NRR-PMDAPEm Resource

From: Galvin, Dennis
Sent: Tuesday, August 22, 2017 5:07 PM
To: Pilo, Tony
Subject: Robinson RAIs – Change Technical Specification Surveillance Requirement Frequencies to Support 24-Month Fuel Cycles (MF9544)
Attachments: Robinson LAR - 24-Month Fuel Cycle - Draft RAI Letter 1 2017-08-22 MF9544.pdf

Mr. Pilo,

By letter dated April 3, 2017, as supplemented by letters dated April 3, 2017 and May 2, 2017, (Agencywide Documents Access and Management System Accession Nos. ML17093A787, ML17093A796, and ML17122A223) Duke Energy Progress, LLC (the licensee) submitted a license amendment request (LAR) for H. B. Robinson Steam Electric Plant Unit No. 2. The proposed amendment would revise certain Technical Specifications (TS) Surveillance Requirements (SRs) and administrative controls program frequencies from 18 months to 24 months to support 24-month fuel cycle operations.

To complete its review, the NRC staff has prepared requests for additional information (RAIs). The LAR divided the proposed TS changes into the following two categories: (1) changes to surveillance frequencies other than channel calibrations, identified as “Non-Calibration Changes,” and (2) changes involving the channel calibration frequency identified as “Channel Calibration Changes.” These draft RAIs are regarding non-calibration changes. RAIs regarding channel calibration changes, if any, will be provided by separate correspondence. Please see the attached RAIs in DRAFT form.

Please submit your response to these RAIs within 30 days of this email. If you need a clarification call for the attached draft RAIs, or you need to change the RAI response due date, please contact me at (301) 415-6256.

Respectfully,

Dennis Galvin
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U.S Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Operating Reactor Licensing
Licensing Project Branch 2-2
301-415-6256

Docket Nos. 50-261

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REQUEST FOR ADDITIONAL INFORMATION

LICENSE AMENDMENT REQUEST REGARDING TECHNICAL SPECIFICATION

SURVEILLANCE REQUIREMENT FREQUENCIES

TO SUPPORT 24-MONTH FUEL CYCLES

DUKE ENERGY PROGRESS, LLC

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2

DOCKET NO. 50-261

CAC NOS. MF9544

General RAI – 1

In Enclosure 1 of Generic Letter (GL) 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML031140501), it is stated, in part:

> Licensees should evaluate the effect on safety of an increase in 18-month surveillance intervals to accommodate a 24-month fuel cycle. This evaluation should support a conclusion that the effect on safety is small. Licensees should confirm that historical plant maintenance and surveillance data support this conclusion.

By letter dated April 3, 2017, as supplemented by letters dates April 3, 2017 and May 2, 2017, (ADAMS Accession Nos. ML17093A787, ML17093A796, and ML17122A223) Duke Energy Progress, LLC (the licensee) submitted a license amendment request (LAR) for H. B. Robinson Steam Electric Plant Unit No. 2 (Robinson). Attachment 8, “Non-Calibration Surveillance Failure Analysis” to the LAR lists the same three unique failure histories, as listed below, for a significant number of Surveillance Requirements (SRs):

a. On 5/3/2007, CB-1 on Battery Charger A-1 failed to trip when power was removed from the charger.

b. On 10/29/2008, input breaker CB1 on Battery Charger B-1 failed to trip on loss of alternating current voltage.

c. On 6/20/2015, when placing the PZR HTR BACK-UP GROUP "A" switch to ON, the RTGB ON indication did not illuminate as expected.

The LAR states that the test procedure and preventive maintenance task implementing these SRs are very large and test a wide range of equipment. It is not clear how these failures are representative enough to demonstrate the lack of impact of the change in SR frequency for the wide range of and diversity of the SRs.

(1.) Clarify the shared characteristics of these SRs that allow them to be treated as a group.
(2.) Confirm that the same failure histories applies to all the SRs.

(3.) Alternatively, provide the appropriate failure histories for the SRs.

The SRs with the same unique failure histories are below.

TS 3.3.1 Reactor Protection System (RPS) Instrumentation

SR 3.3.1.14 Perform TADOT. Note: Verification of setpoint is not required.

Table 3.3.1-1, Function 16: Safety Injection (SI) Input from Engineered Safety Feature Actuation System (ESFAS)

TS 3.3.2 Engineered Safety Feature Actuation System (ESFAS) Instrumentation

SR 3.3.2.3 Perform MASTER RELAY TEST.
SR 3.3.2.5 Perform SLAVE RELAY TEST.

Table 3.3.2-1, Function 1.b: Safety Injection – Automatic Actuation Logic and Actuation Relays
Table 3.3.2-1, Function 3.a.2: Containment Isolation - Phase A Isolation – Automatic Actuation Logic and Actuation Relays
Table 3.3.2-1, Function 5.a: Feedwater Isolation - Automatic Actuation Logic and Actuation Relays

SR 3.3.2.6 Perform TADOT. Note: Verification of setpoint is not required.

Table 3.3.2-1, Function 1.a: Safety Injection – Manual Initiation
Table 3.3.2-1, Function 3.a.1: Containment Isolation – Phase A Isolation - Manual Initiation

TS 3.3.3 Post Accident Monitoring (PAM) Instrumentation

SR 3.3.3.3 Perform TADOT. Note: Verification of setpoint is not required.

Table 3.3.3-1, Function 9: Containment Isolation Valve Position

TS 3.3.6 Containment Ventilation Isolation Instrumentation

SR 3.3.6.3 Perform MASTER RELAY TEST.
SR 3.3.6.5 Perform SLAVE RELAY TEST.

Table 3.3.6-1, Function 2: Automatic Actuation Logic and Actuation Relays

SR 3.3.6.6 Perform TADOT. Note: Verification of setpoint is not required.

Table 3.3.6-1, Function 1: Manual Initiation

TS 3.3.8 Auxiliary Feedwater (AFW) System Instrumentation

SR 3.3.8.3 Perform TADOT.

Table 3.3.8-1, Function 3: Automatic Actuation Logic and Actuation Relays

TS 3.4.9 Pressurizer

SR 3.4.9.2 Verify capacity of required pressurizer heaters is ≥ 125KW

SR 3.4.9.3 Verify required pressurizer heaters are capable of being powered from an emergency supply

TS 3.5.2 Emergency Core Cooling Systems (ECCS) - Operating

SR 3.5.2.4 Verify each ECCS automatic valve in the flow path that is locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal

SR 3.5.2.5 Verify each ECCS pump starts automatically on an actual or simulated actuation signal

TS 3.6.3 Containment Isolation Valves

SR 3.6.3.5 Verify each automatic containment isolation valve that is not locked, sealed or otherwise secured in position, actuates to the isolation position on an actual or simulated actuation signal

TS 3.6.6 Containment Spray and Cooling Systems

SR 3.6.6.7 Verify each containment cooling train starts automatically on an actual or simulated actuation signal

TS 3.6.8 Isolation Valve Seal Water (IVSW) System

SR 3.6.8.4 Verify each automatic valve in the IVSW System actuates to the correct position on an actual or simulated actuation signal

TS 3.7.4 Auxiliary Feedwater (AFW) System

SR 3.7.4.3 Verify each AFW isolation valve that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal. Note: Not applicable in MODE 4 when steam generator is being used for heat removal.

SR 3.7.4.4 Verify each AFW pump starts automatically on an actual or simulated actuation signal – Note 1. Not required to be performed for the steam driven AFW pump until 24 hours after ≥ 100 psig in the steam generator. 2. Not applicable in MODE 4 when steam generator is being used for heat removal.

TS 3.7.7 Service Water System (SWS)

SR 3.7.7.3 Verify each SWS pump and SWS booster pump starts automatically on an actual or simulated actuation signal.

TS 3.7.9 Control Room Emergency Filtration System (CREFS)

SR 3.7.9.3 Verify each CREFS train actuates on an actual or simulated actuation signal.

TS 3.8.1 AC Sources – Operating

SR 3.8.1.8 Verify each DG rejects a load greater than or equal to its associated single largest post-accident load and does not trip on overspeed. Notes: 1. This Surveillance shall not be performed in MODE 1 or 2. 2. If performed with the DG synchronized with offsite power, it shall be performed at a power factor ≤ 0.9.

SR 3.8.1.10 Verify on an actual or simulated Engineered Safety Feature (ESF) actuation signal each DG auto-starts from standby condition and: a. In ≤ 10 seconds after auto-start achieves voltage ≥ 467 V, and after steady state conditions are reached, maintains voltage ≥ 467 V and ≤ 493 V; b. In ≤ 10 seconds after auto-start achieves frequency ≥ 58.8 Hz, and after steady state conditions are reached, maintains frequency ≥ 58.8 Hz and ≤ 61.2 Hz; c. Operates for ≥ 5 minutes; d. Permanently connected loads remain energized from the offsite power system; and e. Emergency loads are energized through the automatic load sequencer from the offsite power system. Notes: 1. All DG starts may be preceded by prelube period. 2. This Surveillance shall not be performed in MODE 1 or 2. 3. During periods when a diesel generator is being operated for testing purposes, its protective trips need not be bypassed after the diesel generator has properly assumed the load on its bus.

SR 3.8.1.9 Verify on an actual or simulated loss of offsite power signal: a. Deenergization of emergency buses; b. Load shedding from emergency buses; c. DG auto-starts from standby condition and: 1. energizes permanently connected loads in ≤ 10 seconds, 2. energizes auto-connected shutdown loads through automatic load sequencer, 3. maintains steady state voltage ≥ 467 V and ≤ 493 V, 4. maintains steady state frequency ≥ 58.8 Hz and ≤ 61.2 Hz, and 5. supplies permanently connected and auto-connected shutdown loads for ≥ 5 minutes - Notes: 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not be performed in MODE 1, 2, 3, or 4.

SR 3.8.1.15 Verify on an actual or simulated loss of offsite power signal in conjunction with an actual or simulated ESF actuation signal: a. De-energization of emergency buses; b. Load shedding from emergency buses; and c. DG auto-starts from standby condition and: 1. energizes permanently connected loads in ≤ 10 seconds, 2. energizes auto-connected emergency loads through load sequencer, 3. achieves steady state voltage ≥ 467 V and ≤ 493 V, 4. achieves steady state frequency ≥ 58.8 Hz and ≤ 61.2 Hz, and 5. supplies permanently connected and auto connected emergency loads for ≥ 5 minutes - Notes: 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not be performed in MODE 1, 2, 3, or 4. 3. During periods when a diesel generator is being operated for testing purposes, its

protective trips need not be bypassed after the diesel generator has properly assumed the load on its bus.

TS 3.9.3 Containment Penetrations

SR 3.9.3.2 Verify each required containment ventilation valve actuates to the isolation position on an actual or simulated actuation signal.

SRXB RAI – 1

In Enclosure 1 of GL 91-04 it is stated, in part:

> Licensees should evaluate the effect on safety of an increase in 18-month surveillance intervals to accommodate a 24-month fuel cycle. This evaluation should support a conclusion that the effect on safety is small. Licensees should confirm that historical plant maintenance and surveillance data support this conclusion.

The staff noted that no failure histories were provided in Attachment 8 of the LAR for the following SR:

SR 3.4.1.4 Verify by precision heat balance that RCS total flow rate is ≥ 97.3×10^6 lbm/hr

Attachment 8 of the LAR states in part for SR 3.4.1.4, "There is no evaluation required for extension of this SR." However, no justification for this statement was provided. The NRC staff requests the licensee to provide the failure histories of the above mentioned SR in accordance with the GL 91-04, or to provide justification as to why it is not required.

SBPB RAI – 1

(a) The LAR is proposing to change the test frequency in TS 5.5.17 "Control Room Envelope Habitability Program," item d from 18 to 24 months. However, the LAR did not propose a corresponding change in TS 5.5.17, item c.

The LAR is proposing to revise the frequency in TS 5.5.17, Item d, from 18 months to 24 months for taking measurements (e.g. control room envelope (CRE) pressure and control room emergency filtration system (CREFS) flow rate) on one of two trains of the CREFS on a staggered test basis. The two trains would then be tested on a 48 month or 4 year frequency

TS 5.5.17, Item c references Regulatory Guide (RG) 1.197, "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors," Revision 0, dated May 2003 (ADAMS Accession No. ML031490664). TS 5.5.17 Item c (ii) requires assessing CRE habitability at the frequencies specified in Sections C.1 and C.2 of RG 1.197. RG 1.197, Section C.1, states that all CREs should be tested on a performance-based periodic frequency consistent with Figure 1. RG 1.197, Figure 1, has an assessment frequency of 3 years. With the proposed change to TS 5.5.17, Item d, the two trains would then be tested on a 48 month or 4 year frequency instead of the 3 year frequency in RG 1.197.

The NRC staff requests the licensee to address this conflict in TS 5.5.17. The licensee should identify deviations taken from RG 1.197, if any, as part of its response.

(b) While TS 5.5.17 references RG 1.197 in TS 5.5.17, the licensee has not included RG 1.197 in Section 1.8, “Conformance to NRC Regulatory Guides,” of the Robinson Updated Final Safety Analysis Report (UFSAR). Also, based on the response to part (a) of this question, the licensee may identify deviations from RG 1.197. The staff notes that this is contrary to the approach the licensee took regarding RG 1.52 “Design, Inspection, and Testing Criteria for Air Filtration and Adsorption Units of Post-Accident Engineered-Safety-Feature Atmosphere Cleanup Systems in Light-Water-Cooled Nuclear Power Plants” Revision 2, dated March 1978 (ADAMS Accession No. ML003740139). Regarding RG 1.52, for TS 5.5.11, “Ventilation Filter Testing Program,” the LAR proposes to change in filter testing frequency from 18 months to 24 months as an exception to RG 1.52. The LAR describes the exception in the proposed change to TS 5.5.11. In addition, in LAR Attachment 5, “Summary of License Commitments,” the licensee made a commitment that UFSAR Section 1.8 will be modified to include the exception to RG 1.52 conformance.

Please clarify if conformance to RG 1.197, including any deviations, as applicable, will be included in Section 1.8 of the UFSAR?