Exelon Generation
4300 Winfield Road
Warrenville, IL 60555

www.exeloncorp.com

Exelon Nuclear

RS-11-064

10 CFR 50.55a

April 10, 2011

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Byron Station Unit 1
Facility Operating License No. NPF-37
NRC Docket No. STN 50-454

Subject: Revised Response to a Request for Additional Information Related to Byron Station Unit 1, Inservice Inspection Relief Request I3R-19: Alternative Requirements for the Repair of Reactor Vessel Head Penetrations

References:

(1) Letter RS-11-045, from J. Hansen (Exelon) to U. S. NRC, "Byron Station Unit 1 Inservice Inspection Relief Request I3R-19: Alternative Requirements for the Repair of Reactor Vessel Head Penetrations," dated March 24, 2011

(2) Letter RS-11-062, from J. Hansen (Exelon) to U. S. NRC, "Supplement to Byron Station Unit 1, Inservice Inspection Relief Request I3R-19: Alternative Requirements for the Repair of Reactor Vessel Head Penetrations," dated April 8, 2011

(3) Letter RS-11-063, from D. M. Benyak (Exelon) to U. S. NRC, "Supplement to Byron Station Unit 1, Inservice Inspection Relief Request I3R-19: Alternative Requirements for the Repair of Reactor Vessel Head Penetrations," dated April 10, 2011

In Reference 1, in accordance with 10 CFR 50.55a, "Codes and standards," paragraph (a)(3)(i), Exelon Generating Company, LLC (EGC), submitted the Relief Request I3R-19 from the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," on the basis that the proposed alternatives would provide an acceptable level of quality and safety. Specifically, Reference 1 proposed to perform an alternative repair technique using an imbedding seal weld methodology on the reactor Vessel Head Penetration (VHP) housings and J-groove welds of Byron Station, Unit 1. The original request has since been supplemented by EGC letters that are further described in References 2 and 3. For EGC to achieve As Low As Reasonably Achievable dose and produce a technically acceptable repair of nozzles 31 and 64, Reference 2 added a provision for approval under 10 CFR 50.55a(a)(3)(ii), to use additional alternative requirements in eliminating mechanical discontinuities detected in the seal welds during performance of the repairs. The EGC April 10, 2011, response in Reference 3 to an NRC Request for Additional Information (RAI) was submitted to discuss the additional requirements in connection with relief from NB-4450 on penetrations 31 and 64.

A teleconference between EGC and the NRC on April 10, 2011, discussed the response and EGC agreed to revise its response to the NRC Question 1, provided by Reference 3, to include requirements in I3R-19 for a second follow-up surface examination in an additional refueling outage in connection with the alternate repair rules to NB-4450 on penetrations 31 and 64.

EGC requests an expedited verbal approval by 4PM CST, on April 10, 2011, to use the Relief Request I3R-19 as amended, with the additional information that is provided in Attachment 1.

There are no new regulatory commitments in this submittal.

If you have any questions about this letter, please contact Mr. Richard W. McIntosh at (630) 657-2816.

Respectfully,

Darin M. Benyak
Director, Licensing and Regulatory Affairs

Attachment: 1. Revised Response to a Request for Additional Information Related to Alternative Requirements for the Repair of Reactor Vessel Head Penetrations, I3R-19

ATTACHMENT 1
REVISED RESPONSE TO A REQUEST FOR ADDITIONAL INFORMATION RELATED TO ALTERNATIVE REQUIREMENTS FOR THE REPAIR OF REACTOR VESSEL HEAD PENETRATIONS, I3R-19

NRC QUESTION RAI-1:

By letter dated March 25, 2011, the licensee noted for penetration nozzle number 64 the following;

> ***For the ISI NDE of the repair for Penetrations 64 and 76 starting with refueling outage B1R18, Note 3 does not apply since the repair location is in the "VHP Nozzle OD below J-groove weld." Therefore, ISI NDE of the repair for Penetrations 64 and 76 will be performed in accordance with Code Case N-729-1, as amended by 10 CFR 50.55a(g)(6)(ii)(D).***

By letter dated April 8, 2011, the licensee requests relief from NB-4450 for the repair of six rejectable liquid dye penetration surface indications in the seal weld of head penetration nozzle number 64.

The Table of Item 3 of Section 5.0, "Conditions and Limitations" of Reference 2 of the March 24, 2011 submittal requires only a volumetric or surface examination for the ISI inspection of a penetration with a flaw in the nozzle below the J-groove weld.

In addition to the volumetric examination of the nozzle, will a surface examination be performed on wetted surface of the entire seal weld for penetration number 64 at the same frequency requirement of the volumetric examination of penetration number 64 in accordance with 10 CFR 50.55a(g)(6)(ii)(D)?

RESPONSE TO RAI-1: (Supersedes a previous response to RAI-1 in the reference below.)

In addition to the volumetric examination required of the penetration number 64 in accordance with 10 CFR 50.55a(g)(6)(ii)(D), EGC will perform a surface examination on the wetted surface of the seal weld repair areas that are subject to the alternate repair rules to NB-4450 during B1R18 and B1R19. The acceptance standards for this surface examination will be in accordance with 10 CFR 50.55a(g)(6)(ii)(D).

Reference: Letter RS-11-063, from D. M. Benyak (Exelon) to U. S. NRC, "Supplement to Byron Station Unit 1, Inservice Inspection Relief Request I3R-19: Alternative Requirements for the Repair of Reactor Vessel Head Penetrations," dated April 10, 2011