



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RESPONSE TO NRC GENERIC LETTER 88-01

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY, ET AL.

PERRY NUCLEAR POWER PLANT, UNIT 1

DOCKET NO. 50-440

1.0 INTRODUCTION

The Cleveland Electric Illuminating Company (the licensee), submitted its response to NRC Generic Letter (GL) 88-01, "NRC Position on IGSCC in BWR Austenitic Stainless Steel Piping," for the Perry Nuclear Power Plant, Unit 1, by letters dated July 29, 1988, and June 15 and July 31, 1989. The generic letter requested licensees and construction permit holders to describe their plans and programs to resolve the issue of intergranular stress corrosion cracking (IGSCC) in BWR piping. The GL applies specifically to BWR piping made of austenitic stainless steel that is 4 inches or larger in nominal diameter and contains reactor coolant at a temperature above 200 degrees Fahrenheit during power operation, regardless of the Code classification of the piping. Licensees were requested to address the following items:

1. The current plans regarding pipe replacement and/or other measures taken to mitigate IGSCC and to provide continued assurance of long-term piping integrity and reliability.
2. The Inservice Inspection (ISI) Program for austenitic stainless steel piping covered under the scope of GL 88-01, to be implemented at the next refueling outage, that conforms to the staff positions on inspection schedules, methods and personnel, and sample expansion, as described in the generic letter.
3. A proposed Technical Specification (TS) change to include a statement, in the section on ISI, that the ISI program for piping covered by the scope of this letter will be in accordance with the staff positions on inspection schedules, methods and personnel, and sample expansion, as described in GL 88-01 (see model TS enclosed with the generic letter). The staff recognizes that the Inservice Inspection and Testing sections may ultimately be removed from the TSs, consistent with the NRC's Technical Specification Improvement Program. In that case, this requirement shall remain with the ISI section when it is transferred to an alternative document.

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4. The confirmation of plans to ensure that the TSs related to leakage detection will be in conformance with the applicable staff positions in GL 88-01.
5. The plans to notify the NRC in accordance with 10 CFR 50.55a(g) of any flaws identified that do not meet the IWB-3500 criteria of Section XI of the ASME Boiler and Pressure Vessel Code for continued operation without evaluation, or of a change found in the condition of any welds previously known to be cracked. Along with such notification, an evaluation of the identified flaws to support continued operation and/or plans for repair should be provided.

2.0 DISCUSSION

The licensee's response to NRC GL 88-01 has been reviewed by the staff with the assistance of its contractor, Viking Systems International (VSI). The attached Technical Evaluation Report (TER) documents VSI's evaluation of the licensee's response to the generic letter. The staff has reviewed the TER and concurs with the evaluations, conclusions and recommendations contained therein, with some exceptions. Based upon its review, the staff has found the following positions to be unacceptable:

- The licensee's position not to amend the TSs to include a statement on ISI as described in GL 88-01, and
- The licensee's position not to accept the recommended requirements on the operability of leakage monitoring instruments as described in GL 88-01.
- The licensee's position not to amend the TSs to include an additional restriction to limit the increase in RCS leakage to 2 gpm over a 24-hour period, as described in GL 88-01.

These items are addressed in Section 3.0 of the attached TER.

Subsequent to the issuance of the TER, the staff has revised some of its positions as originally stated in GL 88-01. With respect to the frequency of monitoring leakage, based on discussions with several licensees, the staff has concluded that monitoring leakage every 4 hours creates an unnecessary administrative hardship for plant operators. As a result, the staff has concluded that reactor coolant system (RCS) leakage measurements may be taken every 8 hours; therefore, the licensee's original proposal is acceptable.

With respect to the staff's position on the operability of leakage monitoring instrumentation as specified in GL 88-01, the staff has determined that a 30-day limiting condition for operation (LCO) for inoperable instrumentation is acceptable, provided that an alternative means to monitor leakage has been demonstrated and is available. However, it is the staff's conclusion that the existing alternative, the upper drywell cooler condensate flow rate monitoring system, does not provide sufficient accuracy in quantifying leakage.

Therefore, the licensee should establish (and demonstrate) the capability to more accurately measure leakage, such as by manually pumping the sump or measuring differences in sump level, in order for a 30-day LCO for inoperable primary leakage measurement instruments to be acceptable.

The staff also concludes that the proposed IGSCC inspection and mitigation program will provide reasonable assurance that the long-term structural integrity of austenitic stainless steel piping at the Perry Nuclear Power Plant will be maintained. This program will be subject to future inspection by the staff.

Attachment:
Technical Evaluation Report
Viking Systems International,
August 1989

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Date: February 10, 1992

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