

From: [Haskell, Russell](#)
To: [Simpson, Lisa A.:\(Exelon Nuclear\)](#)
Subject: RE: (FINAL) Request for Information (RAI) re: Dresden, Units 1, 2, 3, and ISFSI Request for Exemptions from Portions of 10 CFR 50.47 and 10 CFR 50 Appendix E (EPID L-2021-LLE-0019)
Date: Tuesday, August 10, 2021 3:18:58 PM
Attachments: [image001.png](#)

Lisa,

By letter dated March 17, 2021 (Agencywide Documents Access and Management System [ADAMS] Accession Number ML21076A518), Exelon Generation Company, LLC (Exelon, the licensee) requested exemptions from specific emergency planning and preparedness requirements in 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," for the Dresden Nuclear Power Station, Units 1, 2, 3, and Independent Spent Fuel Storage Installation (Dresden). More specifically, Exelon requested exemptions from certain planning standards in Section 50.47(b) of Title 10 of the *Code of Federal Regulations* (10 CFR) regarding onsite and offsite radiological emergency preparedness plans for nuclear power reactors; from certain requirements in 10 CFR 50.47(c)(2) for establishment of plume exposure pathway and ingestion pathway emergency planning zones for nuclear power reactors; and from certain requirements in 10 CFR Part 50, Appendix E, Section IV, "Content of Emergency Plans." The requested exemptions would allow Dresden to reduce Emergency Plan requirements and subsequently revise the Dresden Emergency Plan consistent with the permanently defueled condition of the reactors.

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing your submittal and has identified areas where additional information is needed to complete the review. On August 3, 2021, the NRC staff provided Exelon with a DRAFT version of the RAI for an assessment to determine if any additional clarifications were necessary. On August 10, 2021, the NRC staff discussed the DRAFT RAI with the Exelon staff for the purpose of clarification. During the teleconference members of Exelon indicated an understanding of the staff's request. As such, since there are no additional clarifications to be resolved regarding this RAI, the RAI (see below) will be designated as "final." The NRC is requesting that Exelon provide its response to this RAI by ***September 24, 2021***.

If you have any questions/comments regarding this request please contact me.

Thank you.

Russell S. Haskell II

United States Nuclear Regulatory Commission (NRC)

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Dresden Nuclear Power Station, Units 2 and 3

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REQUEST FOR ADDITIONAL INFORMATION

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RELATED TO REQUEST FOR EXEMPTIONS FROM

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PORTIONS OF 10 CFR 50.47 AND 10 CFR PART 50, APPENDIX E

EXELON GENERATION COMPANY, LLC

DRESDEN NUCLEAR POWER STATION UNITS 1, 2, 3, AND

INDEPENDENT SPENT FUEL STORAGE INSTALLATION

DOCKET NOS. 50-010, 50-237, 50-249, AND 72-037

RAI-1

Regulation

10 CFR 50.155, "Mitigation of beyond-design-basis events," indicates that licensees shall develop, implement, and maintain extensive damage mitigation guidelines. Specifically, 10 CFR 50.155(b)(2) states that licenses will maintain:

Strategies and guidelines to maintain or restore core cooling, containment, and spent fuel pool [SFP] cooling capabilities under the circumstances associated with loss of large areas of the plant impacted by the event, due to explosions or fire, to include strategies and guidelines in the following areas:

- (i) Firefighting;
- (ii) Operations to mitigate fuel damage; and
- (iii) Actions to minimize radiological release.

10 CFR 50.155(iv) states in part that [licensees] need not meet the requirements of this section once all irradiated fuel has been permanently removed from the spent fuel pool(s)." Section 2.3.1, "SFP [Spent Fuel Pool] Make Capability," of the Nuclear Energy Institute(NEI) guidance document NEI 06-12, "B.5.b Phase 2 & 3 Submittal Guideline," (ADAMS Accession No. ML070090060), states, in part:

Objective: Establish a flexible means of SFP makeup of at least 500 gpm [gallons per minute] using a portable, power independent pumping capability.

Performance Attributes Item 11: The system should be capable of being deployed within 2 hours from the time plant personnel diagnose that external SFP makeup is required.

Issue

Item #1 in Table 1, "EXEMPTIONS REQUESTED FROM 10 CFR 50.47(b) AND (c)(2)" to the March 17, 2021 application states, in part:

The on-shift staff has the capability (i.e., training and qualifications) and capacity (i.e., available personnel) to execute the required actions to mitigate a loss of SFP level and can complete those actions in a timely manner. In accordance with 10

CFR 50.155, Dresden will maintain strategies to provide makeup to the SFPs until such a time that it is determined that the site can support the ability to sustain the SFPs indefinitely without [extensive damage mitigation guidelines] EDMG equipment. Time validation was completed for EDMG strategies demonstrating ability for the station personnel to cope with various losses. Dresden EDMG Validation Plan with integrated review, dated November 9, 2017, demonstrated that a team of three operators is capable of aligning makeup from the ultimate heat sink and aligning hoses to makeup to the SFPs in 6.5 hours. Two operators should complete the task in 8.5 hours. Additional methods to makeup to the SFPs are bounded by this time. Direction and selection of these tasks will be accomplished by the Certified Fuel Handler and Non-Certified Operator.

Training of the on-shift staff will be maintained, and they will implement such strategies and plans to mitigate the consequences of an event involving a catastrophic loss-of-water inventory concurrently from an SFP.

The capability of being deployed within 2 hours from the time plant personnel diagnose that external SFP makeup is required and has served as the basis for recent NRC approvals for exemptions to EP requirements for decommissioning nuclear power reactor facilities.

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Requests

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RAI-1a) Please provide additional details regarding the mitigation strategies, to include the identification of the trained on-shift personnel designated for carrying out the necessary tasks and the timeframe for implementation of these mitigation strategies per NEI 06-12.

RAI-1b) Please describe the actions Dresden could take to mitigate the consequences of an event involving a catastrophic loss of water inventory concurrently from both Unit 2 and 3 SFPs. Include in the description:

- On-site portable equipment available to fill or spray both of the SFPs;
- Availability of on shift personnel who would perform these mitigation strategies;
- How the equipment would be deployed during this type of event, and
- Approximate times it would take to deliver, setup and start delivering makeup/spray to both of the SFPs using portable equipment.

RAI-1c) If using a series-style of deployment of makeup/spray to the SFPs what would be the impacts of changing radiation levels at the SFP due to a delay in deployment on entry to the areas and how would those impacts be managed?

