

February 3, 2011

MEMORANDUM TO: Harold K. Chernoff, Chief
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

FROM: Peter Bamford, Project Manager */ra/*
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

SUBJECT: THREE MILE ISLAND, UNIT NO. 1 - ELECTRONIC TRANSMISSION,
DRAFT REQUEST FOR ADDITIONAL INFORMATION REGARDING
RELIEF REQUEST RR-10-02, WELD OVERLAY OF THE
PRESSURIZER SPRAY NOZZLE TO SAFE-END AND SAFE-END TO
ELBOW DISSIMILAR METAL WELDS (TAC NO. ME4795)

The attached draft request for additional information (RAI) was transmitted by electronic transmission on February 3, 2011, to Mr. Thomas Loomis, at Exelon Generation Company, LLC (Exelon, the licensee). This draft RAI was transmitted to facilitate the technical review being conducted by the Nuclear Regulatory Commission (NRC) staff and to support a conference call (if needed) with Exelon in order to clarify the licensee's relief request regarding the weld overlay of the pressurizer spray nozzle to safe-end and safe-end to elbow dissimilar metal welds. The draft RAI is related to the licensee's submittal dated September 30, 2010. The draft questions were sent to ensure that they were understandable, the regulatory basis was clear, and to determine if the information was previously docketed. Additionally, review of the draft RAI would allow Exelon to evaluate and agree upon a schedule to respond to the RAI. This memorandum and the attachment do not represent an NRC staff position.

Docket No. 50-289

Enclosure: As stated

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LPL1-2 R/F

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* via email

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DATE	02/03/2011	02/03/2011

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DRAFT

REQUEST FOR ADDITIONAL INFORMATION

THREE MILE ISLAND NUCLEAR STATION, UNIT 1

RELIEF REQUEST CONCERNING THE WELD OVERLAY OF THE PRESSURIZER

SPRAY NOZZLE TO SAFE-END AND SAFE-END TO ELBOW DISSIMILAR METAL WELDS

RELIEF REQUEST RR-10-02

DOCKET NO. 50-289

By letter dated September 30, 2010 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML102740532), Exelon Generation Company, LLC submitted a relief request for Three Mile Island Nuclear Station, Unit 1 (TMI-1). TMI-1 is requesting relief to perform a weld overlay of the pressurizer spray nozzle to safe-end and safe-end to elbow dissimilar metal welds. The U.S. Nuclear Regulatory Commission (NRC) staff has been reviewing the submittal and has determined that additional information is needed to complete its review.

1. Section 5 of relief request (RR)-10-02 (page 4, third paragraph) states that the overlay design is currently in development. Please submit the weld overlay design information, including analyses, to demonstrate that the weld overlay design will mitigate the potential for primary water stress corrosion cracking in the Alloy 82/182 dissimilar metal welds.
2. In section 5 of relief request RR-10-02 (page 4, fourth paragraph) the licensee states that weld preheat and heat input are monitored through the use of calibrated contact pyrometers or thermocouples. Please clarify exactly which instrument, contact pyrometer or thermocouples, will be used. If thermocouples will be used, please identify what steps will be taken to ensure that the temperature reading will be accurate and discuss whether the use of the thermocouples will satisfy subarticles IWA-4610(a) and IWA-4624.1(d) of the ASME Code, Section XI, 2004 edition.
3. On page 5 of the relief request, the licensee stated that it intends to install one or more weld barrier layer(s) to prevent hot cracking in stainless steel materials similar to that installed during the 2007 weld overlays. The staff notes that some licensees have reported cracking in the weld overlay during and after the installation on Alloy 82/182 welds and stainless steel pipes. Please discuss any measures that will be taken to minimize potential cracking in addition to the barrier layer(s).
4. Section 6 of RR RR-10-02 states that the duration of the proposed alternative associated with the weld overlay is the remaining service life of the components, including future plant life extension. It does not identify any difference in the duration of the proposed alternative between the design of the overlay, and the aspects of the request that relate to subsequent inservice examinations. Examination techniques may be improved in the future beyond what is specified in the relief request. Also, emergent issues could impact what future examination requirements may be appropriate. Therefore, the staff requests that the application be changed or clarified such that the examination aspects of the

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proposed alternative apply only to the fourth 10-year inservice inspection interval. Alternatively, please justify why the proposed duration for future inservice examinations is acceptable.