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**To:** [Couture III, Philip \(pcoutur@entergy.com\)](#)  
**Cc:** [Danna, James](#)  
**Subject:** Indian Point Unit No. 3 - SUBSEQUENT REQUEST FOR ADDITIONAL INFORMATION: LAR to Revise Licensing Basis for New Auxiliary Lifting Device [EPID L-2020-LLA-0051]  
**Date:** Thursday, April 22, 2021 12:32:35 PM

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Mr. Couture,

On April 16, 2021, the U.S. Nuclear Regulatory Commission (NRC) staff sent Entergy Nuclear Operations, Inc. (Entergy, the licensee) the subject Request for Additional Information (RAI) in an e-mail and as DRAFT transmitted via the BOX – Enterprise File Synchronization and Sharing secure collaboration tool. The RAI pertains to the licensee's March 24, 2020, license amendment request (ADAMS Accession No. ML20084U773) for Indian Point Nuclear Generating Unit No. 3 (IP3). The proposed license amendment would incorporate, into the IP3 Licensing Basis, the installation and use of a new single failure proof auxiliary lifting device (i.e., the Holtec International HI-LIFT) to handle a dry cask storage transfer cask in the IP3 Fuel Storage Building. The change to the IP3 licensing would be documented in a revision to the IP3 Updated Final Safety Analysis Report.

On April 21, 2021, the NRC staff conducted a conference call with the licensee staff to clarify the request. Following the discussion, your staff indicated that Entergy will provide a response to this RAI within 30 days from the date of the call or by May 21, 2021.

The NRC staff has updated the RAI to provide a redacted and non-redacted version as it was determined to contain proprietary information pursuant to 10 CFR Section 2.390, "Public inspections, exemptions, requests for withholding." The proprietary version of the RAI is provided as an attachment to the e-mail communication with proprietary information identified by text within double brackets. The non-proprietary version of the RAI is shown below with redacted information identified by blank space within double brackets.

A publicly available version of this e-mail with the redacted RAI will be placed in the NRC's official recordkeeping system (ADAMS). Please contact me should you have any questions in regard to this request.



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REQUEST FOR ADDITIONAL INFORMATION  
BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
TO SUPPORT THE PLANT SYSTEMS REVIEW (SCPB) OF THE PROPOSED  
LICENSE AMENDMENT REQUEST TO REVISE THE LICENSING BASIS FOR  
INSTALLATION AND USE OF A NEW AUXILIARY LIFTING DEVICE  
INDIAN POINT NUCLEAR GENERATING STATION, UNIT NO. 3  
DOCKET NO. 50-286  
EPID L-2020-LLA-0051

Background

By application dated March 24, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20084U773), Entergy Nuclear Operations, Inc., (Entergy, the licensee) requested to revise the Indian Point Nuclear Generating Unit No. 3 (IP3) licensing basis for spent fuel cask handling. The licensee requested approval to incorporate into the IP3 licensing basis, the installation and use of a new single failure proof auxiliary lifting device (i.e., the Holtec International HI-LIFT) to handle a dry cask storage transfer cask (i.e., the HI-TRAC) in the IP3 Fuel Storage Building. The change to the IP3 licensing would be documented in a revision to the IP3 Updated Final Safety Analysis Report (UFSAR).

Section 1.3, "General Design Criteria," of the IP3 UFSAR states that the licensee conducted a study of the method of compliance with NRC regulations contained in 10 CFR Part 50, including the General Design Criteria (GDC) of Appendix A to 10 CFR Part 50, and that the results of the compliance study were updated to reflect changes made to the configuration since the study was completed. The study was conducted in accordance with the provisions of NRC Confirmatory Order of February 11, 1980 and were submitted to the NRC on August 11, 1980.

**RAI 8 (SCPB-Plant Systems): Defense-in-depth**

Regulatory Basis:

10 CFR Part 50, Appendix A, GDC 4, "Environmental and Dynamic Effects Design Bases," specifies appropriate protection for SSCs important to safety against dynamic effects, including the effects of missiles that may result from equipment failures.

Request

In Section 3.6.5 of the enclosure to the license amendment request dated March 24, 2020 (ADAMS Accession No. ML20084U773), Entergy provided the following non-proprietary information regarding response to an inoperable swing cylinder:

The hydraulic cylinders that operate the swing arms are mechanically load tested and procured with enhanced factors of safety to make a catastrophic mechanical failure non-credible. Seal leaks and counterbalance valve failures are possible, but they tend to be gradual failures. In this case (i.e., loss of hydraulic power), as well as swing cylinder control failure, hydraulic fluid can be manually bled from the cylinders, allowing gravitational force to pull the swing arms towards one end of travel. In the event the swing arms are at the apex position, rigging can be manually attached, and used to pull the swing arms sufficiently far for gravitational force to become effective. In either case, operators are able to throttle the fluid that is bled off from the cylinders to maintain a slow, controlled motion, such that the swing arms will be at the end of their travel. At that point, the load can then be lowered and placed in a safe condition.

In the section of the proprietary HI-LIFT Specification for IPEC Unit 3, HI-2188549, addressing [

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Consistent with regulatory guidance in NUREG-0554, heavy load handling systems should be designed to stop and hold the load following a loss of power and equipment failure. The NRC staff considers the described conditions to be credible combinations of events for the HI-LIFT design. In order to satisfy defense-in-depth principles related to maintaining handling system reliability commensurate with the frequency and consequences of challenges, additional information is necessary to understand the consequences of challenges that could cause or result from uneven operation of the hydraulic cylinders and the expected operator actions to compensate for those conditions.

- Establish the maximum acceptable threshold regarding uneven operation of the hydraulic cylinders, where the HI-LIFT structure, in its most limiting orientation(s), remains capable of supporting its full rated load and describe how this threshold was determined.
- Please describe if and how the crane's control system can detect, correct for, and/or alert operators in the case of uneven operation of the hydraulic cylinders, resulting from possible minor seal leakage affecting the cylinder or counterbalance valve (without compensation by the hydraulic power system) or, separately, a hydraulic control system failure. Describe any defense in depth measures that provide assurance that any uneven operation of the hydraulic cylinders resulting from the aforementioned mechanisms will not result in reaching the maximum acceptable threshold established in the previous bullet.

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