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# Limerick Request to Adopt Risk-Informed Completion Times for Digital PPS TS

NRC Pre-Application Meeting

March 30, 2026

# Agenda

- Introduction and Opening Remarks
- Objectives
- Background
- Proposed Technical Specification (TS) Change Example
- Proposed License Amendment Request Content
- Timeline for Submittal



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# Objectives

- Brief the NRC on Constellation Energy Generation, LLC's (CEG's) proposed change to re-adopt Risk Informed Completions Times (RICT) for the Digital Instrumentation TS impacted by the Limerick Digital Modernization Project (DMP)
- Ensure a common understanding of the proposed change and content of the planned submittal
- Discuss timing of the submittal
- Obtain NRC feedback



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# Background

- On 2/28/2020 the NRC issued Amendments 240/203 approving TSTF-505, Rev 2 for Limerick which permits the use of RICT (ML20034F637)
  - Current RICT program, methodology, and procedures have been in place at Limerick for 6 years
- On 1/2/2026 the NRC issued Amendments 268/230 approving the DMP for Limerick (ML25325A355)
  - The DMP replaces the safety-related analog instrumentation of the reactor protection system, nuclear steam supply shutoff system, emergency core cooling system, reactor core isolation cooling system, standby liquid control system, and end-of-cycle recirculation pump trip with a single digital plant protection system
  - The DMP Amendments removed RICT from the digital instrumentation TS
  - Limerick opted not to include RICT in the revised TS for the DMP to streamline the DMP review
- Limerick is requesting NRC approval to permit the use of RICT on the DMP revised digital instrumentation TS
  - No change to RICT methodology; NEI 06-09-A remains the governing guidance
  - Updated PRA models to reflect digital system design
    - No upgrades but models peer reviewed given extent of changes (systems and data)
    - PRA findings closed and addressed (discussed in Enclosure 2)



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# Proposed TS Change Example-

3/4.3 INSTRUMENTATION

3/4.3.1 PLANT PROTECTION SYSTEM INSTRUMENTATION CHANNELS

LIMITING CONDITION FOR OPERATION

3.3.1 The plant protection system instrumentation channels shown in Table 3.3.1-1 shall be OPERABLE.

APPLICABILITY: As shown in Table 3.3.1-1.

ACTION:

Note: Separate condition entry is allowed for each Function.

a. In OPERATIONAL CONDITIONS 1, 2, and 3, with the number of OPERABLE channels for one or more Functions one less than the Minimum OPERABLE Channels required by Table 3.3.1-1, within 12 hours, or for only action a.1 in accordance with the Risk Informed Completion Time Program ##:

1. Place the required inoperable channel in the tripped condition#, or

2. Initiate all actions identified in Table 3.3.1-1 for the applicable Function, or

3. Be in at least HOT SHUTDOWN within the following 12 hours, and be in at least COLD SHUTDOWN within the subsequent 24 hours.

b. In OPERATIONAL CONDITIONS 1, 2, and 3, with the number of OPERABLE channels for one or more Functions two or more less than the Minimum OPERABLE Channels required by Table 3.3.1-1, within 6 hours, or for only action b.1 in accordance with the Risk Informed Completion Time Program ##:

1. Place the required inoperable channels in the tripped condition#, or

2. Place one required inoperable channel in the trip condition# and initiate all actions identified in Table 3.3.1-1 for the applicable Function, or

3. Be in at least HOT SHUTDOWN within the following 12 hours, and be in at least COLD SHUTDOWN within the subsequent 24 hours.

c. In OPERATIONAL CONDITION 4, with the number of OPERABLE channels for one or more Functions less than the Minimum OPERABLE Channels required by Table 3.3.1-1, within 1 hour verify all insertable control rods to be inserted in the core* and lock the reactor mode switch in the Shutdown position within 1 hour.

d. In OPERATIONAL CONDITION 5, with the number of OPERABLE channels for one or more Functions less than the Minimum OPERABLE Channels required by Table 3.3.1-1, within 1 hour place the inoperable channels in the tripped condition, or immediately initiate action to fully insert all insertable control rods in core cells containing one or more fuel assemblies*.

* Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.

# For permissive Functions 3.c.2, 4.c, 11, and 12, Actions a.1 and b.1 are not applicable. For these functional units inoperable channel(s) shall be placed in bypass instead of trip to comply with Action b.2.

## RICT is not applicable: when trip capability is not maintained for the affected function, OR in OPCON 3, OR to functions 3.c.2, 4.c, 11, 12, 35, 36, 37, 38





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# Applicable TS-

| TS | Description | Comments (exclusions) |
|---|---|---|
| 3.3.1.a.1<br>3.3.1.b.1 | PLANT PROTECTION SYSTEM INSTRUMENTATION CHANNELS | Functions 3.c.2, 4.c, 11, 12, 35, 36, 37, 38 excluded |
| 3.3.2.a.1.a | PLANT PROTECTION SYSTEM DIVISIONS | |
| 3.3.4.1.a<br>3.3.4.1.b<br>3.3.4.1.c | ATWS RECIRCULATION PUMP TRIP SYSTEM INSTRUMENTATION | |
| 3.3.4.2.a | END-OF-CYCLE RECIRCULATION PUMP TRIP SYSTEM INSTRUMENTATION | |
| 3.5.1.d.3.a<br>3.5.1.d.3.b | EMERGENCY CORE COOLING SYSTEMS (ADS subsystems) | |



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# Proposed License Amendment Request Content

- The Limerick submittal is consistent with the industry post-TSTF-505 adoption guidance document (ML20324A070) which provides insight into which original TSTF-505 submittal enclosures would need to be updated and resubmitted to the NRC to add new RICTs to a plant TS that had previously adopted TSTF-505
- Attachments intended to be provided :
    1. Description and Assessment
    2. Proposed Technical Specifications Changes (Mark-Ups)
    3. Proposed Technical Specifications Bases Changes (Mark-Ups) – For Information Only
    4. Cross Reference TSTF-505 to Limerick TS
    5. Instrumentation Redundancy and Diversity

- Enclosures intended to be provided:
    1. List of Revised Required Actions to Corresponding PRA Functions
    2. Information Supporting Consistency with Regulatory Guide 1.200, Revision 3
    5. Baseline Core Damage Frequency (CDF) and Large Early Release Frequency (LERF)
    9. Key Assumptions and Sources of Uncertainty
    12. Risk Management Action Examples

# Proposed License Amendment Request Content (cont.)

- Enclosures not intended to be provided:
    3. Information Supporting Technical Adequacy of PRA Models Without PRA Standards Endorsed by Regulatory Guide 1.200, Revision 3
    4. Information Supporting Justification of Excluding Sources of Risk Not Addressed by the PRA Models
    6. Justification of Application of At-Power PRA Models to Shutdown Modes
    7. PRA Model Update Process
    8. Attributes of the Real-Time Risk Model
    10. Program Implementation
    11. Monitoring Program



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# Timeline for Submittal

- Planned submittal of license amendment request to the NRC – Second Quarter (June) 2026
- Requested approval date will be 3/31/2027
- TS implementation date will be tied to digital system installation
- Timeline supports implementation of new RICTs following digital system installation at Limerick, Unit 2 in the Spring of 2027

- Any changes to the schedule will be communicated to the NRR Project Manager



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# Questions



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