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10 CFR 50, Appendix H

United States Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2  
DOCKET NO. 50-261 / RENEWED LICENSE NO. DPR-23

**SUBJECT: Response to Request for Additional Information (RAI) Regarding Reactor Pressure Vessel (RPV) Surveillance Capsule Removal (RA-19-0145)**

**REFERENCES:**

1. Duke Energy Letter, *Revision to Reactor Vessel Surveillance Capsule Removal Schedule (RA-19-0145)*, dated May 02, 2019 (ADAMS Accession No. ML19122A012).
2. NRC Email from Natreon Jordan to Art Zaremba, *Draft Requests for Additional Information for H.B. Robinson LAR Regarding the Revision to the Reactor Pressure Vessel (RPV) Material Surveillance Program Withdrawal Schedule – RPV Surveillance Capsule Removal*, dated October 15, 2019 (ADAMS Accession No. ML19288A294).

Ladies and Gentlemen:

By letter dated May 02, 2019, Duke Energy Carolinas, LLC (Duke Energy) submitted a request for NRC approval of a proposed revision to the reactor pressure vessel (RPV) surveillance capsule removal schedule for the H.B. Robinson Steam Electric Plant, Unit 2 (Robinson) (Reference 1). By letter dated October 15, 2019 the NRC requested additional information to complete its review of the request (Reference 2). The Duke Energy response to the request for information is provided in Enclosure 1.

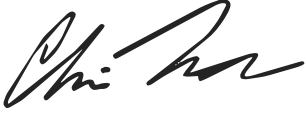
This document contains the following regulatory commitment in Enclosure 2:

Capsule U will be withdrawn at either 41.3 effective full-power years (EFPY) or during the scheduled refueling outage after the 80-year peak vessel fluence is reached.

The above commitment supersedes the regulatory commitment set forth in Reference 1.

Should you have any questions concerning this letter, or require additional information, please contact Art Zaremba, Manager – Nuclear Fleet Licensing, at 980-373-2062.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris Nolan", with a stylized flourish at the end.

M. Christopher Nolan  
Vice President Nuclear Regulatory Affairs, Policy & Emergency Preparedness

Enclosure:

1. Duke Energy Response to NRC Request for Additional Information for the RPV Surveillance Capsule Removal
2. Regulatory Commitment

cc: (w/ enclosures)

L. Dudes, NRC Regional Administrator, Region II  
M. Barillas, NRR Project Manager, RNP  
M. Fannon, NRC Sr. Resident Inspector, RNP

**Enclosure 1**

**Duke Energy Response to NRC Request for Additional Information for  
the RPV Surveillance Capsule Removal**

REQUEST FOR ADDITIONAL INFORMATION

BY THE OFFICE OF NUCLEAR REACTOR REGULATION

10 CFR PART 50, APPENDIX H WITHDRAWAL SCHEDULE CHANGE REQUEST

DUKE ENERGY COMPANY

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT 2

DOCKET NUMBER 50-261

EPID: L-2019-LLL-0021

By letter dated May 2, 2019 (Agencywide Document Access and Management System (ADAMS) Accession No. ML19122A012), Duke Energy Company (the licensee) submitted a reactor pressure vessel (RPV) material surveillance program withdrawal schedule change for the H. B Robinson Steam Electric Plant, Unit 2. The licensee submitted its request in accordance with the reporting requirements specified in the 10 CFR Part 50, Appendix H, "Reactor Vessel Material Surveillance Program Requirements" (Appendix H).

Specifically, the licensee proposes to amend the time for withdrawing RPV Capsule U from the reactor from 38 effective full power years (EFPY), when the capsule is projected to achieve an approximate neutron fluence exposure (at the time of removal) of  $7.84 \times 10^{19} \text{ n/cm}^2$  ( $E > 1.0 \text{ MeV}$ ), to 41.3 EFPY, when the capsule is projected to achieve an approximate neutron fluence exposure of  $8.09 \times 10^{19} \text{ n/cm}^2$  ( $E > 1.0 \text{ MeV}$ ). The licensee's submittal includes the following regulatory commitment (Commitment #1 in the submittal) in relation to the proposed capsule withdrawal schedule change:

"Capsule U will be withdrawn at 41.3 effective full-power years (EFPY) or during the scheduled outage after the 80-year peak vessel fluence is reached, but prior to 57.1 EFPY."

Based on its review of the incoming submittal and the stated commitment, it is not clear when Capsule U will be withdrawn in accordance with the proposed withdrawal schedule for the capsule. For example, according to Section 4.0 of the licensee's submittal, Capsule U will be withdrawn at either 41.3 EFPY (at a capsule fluence exposure of  $8.09 \times 10^{19} \text{ n/cm}^2$  ( $E > 1.0 \text{ MeV}$ )) or during the scheduled outage after the capsule has achieved a neutron fluence exposure equivalent to the peak neutron fluence projected in the RPV at 80 years of operation. However, per Note 1 on the proposed capsule withdrawal schedule and the commitment statement, the withdrawal of Capsule U could be deferred out to 57.1 EFPY. Given the uncertainty in the proposed withdrawal time for Capsule U, it is not evident how the proposed schedule meets the withdrawal schedule criteria of Appendix H.

RAI-1

Please provide clarification as to how the proposed withdrawal schedule for Capsule U meets the requirements of Appendix H or modify the proposal to provide clarity concerning the proposed schedule.

Duke Energy Response

Duke Energy has revised the regulatory commitment for the withdrawal schedule for Capsule U. The revised commitment shown in Enclosure 2 of this submittal clarifies that Capsule U will be withdrawn at 41.3 EFPY or during the scheduled refueling outage after the 80-year peak vessel fluence is reached.

## **Enclosure 2**

### **Regulatory Commitment**

Subject: **REVISION TO REACTOR VESSEL SURVEILLANCE CAPSULE  
REMOVAL SCHEDULE**

The action in this document committed to by H.B. Robinson Steam Electric Plant, Unit No. 2 (HBRSEP), is identified in the following table. Please direct any questions regarding this regulatory commitment to Art Zaremba, Manager – Nuclear Fleet Licensing.

Item	Commitment
1	Capsule U will be withdrawn at either 41.3 effective full-power years (EFPY) or during the scheduled refueling outage after the 80-year peak vessel fluence is reached.