

June 22, 2016

MEMORANDUM TO: Gary M. Holahan, Backfit Appeal Panel Chairman  
Office of the Executive Director for Operations

K. Steven West, Deputy Director  
Office of Nuclear Security and Incident Response

Thomas G. Scarbrough, Senior Mechanical Engineer  
Office of New Reactors

Michael A. Spencer, Senior Attorney  
Office of the General Counsel

FROM: Victor M. McCree */RA/*  
Executive Director for Operations

SUBJECT: CHARTER FOR BACKFIT APPEAL REVIEW PANEL ASSOCIATED  
WITH BYRON AND BRAIDWOOD COMPLIANCE WITH 10 CFR  
50.34(b), GDC 15, GDC 21, GDC 29, AND THE LICENSING BASIS

In accordance with Management Directive (MD) 8.4, "Management of Facility-specific Backfitting and Information Collection," I am appointing you as members of a Backfit Appeal Review Panel (Panel) to review the appeal by Exelon Generation Company, LLC (Exelon or the licensee) of the U.S. Nuclear Regulatory Commission (NRC) staff's determination that a backfit is necessary at Braidwood Station, Units 1 and 2 (Braidwood) and Byron Station, Units 1 and 2 (Byron), as well as the staff's application of the compliance backfit exception provided in Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.109.

In an October 9, 2015, letter, the NRC issued the results of a staff review of licensing basis documents for Braidwood and Byron (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14225A871). The staff determined that Braidwood and Byron were not in compliance with 10 CFR Appendix A, General Design Criteria (GDCs) 15, 21, and 29; 10 CFR 50.34(b); and the plant-specific design bases. Specifically, Braidwood and Byron were determined not to comply with provisions for ensuring that Condition II events (analyses of inadvertent operation of the emergency core cooling system, malfunction of the chemical and volume control system, and inadvertent opening of a pressurizer safety or relief valve) do not progress into more serious Condition III events following water relief through certain valves. The staff acknowledged that the staff position differed from a previous staff position documented in a 2001 power uprate safety evaluation. However, the staff determined

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that the backfitting was justified under the compliance exception in 10 CFR 50.109(a)(4)(i). The licensee was directed to take action to resolve the non-compliance.

On December 8, 2015, the licensee appealed the staff's decision stating its disagreement with the NRC's conclusion that the compliance exception to the backfit rule applies in this case, and that the NRC has twice approved the underlying analysis (ADAMS Accession No. ML15342A112). The referenced approvals were an August 26, 2004, license amendment associated with pressurizer safety valve setpoints (ADAMS Accession No. ML042250531) and a May 4, 2001, license amendment associated with a stretch power uprate (ADAMS Accession No. ML033040016). In a letter dated May 3, 2016, the NRC responded to the licensee's appeal and reaffirmed its decision that the backfit per the compliance exception provisions of 10 CFR 50.109(a)(4)(i) issued to the licensee is appropriate (ADAMS Accession No. ML16095A204).

On June 2, 2016, the licensee again appealed the staff's decision (ADAMS Accession No. ML16154A254).

The Panel should review the June 2, 2016, appeal and supporting information (including the documents referenced above) and provide a response to the following:

1. Were the approvals based on a mistake? If so, what was the mistake and what are the implications for Braidwood and Byron?
2. What is the known and established standard for water qualification of pressurizer safety valves?
3. What is the known and established standard for progression of postulated events between categories of severity? Include a discussion of Regulatory Issue Summary 2005-29, "Anticipated Transients that Could Develop into More Serious Events," dated December 14, 2005, and the draft Revision 1 that was issued for public comment in 2015.
4. Does the current licensing basis for Braidwood and Byron comply with the applicable regulations? Is it adequate to provide protection to public health and safety?
5. Given that Exelon suggests that the NRC pursue a cost-justified substantial safety enhancement backfit, what is the contribution to overall plant risk of the current configuration at Braidwood and Byron?

In conducting its review, the Panel may seek staff support. The Panel's report should provide a recommendation of whether a backfit is necessary at Braidwood and Byron, as well as whether the requirements of the compliance backfit exception of 10 CFR 50.109(a)(4)(i) have been met for this issue. The Panel should complete its review and provide recommendations and written responses to the questions by August 29, 2016.

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**ADAMS Accession Number: ML16173A311**

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