



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
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KING OF PRUSSIA, PA 19406-2713**

April 16, 2020

EA-19-122

Mr. Bryan C. Hanson
Senior Vice President, Exelon Generation Company, LLC
President and Chief Nuclear Officer, Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

**SUBJECT: RESPONSE TO CONTESTED NOTICE OF VIOLATION DOCUMENTED IN
U.S. NUCLEAR REGULATORY COMMISSION R. E. GINNA INSPECTION
REPORT 05000244/2019010**

Dear Mr. Hanson:

In your letters dated October 16, 2019, (Agencywide Documents Access and Management System (ADAMS)¹ Accession No. ML19291A173) and November 27, 2019, (ML19337A431), you contested a Green Notice of Violation (NOV) 05000244/2019010-02 that was documented in the R.E. Ginna Nuclear Power Plant (Ginna) NRC Inspection Report 05000244/2019010 dated September 18, 2019 (ML19261A083). The NOV was cited against Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Appendix B, Criterion III, "Design Control," and involved a failure to design or ensure that in the event of a design-basis earthquake, the safety-related Emergency Diesel Generator (EDG) Motor Control Centers (MCCs) H and J would not be lost due to a low impedance electrical circuit fault in the non-safety-related vault sump pump motors. The NRC acknowledged receipt of your letters in our letters to you dated November 14, 2019, (ML19322A009) and December 19, 2019, (ML19353B357) in which we stated our intent to perform a review and provide a letter documenting our decision relative to the contested NOV.

As a consequence of our review, the NRC is withdrawing the NOV and will modify our records accordingly. The basis for our decision to withdraw the NOV is described below and results from a thorough review of the Ginna licensing basis documentation and deliberation within the NRC.

The Ginna licensing basis relative to this issue involves Atomic Industrial Forum (AIF), General Design Criteria (GDC) 2, AIF-GDC 2,² which, in part, requires those systems and components of

¹ Designation refers to an Agency-wide Documents Access and Management System (ADAMS) accession number. Documents referenced in this letter are publicly-available using the accession number in ADAMS at <https://adams.nrc.gov/wba/> For problems with the ADAMS Public Document Room (PDR), contact staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov.

² The AEC published a proposed Appendix A, "General Design Criteria for Nuclear Power Plant Construction Permits" to 10 CFR Part 50 on July 11, 1967 (32 Fed. Reg. 10213). The proposed rule explained "Every applicant for a construction permit is required by the provisions of [section] 50.34 to include the principal design criteria for the proposed facility in the application." For Ginna licensing, consideration of the draft GDC occurred after the construction permit was issued during the phase where the AEC's review was focused on the issuance of an operating license. The Ginna plant design incorporated the version of the criteria proposed by the Atomic Industrial Forum (AIF) as they are described in the Ginna Updated Final Safety Analyses Report. This makes this aspect (i.e., how the design of Ginna reflects the draft GDC) unique to Ginna.

reactor facilities that are essential to the prevention or the mitigation of the consequences of nuclear accidents to be designed, fabricated, and erected to performance standards that enable such systems and components to withstand, without undue risk to the health and safety of the public, the forces that might reasonably be imposed by the occurrence of an extraordinary natural phenomenon such as an earthquake. The Ginna Updated Final Safety Analysis Report (UFSAR), Section 8.1.4, states that AIF-GDC 2 applies to the design of the emergency diesel generators and that, "Such protection provides a high degree of confidence in the operability of such components in the event their use is required."

The Ginna design relative to IEEE Std 308-1971, "IEEE Standard Criteria for Class 1E Electric Systems for Nuclear Power Generating Stations," is discussed in the Ginna UFSAR and was discussed in the application for a full-term operating license.³ The application made conclusions regarding the sufficiency of physical separation, electrical isolation, and redundancy to preclude common mode failures in Class 1E electrical systems during postulated natural events and accidents. Our subsequent Safety Evaluation Report accompanying the issuance of your full-power license referenced your application and the construction of the Ginna Plant in conformity with your application, as a basis for our issuance of the Ginna operating license.⁴ Therefore, the EDGs are to be suitably protected against the effects of severe external environmental phenomena, such as a design-basis earthquake, to ensure a high degree of confidence in their operability.

Our review of the records⁵ revealed that prior to Ginna receiving its provisional operating license, AEC inspections identified that the EDG vaults were not provided with drains or sumps and were vulnerable to flooding from postulated pipe leaks. As a result, the applicant made modifications to add EDG vault sumps and associated pumps and motors. These actions were subsequently acknowledged in an AEC inspection report to address the flooding concern. From a review of the record associated with the full-term operating license for Ginna, this aspect of the Ginna licensing basis has not changed. Our review supports the determination made at the time of licensing that the degree of electrical isolation provided in the MCC H and J design is sufficient to meet the "high confidence" standard for the EDGs described in Ginna's current licensing basis. In addition to the documents already referenced, we considered in our review retrieved documentation dating from the time of initial licensing regarding NRC technical staff questions and responses related to electrical system seismic design and an as-built electrical drawing of the H and J MCCs. Considering this information, we concluded that the NRC found the degree of electrical isolation for this particular application to be consistent with the licensing basis at the time Ginna received a full-power license.

The violation was associated with whether the supply breakers to MCC H and J are sufficiently coordinated to prevent a loss of power to EDG fuel transfer pumps in the wake of a seismic event in accordance with AIF-GDC 2. This aspect of the Ginna licensing basis has remained unchanged since the issuance of a full-term operating license. Because, as stated above, at the

³ See R.E. Ginna, Unit 1 - Technical Supplement Accompanying Application for a Full-Term Operating License, August 1972 (ML18186A129), Pages III-104 through III-107

⁴ See NUREG-0944 (ML17255A483), Section 22, Conclusions

⁵ See R.E. Ginna - Drawing, "Elec.-480V Motor Control Center #1H, #1J, & #1K" (ML18143B176); R.E. Ginna - Special Quality Control Inspection Report 244/69-1, On 04/21/1969, Inspections of Four Safety-Oriented Reactor Systems, Three Mechanical and One Electrical (ML18143A065); R.E. Ginna, Unit 1 - 07/08/1969 Memo re: Inspection Report 05000244/1969009 (ML18142B666); R.E. Ginna - Questions Relating to Instrumentation and Emergency Power. Requests Additional Information in Area of Testing (ML18143A262); R.E. Ginna Unit 1, Amendment No. 2 to Technical Supplement Accompanying Application to Increase Power (ML18143A104) (question 6 Response).

B. Hanson

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time of licensing the staff found that the degree of electrical isolation provided in the MCC H and J design met applicable requirements and this specific plant configuration has remained unchanged from the time of licensing to the time of the violation, we are withdrawing the NOV.

Finally, with respect to the associated green finding, it is our understanding that Exelon staff at Ginna modified the EDG vault sump pump motor supports to address this issue.

This letter will be made available for public inspection and copying at <http://www.nrc.gov/readingrm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Should you have any questions concerning this letter, please contact me at (610) 337-5128.

Sincerely,

X /RA/

Signed by: Jimi T. Yerokun

Jimi T. Yerokun, Director
Division of Reactor Safety

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DATED APRIL 16, 2020

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