, combined with low Great Lakes water levels. The GIRP concluded that the proposed GI does not meet the seven screening criteria required by the Generic Issues Program. Therefore, in accordance with Management Directive (MD) 6.4, "Generic Issues Program," the GIRP recommends that the proposed GI should not proceed forward to the assessment stage and should exit the GI process.

During December 2012 and January 2013, when the water level for Lake Michigan and Lake Huron were at their lowest levels since systematic recording began in 1860, the U.S. Nuclear Regulatory Commission regional staff identified a potential vulnerability for several operating nuclear plants situated on the Great Lakes, especially D.C. Cook, Palisades, and Point Beach, which are all located on Lake Michigan. If severe storm-wave or seiche conditions occurred under certain meteorological and hydrological conditions, while the Great Lakes were at this unusually low level, the result could be an increased water level followed by an excessively low water level (set-down). With the lake levels already at a historic low, the additional significant set-down could challenge normal access to the UHS for the service water system pumps. Previous evaluations of storm surges and seiche were only directed toward high water levels, not low water levels.

Based on a combined effort by the GIRP and the Japan Lessons-Learned Division (JLD) within the Office of Nuclear Reactor Regulation, the staff performed a detailed evaluation of each of

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the potentially affected plants. The JLD staff documented the results of its evaluation in a report to the Commissioners as part of SECY-16-0074[1]. Enclosure 1[2] to SECY-16-0074 summarizes the results of JLD's detailed individual plant evaluations. The JLD staff concluded that the sites have access to sufficient on-site stored water capacity and alternative delivery systems capable of maintaining decay heat removal until off-site resources became available or the UHS level has returned to an accessible level.

As described in MD 6.4, only those issues that meet all seven screening criteria continue on to the assessment stage of the GI Program. The GIRP performed a detailed evaluation to determine whether the GI met each screening criterion. Enclosure 1 to this memorandum describes the seven screening criteria and summarizes the GIRP's findings for each one. The GIRP concluded that the proposed GI did not meet screening criterion 1, "The issue affects public health and safety, the common defense and security, or the environment," and criterion 3, "The issue is not being addressed using other regulatory programs and processes, existing regulations, policies, or guidance." Enclosure 2 to this memorandum provides the GIRP's detailed evaluation of the proposed GI and the potential impacts to the affected nuclear power plants. Based on the results of the detailed evaluation, the GIRP found sufficient evidence to conclude that in the event a low water level condition should occur, the nuclear power plants on the Great Lakes would not be affected to the point of impacting the safety of the plant.

Since the proposed GI concerning the loss of access to the UHS from storm-wave interactions or seiche does not meet all of the screening criteria, the GIRP concluded that the proposed issue does not warrant further regulatory action. Therefore, the GIRP recommends that the proposed GI should not continue on to the assessment stage and should exit the GI Program.

Enclosures:
As stated

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1 SECY-16-0074, "Assessment of Fukushima Tier 2 Recommendation Related to Evaluation of Natural Hazards Other Than Seismic and Flooding," dated June 2, 2016 (ADAMS) Accession No. ML16102A301).

2 SECY-16-0074, Enclosure 1, "Evaluation of Natural Hazards Other than Seismic and Flooding," June 2, 2016 (ADAMS Accession No. ML16102A303).

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ADAMS Accession No.: ML16168A319 PKG

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Concurrence Generic Issue Program

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[1] SECY-16-0074, "Assessment of Fukushima Tier 2 Recommendation Related to Evaluation of Natural Hazards Other Than Seismic and Flooding," dated June 2, 2016 (ADAMS) Accession No. ML16102A301).

[2] SECY-16-0074, Enclosure 1, "Evaluation of Natural Hazards Other than Seismic and Flooding," June 2, 2016 (ADAMS Accession No. ML16102A303).