



Order No. EA-12-049

RS-16-084

May 25, 2016

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

R. E. Ginna Nuclear Power Plant  
Renewed Facility Operating License No. DPR-18  
NRC Docket No. 50-244

**Subject:** Mitigating Strategies Assessment (MSA) Report for the New Seismic Hazard Information - NEI 12-06, Appendix H, Revision 2, H.4.2 Path 2: GMRS < SSE with High Frequency Exceedances

**References:**

1. NEI 12-06, Revision 2, Diverse and Flexible Coping Strategies (FLEX) Implementation Guide, December 2015 (ML16005A625)
2. JLD-ISG-2012-01, Revision 1, Compliance with Order EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events, January 22, 2016 (ML15357A163)
3. Constellation Energy Nuclear Group, LLC Letter to USNRC, Seismic Hazard and Screening Report (Central and Eastern United States (CEUS) Sites), Response to NRC Request for Information Pursuant to 10 CFR 50.54(f) Regarding Recommendation 2.1 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident, dated March 31, 2014 (ML14099A196)
4. NRC Letter, Screening and Prioritization Results Regarding Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Seismic Hazard Re-evaluations for Recommendation 2.1 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident, dated May 9, 2014 (ML14111A147)
5. NRC Letter, R. E. Ginna Nuclear Power Plant - Staff Assessment of Information Provided Pursuant to Title 10 of the Code of Federal Regulations Part 50, Section 50.54(f), Seismic Hazard Reevaluations for Recommendation 2.1 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident, dated June 11, 2015 (ML15153A026)
6. NRC Letter, Final Determination of Licensee Seismic Probabilistic Risk Assessments Under the Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendation 2.1 "Seismic" of the Near Term Task Force Review of Insights from the Fukushima Dai-ichi Accident, dated October 27, 2015 (ML15194A015)

7. Exelon Generation Company, LLC Letter to USNRC, RE Ginna Nuclear Power Plant High Frequency Supplement to Seismic Hazard Screening Report, Response to NRC Request for Information Pursuant to 10 CFR 50.54(f) Regarding Recommendation 2.1 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident, dated December 4, 2015 (ML15338A003)
8. NRC Letter, Staff Review of High Frequency Confirmation Associated with Reevaluated Seismic Hazard in Response to March 12, 2012 50.54(f) Request for Information, dated February 18, 2016 (ML15364A544)
9. NEI Letter, Request for NRC Endorsement of High Frequency Program: Application Guidance for Functional Confirmation and Fragility Evaluation (EPRI 3002004396), dated July 30, 2015 (ML15223A100/ML15223A102)
10. NRC Letter to NEI, Endorsement of Electric Power Research Institute Final Draft Report 3002004396, "High Frequency Program: Application Guidance for Functional Confirmation and Fragility", dated September 17, 2015 (ML15218A569)

The purpose of this letter is to provide the results of the assessment for R. E. Ginna Nuclear Power Plant (GNPP) to determine if the FLEX strategies developed, implemented and maintained in accordance with NRC Order EA-12-049 can be implemented considering the impacts of the reevaluated seismic hazard. The assessment was performed in accordance with the guidance provided in Appendix H of NEI 12-06 Revision 2 (Reference 1) which was endorsed by the NRC (Reference 2).

The Mitigating Strategies Seismic Hazard Information (MSSHI) is the licensee's reevaluated seismic hazard information at the GNPP site, developed using Probabilistic Seismic Hazard Analysis (PSHA). The MSSHI includes a performance-based Ground Motion Response Spectrum (GMRS), Uniform Hazard Response Spectra (UHRS) at various annual probabilities of exceedance, and a family of seismic hazard curves at various frequencies and fractiles developed at the GNPP site control point elevation. Exelon Generation Company, LLC (EGC), previously Constellation Energy Nuclear Group, LLC (Exelon, the licensee), submitted the reevaluated seismic hazard information including the UHRS, GMRS and the hazard curves to the NRC in Reference 3, which included a commitment to perform a High Frequency (HF) Confirmation evaluation. Subsequently, the NRC's Screening and Prioritization letter (Reference 4) confirmed the required scope for GNPP to perform a High Frequency (HF) Confirmation evaluation. In Reference 5, the NRC staff concluded that the GMRS that was submitted in Reference 3 adequately characterizes the reevaluated seismic hazard for the GNPP site, and is suitable for use with all Near-Term Task Force (NTTF) Recommendation 2.1 seismic evaluations. Further, the NRC final determination letter (Reference 6) re-confirmed that only an HF Confirmation evaluation is required for GNPP.

EGC submitted a response for the NTTF Recommendation 2.1 seismic HF evaluation (Reference 7) in accordance with the screening allowance of EPRI 3002004396, Section 3.1.2 for limited HF exceedance (Reference 9, endorsed by NRC in Reference 10). The NRC subsequently accepted the closure of GNPP HF Confirmation per Reference 8 and confirmed that no further NTTF Recommendation 2.1 seismic response or regulatory actions are required.

Consistent with Section H.4.2 of Reference 1, the GNPP site GMRS is bounded by the Safe Shutdown Earthquake (SSE) spectrum at frequencies between 1 and 10 Hz. In the frequency

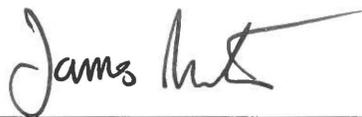
range above 10 Hz, the GMRS exceeds the SSE spectrum. References 7 and 8 provide the HF Confirmation assessment that was performed for GNPP and the NRC concurrence, respectively. For the GNPP site, the GMRS to SSE exceedance at frequencies greater than 10 Hz qualifies as a minimal high frequency exceedance as defined in Section 3.1.2 of EPRI 3002004396 (Reference 9), as endorsed by the NRC (Reference 10), and is considered inconsequential based on the requirements contained in Section H.4.2 of Reference 1. Therefore, the FLEX strategies for GNPP can be implemented as designed and no further seismic evaluations or mitigating strategies assessments are necessary.

This letter contains no new regulatory commitments and no revision to existing regulatory commitments.

If you have any questions regarding this submittal, please contact David P. Helker at (610) 765-5525.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 25<sup>th</sup> day of May 2016.

Respectfully submitted,



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Director - Licensing & Regulatory Affairs  
Exelon Generation Company, LLC

cc: NRC Regional Administrator - Region I  
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