



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

April 13, 2011

**MEMORANDUM TO:** Robert C. Carlson, Chief  
Plant Licensing Branch III-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

**FROM:** Nicholas J. DiFrancesco, Project Manager /RA/  
Plant Licensing Branch III-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

**SUBJECT:** BYRON STATION, UNIT NO. 1 – VERBAL AUTHORIZATION OF  
RELIEF REQUEST I3R-19 – ALTERNATIVE REQUIREMENTS FOR  
REPAIR OF REACTOR VESSEL HEAD PENETRATIONS NOS. 31  
AND 43 (TAC NO. ME5948)

By letter dated March 24, 2011, Exelon Generation Company, LLC (EGC, the licensee), requested relief from the American Society of Mechanical Engineers 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. On March 29, 2011, additional flaw indications were found on the Outside Diameter of Control Rod Drive Mechanism Vessel Head Penetrations (VHP) Nos. 31 and 43 within the J-groove attachment weld on the underside of the reactor vessel head. The authorization allows EGC to utilize an alternative repair technique to repair the flaws in VHP Nos. 31 and 43.

The Nuclear Regulatory Commission (NRC) staff reviewed the licensee's submittal and determined that the proposed alternative will provide an acceptable level of quality and safety. During a conference call with the licensee at 12:00 EST on April 10, 2011, the NRC staff granted a verbal authorization on the use of Relief Request I3R-19 in accordance with Title 10 of the *Code of Federal Regulations*, Section 50.55a(a)(3)(i). The script for the verbal authorization is enclosed.

R. Carlson

- 2 -

NRC Participants:

R. D. Carlson  
T. R. Lupold  
J. Collins  
N. J. DiFrancesco  
D. Hills  
A. Shaikh  
B. Bartlett

Licensee Participants:

D. Benyak  
B. Jacobs  
G. S. Gerzen  
H. Q. Do  
R. McIntosh  
J. Langan  
D. Gudger  
J. Hansen  
W. Bamford (Westinghouse Electric Company)  
G. Bundick (Westinghouse Electric Company)  
M. Mayfield  
B. Newton  
D. Anthony  
M. Bennett  
R. Gesior

Docket No. 50-454

Enclosure: Verbal Authorization Script

VERBAL AUTHORIZATION FOR  
RELIEF REQUEST I3R-19  
ALTERNATIVE REQUIREMENTS FOR  
REPAIR OF REACTOR VESSEL HEAD PENETRATIONS NOS. 31 AND 43  
BYRON STATION, UNIT NO. 1

By letter dated March 24, 2011, and supplemented by letter dated March 31, 2011, Exelon Generation Company, LLC (EGC, the licensee), is requesting relief from the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, "Rules for Inservice Inspection [ISI] of Nuclear Power Plant Components," on the basis that the proposed alternatives would provide an acceptable level of quality and safety. Primary water stress corrosion cracking flaws were found in vessel head penetration nozzle Nos. 31 and 43 and associated J-groove welds.

The licensee requested relief to perform an alternative repair technique using the embedding methodology of Westinghouse WCAP-15987-P, Revision 2-P-A, "Technical Basis for the Embedded Flaw Process for Repair of Reactor Vessel Head Penetrations," dated December 2003, on the reactor vessel head penetration (VHP) housings and J-groove welds of Byron Station Unit No. 1. The details of this request are contained in Byron Station Unit No. 1 Relief Request (RR) I3R-19.

The Nuclear Regulatory Commission (NRC) staff previously reviewed and verbally approved the licensee's March 24, 2011, version of RR I3R-19 for repair of penetration nozzles Nos. 64 and 76. This authorization is documented by letter dated March 29, 2011 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML110840512).

Based on the previous review of WCAP-15987-P, Revision 2, and approval for use as a topical report by the NRC, and the information provided by EGC for the repair of nozzles Nos. 31 and 43, the NRC staff finds that the repairs to nozzles Nos. 31 and 43 will provide an acceptable level of quality and safety.

Accordingly, the NRC staff concludes that EGC has adequately addressed all of the regulatory requirements set forth in Title 10 of the *Code of Federal Regulations*, Section 50.55a(a)(3)(i). Therefore, pursuant to that regulation, the NRC verbally authorizes the licensee's March 24, 2011, version of RR I3R-19, to repair VHP Nos. 31 and 43 for the remainder of the third 10-year ISI interval, which is scheduled to end on July 15, 2016.

Enclosure

R. Carlson

- 2 -

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NRR-106

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| NAME   | NDiFrancesco | SRohrer   | RCarlson  |
| DATE   | 4/13/11      | 4/12/11   | 4/13/11   |

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