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**To:** [Mascitelli, Francis J:\(Exelon Nuclear\)](#)  
**Cc:** [Holden, Leslie E.:\(Exelon Nuclear\)](#); [Brady, Robert R:\(Exelon Nuclear\)](#)  
**Subject:** Request for Additional Information Related to TMI-1 License Amendment Request to Delete Permanently Defueled Technical Specification 3/4.1.4 (L-2019-LLA-0250)  
**Date:** Wednesday, June 10, 2020 1:58:00 PM  
**Attachments:** [L-2019-LLA-0250 Final RAI.pdf](#)

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Frank,

By letter dated November 11, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19316C659), Exelon Generating Company, LLC (Exelon) submitted a license amendment request (LAR) to revise the Permanently Defueled Technical Specifications (PDTS), for Three Mile Island Nuclear Station, Unit 1 (TMI-1). The LAR is specifically seeking approval to delete PDTS 3/4.1.4, "Handling of Irradiated Fuel with Fuel Handling Building Crane." In reviewing the submitted information, the U.S. Nuclear Regulatory Commission (NRC) staff has determined that additional information is necessary to complete its review.

On June 2, 2020, the NRC staff sent Exelon the DRAFT RAIs to ensure that the questions are understandable, the regulatory basis is clear, there is no proprietary information contained in the RAI, and to determine if the information was previously docketed. On June 3, 2020, the NRC and Exelon held a clarifying call. During the call, Exelon requested a response date of 30 days from the date of this email. The NRC staff informed Exelon that this timeframe is acceptable. The attached is the final version of the RAIs. These RAIs will be put in ADAMS as a publicly available document.

*Justin C. Poole*  
*Project Manager*  
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REQUEST FOR ADDITIONAL INFORMATION REGARDING  
DELETION OF PERMANENTLY DEFUELED TECHNICAL SPECIFICATION 3/4.1.4  
EXELON GENERATING COMPANY, LLC  
THREE MILE ISLAND NUCLEAR STATION, UNIT 1  
DOCKET NO. 50-289

By application dated November 11, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19316C659), Exelon Generating Company, LLC (Exelon) submitted a license amendment request (LAR) to revise the Permanently Defueled Technical Specifications (PDTS), Appendix A of Renewed Facility License No. DPR-50 for Three Mile Island Nuclear Station, Unit 1 (TMI-1). The LAR is specifically seeking approval to delete PDTS 3/4.1.4, "Handling of Irradiated Fuel with Fuel Handling Building Crane."

The LAR states the following:

To support decommissioning activities and transfer of spent fuel to the TMI-1 Independent Spent Fuel Storage Installation (ISFSI), the manner in which fuel storage casks are handled inside the Fuel Handling Building (FHB) is being modified with a replacement FHB crane. The original FHB crane, which is non-single-failure-proof, will be replaced with a single-failureproof FHB crane that will be designed, fabricated, and tested per the guidelines of NUREG-0554, "Single-Failure-Proof Cranes for Nuclear Power Plants" and will satisfy NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants: Resolution of Generic Technical Activity A-36" (Reference 3), which combine to satisfy the Heavy Loads Control Program at TMI-1....

This LAR is specifically seeking approval to delete PDTS 3/4.1.4 once the replacement FHB crane is made operable. The FHB crane modification activity is being evaluated under the 10 CFR 50.59 process (Reference 1)....

The replacement FHB crane is designed with an upgraded main hoist capacity rated for 125 tons to handle the dry cask storage system. The installed location of the replacement FHB crane is not changed....

The manner of compliance with NUREG-0612 Section 5.1.2 "Spent Fuel Pool Area-PWR" is changed to an approved approach considering installation and operation of a NUREG-0554 compliant single-failure-proof crane. Full compliance with NUREG-0612 is maintained through the Exelon Heavy Loads Control Program....

Upgrading the FHB load handling system to a NUREG-0554 compliant single-failure-proof crane and operating the FHB crane in accordance with the Exelon Control of Heavy Loads Program improves the load handling system reliability to an acceptably low probability of a fuel cask drop such that the Fuel Cask Drop Accident will no longer be credible. As such, the existing PDTS 3/4.1.4 Specifications will no longer be required....

NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants: Resolution of Generic Technical Activity A-36" provides guidance for upgrading handling system reliability and states that new cranes meet the guidelines of NUREG-0554 "Single-Failure-Proof Cranes for Nuclear Power Plants" to be qualified as single-failure-proof cranes.

The TMI-1 replacement FHB crane design, fabrication, and testing is compliant with guidelines of NUREG-0554, which is an acceptable approach for single-failure-proof cranes in accordance with NUREG-0612....

The manner of compliance with NUREG-0612 Section 5.1.2 "Spent Fuel Pool Area-PWR" is changed to an approved approach considering installation and operation of a NUREG-0554 compliant single-failure-proof crane. The implementation and use of a single-failure-proof crane in the SFP area negates the need for the additional controls provided in Section 5.1.2 to compensate for use of a non-certified single-failure-proof crane. Although updating the method of compliance with Section 5.1.2 of NUREG-0612, full compliance with NUREG-0612 is maintained through the Exelon Heavy Loads Program.

#### Issue

The LAR credits the heavy loads program plus the existence of a single-failure-proof crane to justify meeting Section 5.1.2 of NUREG-0612. The NRC issued NUREG-0612 as an approved means for licensees to assure safe handling of heavy loads and prevent offsite doses that could exceed 10 CFR Part 100 limits if a drop occurs. The LAR includes the following statement about the heavy loads program changes:

Upgrading the FHB load handling system to a NUREG-0554 compliant single-failure-proof crane and having incorporated the additional defense-in-depth guidance for special lifting devices, lifting devices, and interfacing lift points into the Exelon Control of Heavy Loads Program satisfies NUREG-0612. The FHB crane upgrade will improve the load handling system reliability such that there is an acceptably low probability of occurrence of an uncontrolled lowering, or fuel cask drop so as to effectively preclude consideration of a fuel cask drop accident as a credible event.

The above statements do not contain sufficient clarity with respect to treatment of the special lifting devices, lifting devices (slings), and interfacing lift points.

#### RAI-1

Provide specific reference for compliance of special lifting devices, lifting devices (slings), and interfacing lift points with the guidance in Section 5.1.6 of NUREG-0612 or Section 5.1.2 (1) of NUREG-0612, which references Section 5.1.6. The information provided would become part of the basis for accepting the deletion of the TS because a single failure proof handling system, which includes those below-the-hook elements, is necessary to classify a heavy load drop as non-credible.