

From: Guzman, Richard
Sent: Friday, August 25, 2017 11:53 AM
To: Danna, James
Subject: Memo E-mail to File - Summary of July 26, 2017, Meeting with Entergy to Discuss Proposed LAR - Indian Point Unit No. 2 - Revised Spent Fuel Criticality Analysis

Jim,

For your information, shown below is a summary of the July 26, 2017, Category 1 public meeting with Entergy Nuclear Operations, Inc. regarding the planned license amendment submittal proposing a change to Unit 2 Spent Fuel Pool Criticality Safety Analysis. This e-mail will be added to ADAMS as an official agency record. Please contact me if you have any questions regarding this meeting.

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CATEGORY 1 PUBLIC MEETING  
INDIAN POINT NUCLEAR GENERATING UNIT NO. 2  
PRE-APPLICATION MEETING  
MEETING SUMMARY  
JULY 26, 2017

The U.S. Nuclear Regulatory Commission (NRC staff) and representatives of Entergy Nuclear Operations, Inc. (Entergy, the licensee) held a public meeting on July 26, 2017, to discuss the licensee's plan to submit an application for a license amendment proposing changes to the Indian Point Nuclear Generating Unit No. 2 (IP2) Spent Fuel Pool (SFP) Criticality Safety Analysis.

The licensee's meeting slides are available in Agencywide Documents Access and Management System at Accession No. ML17200C927. The licensee presented a summary of the following:

- The long term plan for SFP management at IP2 and IP3 and time frames associated with SFP management actions
- Overview of the new IP2 SFP Criticality Safety Analysis (CSA) using no absorber panels:
- Description of the IP2 SFP CSA Realistic Approach and Depletion Analysis
- Changes in Validation, Misload, Dimension Changes, Eccentricity and Interface Analysis

The licensee stated that it expects IP2 will have only one more refueling (spring 2018) and that implementation of the criticality analysis will be after the fresh fuel is in the core, and therefore,

flexibility is no longer a priority. The new approach is based on the methodology in the previously submitted (August 2013) NET 300067-01 report, which emphasized the realistic assessment of reactivity of the finite number of assemblies to be stored in the pool. The licensee noted several improvements have been made since the previous CSA submission to include: a depletion analysis with peaking factor and axial blanket credit; validation updates via control rods and temperature dependence, additional misload analysis assumptions, the inclusion of grid growth and creep biases, eccentric placement bias, and full pool interface calculations. The licensee stated that although there are improvements due to the realistic approach taken, much of the analysis was based on previously approved models and depletion analysis. The new spent fuel pool CSA uses data on the individual assembly depletion to support the realistic depletion analysis approach. The licensee stated that the new approach emphasizes actual depletion conditions instead of bounding assumptions that would penalize most assemblies for which the depletion conditions are known. Also, the proposed analysis is dependent on more full pool calculations since the realistic effect of the pool edge will be fully utilized. Additionally, there is no credit being taken for absorber panels or cell inserts, and while a realistic analysis is performed, the intent is to have a 1% margin in k-effective to the requirements of 10 CFR 50.68.

The staff commented that the proposed LAR will have certain aspects that are considered uniquely complex for review. Areas of the review that will be particularly challenging is the licensee's new approach for peaking factor credit, 2-node temperature determination, axial blanket burnup distributions that remove the need for uniform analyses, full pool analysis technique to cover interface uncertainties, grid plus creep biases, and multi-misload analysis.

The NRC staff informed the Entergy representatives that the following suggested areas are expected to be addressed in their proposed submittal:

- A detailed description and justification of the proposed depletion analysis and realistic approach;
- The updated spent fuel pool layout along with clear, consistent wording in the proposed technical specifications;
- The multi-load analysis will be a focus area in the staff's review; the licensee should look at past staff safety evaluations and precedent NRC staff approvals in this area;
- The technical justification and analysis supporting their new CSA should also be considered for consistency in the no significant hazards consideration analysis.

The licensee stated their planned LAR application is on track and projected for submission by December 2017.

No decisions were made regarding the acceptability of Entergy's proposed submittal.

There were no members of the public in attendance. To date, no public meeting feedback forms have been submitted through the NRC public meeting feedback system.

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LIST OF PARTICIPANTS  
JULY 26, 2017

PARTICIPANTS

Kent Wood  
Richard Guzman  
Amrit Patel  
Scott Krepel  
Giancarlo Delfini  
Matt Harris  
Charles Rombough  
Dale Lancaster  
Bob Walpole  
Doug Yocum\*  
Carlyn Greene\*

AFFILIATIONS

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