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July 10, 2008
BW080069

CAL No. NRR-07-008

Mr. Eric Leeds, Director
Office of Nuclear Reactor Regulation
ATTN: Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Braidwood Station, Units 1 and 2
Facility Operating License Nos. NPF-72 and NPF-77
NRC Docket Nos. STN 50-456 and STN 50-457

Subject: Closeout of Confirmatory Action Letter Requirements – Braidwood Station Unit 2 (TAC NO. MD7295)

References:

(1) Letter from T. S. O'Neill (Exelon Generation Company, LLC) to U. S. Nuclear Regulatory Commission, "Supplemental Response Regarding Inspection and Mitigation of Alloy 600/82/182 Pressurizer Butt Welds," dated February 21, 2007

(2) Letter from J. E. Dyer (U. S. Nuclear Regulatory Commission) to C. M. Crane (Exelon Generation Company, LLC), "Confirmatory Action Letter – Braidwood Station, Units 1 and 2 (TAC NOS. MD4134 and MD41235)," dated March 22, 2007

(3) Letter from T. Coutu (Exelon Generation Company, LLC) to J. E. Dyer (U. S. Nuclear Regulatory Commission), "Closeout of Confirmatory Action Letter Requirements – Braidwood Station Unit 1 (TAC NO. MD4134)," dated November 14, 2007

Dear Mr. Leeds:

The purpose of this letter is to notify you that the actions and commitments identified in the Reference 1 submittal and confirmed in the Reference 2 Confirmatory Action Letter (CAL No. NRR-07-008) have been completed for Braidwood Station Unit 2. The commitments involved: schedule for mitigation actions, enhanced Reactor Coolant System leakage monitoring, and inspection reporting requirements. All commitments were related to Braidwood Station Unit 2 Alloy 82/182 pressurizer connection activities.

The details of the commitments and a summation of the closeout activities are provided in the attachment to this letter.

Reference 3 provided the CAL No. NRR-07-008 completion activities for Braidwood Station Unit 1. Therefore, although this submittal documents completion of CAL No. NRR-07-008 and Technical Assignment Control (TAC) number MD7295 actions for Braidwood Station Unit 2, it is being docketed for Braidwood Unit 1 and Unit 2 since the completion of Braidwood Unit 2 activities now completes all CAL No. NRR-07-008 actions for Braidwood Station.

This submittal does not contain any additional Regulatory Commitments.

Should you have any questions concerning this letter, please contact David Gullott at (815) 417-2800.

Respectfully,

Byran Hanson
Site Vice President
Braidwood Station

Attachment: Braidwood Station Unit 2 Confirmatory Action Letter Closeout - CAL No. NRR 07-008

Attachment

Braidwood Station Unit 2
Confirmatory Action Letter Closeout
CAL No. NRR 07-008

COMMITMENT (References 1 and 2)	COMPLETION DETAILS
Braidwood Station Unit 2 will develop contingency plans to shutdown in 2007 and perform mitigation. If the NRC agrees that the Materials Reliability Project sponsored refined crack growth project results provide reasonable assurance that there is sufficient time between leak and break, then EGC will complete inspection or mitigation activities on the pressurizer surge, spray, safety, and relief nozzle butt welds and safe end butt welds containing Alloy 82/182 material prior to the completion of Braidwood Station Unit 2 cycle 13 refueling outage.	Braidwood Station developed plans and schedules for the shutdown and mitigation of the Unit 2 Alloy 82/182 pressurizer connections in 2007. With NRC approval of the Materials Reliability Project refined crack growth rate project and its applicability to Braidwood Station Unit 2 (Reference 3), the contingency plans were put on hold. As stated above, Reference 3 provided initial NRC approval for mitigation in Spring 2008 for Braidwood Unit 2 Alloy 82/182 pressurizer connections. This position was reaffirmed after NRC evaluation of additional information (Reference 4). Full structural weld overlays, with primary water stress corrosion cracking resistant material, were installed on Braidwood Station Unit 2 pressurizer surge, spray, safety, and relief nozzle butt welds and safe end butt welds containing Alloy 82/182 material. The overlays were completed in the Spring 2008 refueling outage (A2R13) in accordance with the requirements of the Reference 5 relief request, the Reference 6 NRC Safety Evaluation Report and the supplemental information provided in Reference 7.
The pressurizer surge, spray, safety, and relief nozzle butt welds and safe end butt welds containing Alloy 82/182 material will be inspected within every 4 years, until mitigated.	Mitigation activities were completed for Braidwood Station Unit 2 during the A2R13 refueling outage. Future examinations will be performed in accordance with the requirements of Relief Request I2R-48 (Reference 6).

Attachment

Braidwood Station Unit 2
Confirmatory Action Letter Closeout
CAL No. NRR 07-008

COMMITMENT (References 1 and 2)	COMPLETION DETAILS
Braidwood Station Unit 2 will adopt enhanced unidentified leakage monitoring requirements. These unidentified reactor coolant system (RCS) leakage monitoring enhancements include: Daily measurement of unidentified RCS leakage Incorporation of two new action levels for the following unidentified RCS leakage scenarios: • a ≥0.10 gpm change from one day to the next, sustained for 72 hours with at least 0.10 gpm not confirmed from sources other than pressurizer nozzle welds. ▪ a ≥0.25 gpm above a baseline sustained for 72 hours with at least 0.25 gpm not confirmed from sources other than the pressurizer nozzle welds. ▪ Once the 72 hour evaluation period, i.e. the 72 hour period of sustained increased leakage, is complete, and the leakrate is still elevated, Braidwood Station Unit 2 will be placed in MODE 3 within 6 hours and in MODE 5 within 36 additional hours and a bare metal visual inspection of unmitigated Alloy 82/182 pressurizer nozzles will be performed.	Braidwood Station Unit 2 adopted the enhanced unidentified leakage monitoring requirements starting on February 28, 2007. From that time until Unit 2 shutdown for the A2R13 refueling outage on April 21, 2008, there were no instances of sustained elevated leakage that required a Unit 2 shutdown. After restart from refueling outage A2R13 on May 17, 2008, and the mitigation, as described above, completed, RCS leakage monitoring is performed in accordance with the standard Technical Specification requirements.

Attachment

Braidwood Station Unit 2
Confirmatory Action Letter Closeout
CAL No. NRR 07-008

COMMITMENT (References 1 and 2)	COMPLETION DETAILS
Reports of any Alloy 82/182 pressurizer nozzle connections inspection results for Braidwood Station Unit 2 will be submitted to the NRC within 60 days of the completion date of the inspection. This includes reports of any bare metal visual inspections as a result of increased RCS leak rate, and reports of any corrective or mitigative actions taken on the pressurizer surge, spray, safety, or relief nozzle butt welds and safe end butt welds containing Alloy 82/182 material.	Since the initiation of this commitment on February 28, 2007 until the shutdown of Braidwood station Unit 2 on April 21, 2008, there were no bare metal visual examinations performed as a result of RCS leakage. In accordance with the requirements of Bulletin 2004-01, "Inspection of Alloy 82/182/600 Materials Used in the Fabrication of Pressurizer Penetrations and Steam Space Piping Connections at Pressurized-Water Reactors," Braidwood Station Unit 2 performed bare metal visual examinations of the pressurizer steam space connections. There were no indications of pressurizer pressure boundary leakage at any of the connections (Reference 9). In addition, as part of the installation of full structural overlays on the pressurizer connections during the Spring 2008 refueling outage at Braidwood Station Unit 2, dye penetrant examinations of all Alloy 82/182 pressurizer connections were performed. There were no indications associated with primary water stress corrosion cracking (PWSCC). Finally, all six Braidwood Station Unit 2 pressurizer connections weld overlays were volumetrically examined in accordance with the requirements of the Reference 6 Relief Request. The results of these examinations were provided to the NRC in the Reference 8 submittal.

Attachment

Braidwood Station Unit 2
Confirmatory Action Letter Closeout
CAL No. NRR 07-008

References:

(1) Letter from T. S. O'Neill (Exelon Generation Company, LLC) to U. S. NRC, "Supplemental Response Regarding Inspection and Mitigation of Alloy 600/82/182 Pressurizer Butt Welds," dated February 21, 2007

(2) Letter from J. E. Dyer (U. S. NRC) to C. M. Crane (Exelon Generation Company, LLC), "Confirmatory Action Letter – Braidwood Station, Units 1 and 2 (TAC Nos. MD4134 and MD4135)," dated March 22, 2007

(3) Letter from C. Haney (U. S. Nuclear Regulatory Commission) to C. M. Crane (Exelon Generation Company, LLC), "Braidwood Station, Unit 2 – Evaluation of Finite Element Analysis in Support of Alloy 82/182 Pressurizer Butt Weld Inspections in 2008 as Provided by Confirmatory Action Letter NRR-07-008 (TAC No. MD4135)," dated September 7, 2007

(4) Letter from C. Haney (U. S. Nuclear Regulatory Commission) to C. G. Pardee (Exelon Generation Company, LLC), "Braidwood Station, Unit 2 – Evaluation of New Information Related to Alloy 82/182 Pressurizer Butt Weld Inspections Re: Confirmatory Action Letter NRR-07-008 (TAC No. MD7295)," dated March 14, 2008

(5) Letter from T. Coutu (Exelon Generation Company, LLC) to (U. S. Nuclear Regulatory Commission), "Second 10-Year Inservice Inspection Interval, Relief Request I2R-48, Structural Weld Overlays on Pressurizer Spray, Relief, Safety and Surge Nozzle Safe-ends and Associated Alternative Repair Techniques," dated February 23, 2007

(6) Letter from R. Gibbs (U. S. Nuclear Regulatory Commission) to C. M. Crane (Exelon Generation Company, LLC), "Braidwood Station, Units 1 and 2 Evaluation of Inservice Inspection Program Relief Request I2R-48 Pertaining to Structural Weld Overlays on Pressurizer Spray, Relief, Safety, and Surge Nozzle Safe Ends (TAC Nos. MD4590 and MD4591)," dated September 17, 2007

(7) Letter from P. R. Simpson (Exelon Generation Company, LLC) to U. S. Nuclear Regulatory Commission, "Additional Information Regarding Braidwood Station Relief Request I2R-48," dated April 1, 2008

(8) Letter from B. Hanson (Exelon Generation Company, LLC) to U. S. Nuclear Regulatory Commission, "Pressurizer Weld Overlay Examination Results Related to Braidwood Station Relief Request I2R-48," dated May 19, 2008

(9) Letter from B. Hanson (Exelon Generation Company, LLC) to U. S. Nuclear Regulatory Commission, "Braidwood Station Unit 2 60-Day Response to NRC Bulletin 2004-01, 'Inspection of Alloy 82/182/600 Materials Used in the Fabrication of Pressurizer Penetrations and Steam Space Connection at Pressurized-Water Reactors,'" dated June 25, 2008