



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
WASHINGTON, D.C. 20555-0001

July 30, 2025

Mr. David P. Rhoades
Senior Vice President
Constellation Energy Generation, LLC
President and Chief Nuclear Officer
Constellation Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3 - ISSUANCE OF AMENDMENT NOS. 286 AND 279 RE: ADOPTION OF TSTF-505, "PROVIDE RISK-INFORMED EXTENDED COMPLETION TIMES – RITSTF INITIATIVE 4B" AND TSTF-591, "REVISE RISK INFORMED COMPLETION TIME (RICT) PROGRAM" (EPID L-2024-LLA-0061)

Dear Mr. Rhoades:

The U.S. Nuclear Regulatory Commission (the Commission) has issued the enclosed Amendment No. 286 to Renewed Facility Operating License No. DPR-19 and Amendment No. 279 to Renewed Facility Operating License No. DPR-25 for Dresden Nuclear Power Station, Units 2 and 3 respectively. The amendments consist of changes to Renewed Facility Operating Licenses and the technical specifications in response to your application dated May 8, 2024, as supplemented by letters dated October 21, 2024, March 21, 2025, April 23, 2025, and June 2, 2025.

The amendments adopt Technical Specifications Task Force (TSTF) Travelers TSTF-505, Revision 2, "Provide Risk Informed Extended Completion Times – RITSTF Initiative 4b" and TSTF-591, Revision 0, "Revise Risk Informed Completion Time (RICT) Program."

A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's monthly *Federal Register* notice.

Sincerely,

/RA/

Surinder S. Arora, Project Manager
Plant Licensing Branch III
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-237 and 50-249

Enclosures:

1. Amendment No. 286 to DPR-19
2. Amendment No. 279 to DPR-25
3. Safety Evaluation

cc: Listserv



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

CONSTELLATION ENERGY GENERATION, LLC

DOCKET NO. 50-237

DRESDEN NUCLEAR POWER STATION, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 286
Renewed License No. DPR-19

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the Constellation Energy Generation, LLC (the licensee), dated May 8, 2024, as supplemented by letters dated October 21, 2024, March 21, 2025, April 23, 2025, and June 2, 2025, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) and new paragraph 2.K. of the Renewed Facility Operating License No. DPR-19 are hereby amended to read as follows:

2.C.(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment 286, are hereby incorporated into this renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

2.K Adoption of Risk Informed Completion Times TSTF-505, Revision 2, "Provide Risk-Informed Extension Completion Times -RITSTF Initiative 4b"

Constellation is approved to implement TSTF-505, Revision 2, modifying the Technical Specifications requirements related to Completion Times (CTs) for Required Actions to provide the option to calculate a longer, risk-informed CT (RICT). The methodology for using the new Risk informed Completion Time Program is described in NEI 06-09-A, "Risk-Informed Technical Specifications Initiative 4b, Risk-Managed Technical Specifications (RMTS) Guidelines," Revision 0, which was approved by the NRC on May 17, 2007.

Constellation will complete the implementation items listed in Attachment 5 of Constellation Energy Generation, LLC letter to the NRC dated May 8, 2024, prior to implementation of the RICT Program for these systems. All issues identified in Attachment 5 will be addressed and any associated changes will be made, focused-scope peer reviews will be performed on changes that are PRA upgrades as defined in the PRA standard (ASME/ANS RA-Sa-2009, as endorsed by RG 1.200, Revision 3), and any findings will be resolved and reflected in the PRA of record prior to the implementation of the RICT Program.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 180 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Ilka Berrios, Acting Chief
Plant Licensing Branch III
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility
Operating License and Technical
Specifications

Date of Issuance: July 30, 2025



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

CONSTELLATION ENERGY GENERATION, LLC

DOCKET NO. 50-249

DRESDEN NUCLEAR POWER STATION, UNIT 3

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No 279
Renewed License No. DPR-25

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the Constellation Energy Generation, LLC (the licensee), dated May 8, 2024, as supplemented by letters dated October 21, 2024, March 21, 2025, April 23, 2025, and June 2, 2025, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 3.B and new paragraph EE. of the Renewed Facility Operating License No. DPR-25 are hereby amended to read as follows:

3.B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment 279, are hereby incorporated into this renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

EE. Adoption of Risk Informed Completion Times TSTF-505, Revision 2, "Provide Risk-Informed Extension Completion Times -RITSTF Initiative 4b"

Constellation is approved to implement TSTF-505, Revision 2, modifying the Technical Specifications requirements related to Completion Times (CTs) for Required Actions to provide the option to calculate a longer, risk-informed CT (RICT). The methodology for using the new Risk informed Completion Time Program is described in NEI 06-09-A, "Risk-Informed Technical Specifications Initiative 4b, Risk-Managed Technical Specifications (RMTS) Guidelines," Revision 0, which was approved by the NRC on May 17, 2007.

Constellation will complete the implementation items listed in Attachment 5 of Constellation Energy Generation, LLC letter to the NRC dated May 8, 2024, prior to implementation of the RICT Program for these systems. All issues identified in Attachment 5 will be addressed and any associated changes will be made, focused-scope peer reviews will be performed on changes that are PRA upgrades as defined in the PRA standard (ASME/ANS RA-Sa-2009, as endorsed by RG 1.200, Revision 3), and any findings will be resolved and reflected in the PRA of record prior to the implementation of the RICT Program.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 180 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Ilka Berrios, Acting Chief
Plant Licensing Branch III
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility
Operating License and Technical
Specifications

Date of Issuance: July 30, 2025

ATTACHMENT TO LICENSE AMENDMENT NOS. 286 AND 279

DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3

RENEWED FACILITY OPERATING LICENSE NOS. DPR-19 AND DPR-25

DOCKET NOS. 50-237 AND 50-249

Replace the following pages of the Renewed Facility Operating License with the attached revised pages. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change.

REMOVE

License DPR-19

Page 3

License DPR-25

Page 4

Page 10A

TS Page

1.3-13

3.1.7-1

3.3.1.1-1

3.3.1.1-2

3.3.1.1-3

3.3.2.2-1

3.3.4.1-1

3.3.4.1-2

3.3.5.1-2

3.3.5.1-3

3.3.5.1-4

3.3.5.1-5

3.3.5.1-6

3.3.5.1-7

3.3.5.1-8

3.3.5.1-9

3.3.5.1-10

3.3.5.1-11

3.3.5.1-12

3.3.5.3-1

3.3.5.3-2

INSERT

License DPR-19

Page 3

Page 10A

License DPR-25

Page 4

Page 10A

TS Page

1.3-13

1.3-14

3.1.7-1

3.3.1.1-1

3.3.1.1-2

3.3.1.1-3

3.3.2.2-1

3.3.4.1-1

3.3.4.1-2

3.3.5.1-2

3.3.5.1-3

3.3.5.1-4

3.3.5.1-5

3.3.5.1-6

3.3.5.1-7

3.3.5.1-8

3.3.5.1-9

3.3.5.1-10

3.3.5.1-11

3.3.5.1-12

3.3.5.1-13

3.3.5.1-14

3.3.5.1-15

3.3.5.3-1

3.3.5.3-2

3.3.5.3-3

REMOVE

TS Page

3.3.6.1-1
3.3.6.1-2
3.3.6.3-1
3.3.8.1-1
3.4.3-1
3.5.1-1
3.5.1-2
3.5.1-3
3.5.1-4
3.5.1-5
3.5.1-6

3.5.3-1
3.6.1.2-3
3.6.1.2-4

3.6.1.3-2
3.6.1.3-3
3.6.1.3-5
3.6.1.6-1
3.6.1.7-1
3.6.1.8-1
3.6.1.8-2

3.6.2.3-1
3.6.2.4-1
3.6.2.6-1
3.7.1-1
3.7.1-2

3.8.1-2
3.8.1-3
3.8.1-4
3.8.1-5
3.8.1-6
3.8.1-7
3.8.1-8
3.8.1-9
3.8.1-10
3.8.1-11
3.8.1-12
3.8.1-13
3.8.1-14
3.8.1-15

3.8.4-2
3.8.4-3
3.8.4-4

INSERT

TS Page

3.3.5.3-3
3.3.6.1-2
3.3.6.1-1
3.3.6.3-1
3.3.8.1-1
3.4.3-1
3.5.1-1
3.5.1-2
3.5.1-3
3.5.1-4
3.5.1-5
3.5.1-6
3.5.1-7
3.5.3-1
3.6.1.2-3
3.6.1.2-4
3.6.1.2-5
3.6.1.3-2
3.6.1.3-3
3.6.1.3-5
3.6.1.6-1
3.6.1.7-1
3.6.1.8-1
3.6.1.8-2
3.6.1.8-3
3.6.2.3-1
3.6.2.4-1
3.6.2.6-1
3.7.1-1
3.7.1-2
3.7.1-3
3.8.1-2
3.8.1-3
3.8.1-4
3.8.1-5
3.8.1-6
3.8.1-7
3.8.1-8
3.8.1-9
3.8.1-10
3.8.1-11
3.8.1-12
3.8.1-13
3.8.1-14
3.8.1-15
3.8.1-16
3.8.4-2
3.8.4-3
3.8.4-4

3.8.4-5

3.8.4-6

3.8.7-1

3.8.7-2

3.8.7-3

5.5-14

5.6-6

3.8.4-5

3.8.4-6

3.8.4-7

3.8.4-8

3.8.7-1

3.8.7-2

3.8.7-3

3.8.7-4

5.5-14

5.5-15

5.6-6

- (2) Constellation Energy Generation, LLC, pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time special nuclear materials as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Updated Final Safety Analysis Report, as supplemented and amended;
 - (3) Constellation Energy Generation, LLC, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
 - (4) Constellation Energy Generation, LLC, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
 - (5) Constellation Energy Generation, LLC, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct special nuclear materials as may be produced by the operation of the facility.
- C. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I; is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:
- (1) Maximum Power Level

The licensee is authorized to operate the facility at steady state reactor core power levels not in excess of 2957 megawatts thermal (100 percent rated power) in accordance with the conditions specified herein.
 - (2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 286, are hereby incorporated into this renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.
 - (3) Operation in the coastdown mode is permitted to 40% power.

K. Adoption of Risk Informed Completion Times TSTF-505, Revision 2, "Provide Risk-Informed Extension Completion Times -RITSTF Initiative 4b"

Constellation is approved to implement TSTF-505, Revision 2, modifying the Technical Specifications requirements related to Completion Times (CTs) for Required Actions to provide the option to calculate a longer, risk-informed CT (RICT). The methodology for using the new Risk informed Completion Time Program is described in NEI 06-09-A, "Risk-Informed Technical Specifications Initiative 4b, Risk-Managed Technical Specifications (RMTS) Guidelines," Revision 0, which was approved by the NRC on May 17, 2007.

Constellation will complete the implementation items listed in Attachment 5 of Constellation Energy Generation, LLC letter to the NRC dated May 8, 2024, prior to implementation of the RICT Program for these systems. All issues identified in Attachment 5 will be addressed and any associated changes will be made, focused-scope peer reviews will be performed on changes that are PRA upgrades as defined in the PRA standard (ASME/ANS RA-Sa-2009, as endorsed by RG 1.200, Revision 3), and any findings will be resolved and reflected in the PRA of record prior to the implementation of the RICT Program.

f. Surveillance Requirement 4.9.A.10 - Diesel Storage Tank Cleaning
(Unit 3 and Unit 2/3 only)

Each of the above Surveillance Requirements shall be successfully demonstrated prior to entering into MODE 2 on the first plant startup following the fourteenth refueling outage (D3R14).

3. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations: 10 CFR Part 20, Section 30.34 of 10 CFR Part 30, Section 40.41 of 10 CFR Part 40, Sections 50.54 and 50.59 of 10 CFR Part 50, and Section 70.32 of 10 CFR Part 70; is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

A. Maximum Power Level

The licensee is authorized to operate the facility at steady state power levels not in excess of 2957 megawatts (thermal), except that the licensee shall not operate the facility at power levels in excess of five (5) megawatts (thermal), until satisfactory completion of modifications and final testing of the station output transformer, the auto-depressurization interlock, and the feedwater system, as described in the licensee's telegrams; dated February 26, 1971, have been verified in writing by the Commission.

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 279, are hereby incorporated into this renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

C. Reports

The licensee shall make certain reports in accordance with the requirements of the Technical Specifications.

D. Records

The licensee shall keep facility operating records in accordance with the requirements of the Technical Specifications.

E. Restrictions

Operation in the coastdown mode is permitted to 40% power.

DD. Upon implementation of Amendment No. 242 the licensee shall adhere to the following requirements as part of the DNPS unit 3 spent fuel pool coupon surveillance program to ensure that the B-10 areal density of the BORAL remains at or above its minimum credited value and that the regulatory requirement to maintain the Technical Specification value of $k_{\text{eff}} \leq 0.95$ continues to be met:

- (1) Ensure that coupon measurements of B-10 areal density are performed by a qualified laboratory;
- (2) Ensure that the coupons are removed for evaluation every 10 years;
- (3) Ensure that should any coupon be identified as failing the minimum certified B-10 areal density criterion based on coupon test results, the licensee will perform in-situ testing to confirm that the minimum B-10 areal density (0.02 g/cm^2) is met for the BORAL panels installed in the DNPS spent fuel pools; and,
- (4) Submit a report to the NRC within 90 days following the completion of evaluations associated with Item 3 above. The report shall include; a description of the testing results, the assessments performed, and the interim and long-term corrective actions for abnormal indications.

EE. Adoption of Risk Informed Completion Times TSTF-505, Revision 2, "Provide Risk-Informed Extension Completion Times -RITSTF Initiative 4b"

Constellation is approved to implement TSTF-505, Revision 2, modifying the Technical Specifications requirements related to Completion Times (CTs) for Required Actions to provide the option to calculate a longer, risk-informed CT (RICT). The methodology for using the new Risk informed Completion Time Program is described in NEI 06-09-A, "Risk-Informed Technical Specifications Initiative 4b, Risk-Managed Technical Specifications (RMTS) Guidelines," Revision 0, which was approved by the NRC on May 17, 2007.

Constellation will complete the implementation items listed in Attachment 5 of Constellation Energy Generation, LLC letter to the NRC dated May 8, 2024, prior to implementation of the RICT Program for these systems. All issues identified in Attachment 5 will be addressed and any associated changes will be made, focused-scope peer reviews will be performed on changes that are PRA upgrades as defined in the PRA standard (ASME/ANS RA-Sa-2009, as endorsed by RG 1.200, Revision 3), and any findings will be resolved and reflected in the PRA of record prior to the implementation of the RICT Program.

1.3 Completion Times

EXAMPLES

EXAMPLE 1.3-7 (continued)

is met after Condition B is entered, Condition B is exited and operation may continue in accordance with Condition A, provided the Completion Time for Required Action A.2 has not expired.

EXAMPLE 1.3-8

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One subsystem inoperable.	A.1 Restore subsystem to OPERABLE status.	7 days <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. <u>AND</u> B.2 Be in MODE 4.	12 hours 36 hours

When a subsystem is declared inoperable, Condition A is entered. The 7 day Completion Time may be applied as discussed in Example 1.3-2. However, the licensee may elect to apply the Risk Informed Completion Time Program which permits calculation of a Risk Informed Completion Time (RICT) that may be used to complete the Required Action beyond the 7 day Completion Time. The RICT cannot exceed 30 days. After the 7 day Completion Time has expired, the subsystem must be restored to OPERABLE status within the RICT or Condition B must also be entered.

The Risk Informed Completion Time Program requires recalculation of the RICT to reflect changing plant

(continued)

1.3 Completion Times

EXAMPLES

EXAMPLE 1.3-8 (continued)

conditions. For planned changes, the revised RICT must be determined prior to implementation of the change in configuration. For emergent conditions, the revised RICT must be determined within the time limits of the Required Action Completion Time (i.e., not the RICT) or 12 hours after the plant configuration change, whichever is less.

If the 7 day Completion Time clock of Condition A has expired and subsequent changes in plant condition result in exiting the applicability of the Risk Informed Completion Time Program without restoring the inoperable subsystem to OPERABLE status, Condition B is also entered and the Completion Time clocks for Required Actions B.1 and B.2 start.

If the RICT expires or is recalculated to be less than the elapsed time since the Condition was entered and the inoperable subsystem has not been restored to OPERABLE status, Condition B is also entered and the Completion Time clocks for Required Actions B.1 and B.2 start. If the inoperable subsystems are restored to OPERABLE status after Condition B is entered, Condition A is exited, and therefore, the Required Actions of Condition B may be terminated.

IMMEDIATE COMPLETION TIME

When "Immediately" is used as a Completion Time, the Required Action should be pursued without delay and in a controlled manner.

3.1 REACTIVITY CONTROL SYSTEMS

3.1.7 Standby Liquid Control (SLC) System

LC0 3.1.7 Two SLC subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One SLC subsystem inoperable.	A.1 Restore SLC subsystem to OPERABLE status.	7 days <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. Two SLC subsystems inoperable.	B.1 Restore one SLC subsystem to OPERABLE status.	8 hours
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3. <u>AND</u>	12 hours
	C.2 Be in MODE 4.	36 hours

3.3 INSTRUMENTATION

3.3.1.1 Reactor Protection System (RPS) Instrumentation

LC0 3.3.1.1 The RPS instrumentation for each Function in Table 3.3.1.1-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.1.1-1.

ACTIONS

- NOTES -----
1. Separate Condition entry is allowed for each channel.
 2. When Functions 2.b and 2.c channels are inoperable due to the calculated power exceeding the APRM output by more than 2% RTP while operating at $\geq 25\%$ RTP, entry into associated Conditions and Required Actions may be delayed for up to 2 hours.
-

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required channels inoperable.	A.1 Place channel in trip.	12 hours
	<u>OR</u>	<u>OR</u> In accordance with the Risk Informed Completion Time Program
		(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.2 Place associated trip system in trip.	12 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. One or more Functions with one or more required channels inoperable in both trip systems.	B.1 Place channel in one trip system in trip.	6 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program
	<u>OR</u> B.2 Place one trip system in trip.	6 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program
C. One or more Functions with RPS trip capability not maintained.	C.1 Restore RPS trip capability.	1 hour

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition A, B, or C not met.	D.1 Enter the Condition referenced in Table 3.3.1.1-1 for the channel.	Immediately
E. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	E.1 Reduce THERMAL POWER to < 38.5% RTP	4 hours
F. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	F.1 Be in MODE 2.	8 hours
G. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	G.1 Be in MODE 3.	12 hours
H. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	H.1 Initiate action to fully insert all insertable control rods in core cells containing one or more fuel assemblies.	Immediately

3.3 INSTRUMENTATION

3.3.2.2 Feedwater System and Main Turbine High Water Level Trip Instrumentation

LC0 3.3.2.2 Four channels of Feedwater System and main turbine high water level trip instrumentation shall be OPERABLE.

APPLICABILITY: THERMAL POWER $\geq$ 25% RTP.

ACTIONS

-----NOTE-----
Separate Condition entry is allowed for each channel.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Feedwater System and main turbine high water level trip channels inoperable.	A.1 Place channel in trip.	7 days <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. Feedwater System and main turbine high water level trip capability not maintained.	B.1 Restore Feedwater System and main turbine high water level trip capability.	2 hours

(continued)

3.3 INSTRUMENTATION

3.3.4.1 Anticipated Transient Without Scram Recirculation Pump Trip (ATWS-RPT) Instrumentation

LCO 3.3.4.1 Two channels per trip system for each ATWS-RPT instrumentation Function listed below shall be OPERABLE:

- a. Reactor Vessel Water Level—Low Low; and
- b. Reactor Vessel Steam Dome Pressure—High.

APPLICABILITY: MODE 1.

ACTIONS

-----NOTE-----
Separate Condition entry is allowed for each channel.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more channels inoperable.	A.1 Restore channel to OPERABLE status.	14 days
	<u>OR</u>	<u>OR</u> In accordance with the Risk Informed Completion Time Program (continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.2 -----NOTE----- Not applicable if inoperable channel is the result of an inoperable breaker. ----- Place channel in trip.	14 days <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. One Function with ATWS-RPT trip capability not maintained.	B.1 Restore ATWS-RPT trip capability.	72 hours
C. Both Functions with ATWS-RPT trip capability not maintained.	C.1 Restore ATWS-RPT trip capability for one Function.	1 hour
D. Required Action and associated Completion Time not met.	D.1 Remove the associated recirculation pump from service. <u>OR</u> D.2 Be in MODE 2.	6 hours 6 hours

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. As required by Required Action A.1 and referenced in Table 3.3.5.1-1.	B.1 -----NOTE----- Only applicable for Functions 1.a, 1.b, 2.a, 2.b, 2.d, and 2.j. -----	
	Declare supported feature(s) inoperable when its redundant feature ECCS initiation capability is inoperable.	1 hour from discovery of loss of initiation capability for feature(s) in both divisions
	<u>AND</u>	
	B.2 -----NOTE----- Only applicable for Functions 3.a and 3.b. -----	
	Declare High Pressure Coolant Injection (HPCI) System inoperable.	1 hour from discovery of loss of HPCI initiation capability
	<u>AND</u>	
	B.3 Place channel in trip.	24 hours
		<u>OR</u>
		-----NOTE----- Only applicable when a loss of function has not occurred. -----
		In accordance with the Risk Informed Completion Time Program

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. As required by Required Action A.1 and referenced in Table 3.3.5.1-1.	C.1 -----NOTE----- Only applicable for Functions 1.c, 1.e, 2.c, 2.e, 2.g, 2.h, 2.i, and 2.k. -----	
	Declare supported feature(s) inoperable when its redundant feature ECCS initiation capability is inoperable.	1 hour from discovery of loss of initiation capability for feature(s) in both divisions
	<u>AND</u>	
	C.2 Restore channel to OPERABLE status.	24 hours
		<u>OR</u> -----NOTE----- Only applicable when a loss of function has not occurred. ----- In accordance with the Risk Informed Completion Time Program

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. As required by Required Action A.1 and referenced in Table 3.3.5.1-1.	D.1 -----NOTE----- Only applicable if HPCI pump suction is not aligned to the suppression pool. ----- Declare HPCI System inoperable.	1 hour from discovery of loss of HPCI initiation capability
	<u>AND</u>	
	D.2.1 Place channel in trip.	24 hours
	<u>OR</u>	
		-----NOTE----- Only applicable when a loss of function has not occurred. ----- In accordance with the Risk Informed Completion Time Program
	<u>OR</u>	
	D.2.2 Align the HPCI pump suction to the suppression pool.	24 hours

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. As required by Required Action A.1 and referenced in Table 3.3.5.1-1.	E.1 -----NOTE----- Only applicable for Functions 1.d and 2.f. -----	
	Declare supported feature(s) inoperable when its redundant feature ECCS initiation capability is inoperable.	1 hour from discovery of loss of initiation capability for subsystems in both divisions
	<u>AND</u>	
	E.2 Restore channel to OPERABLE status.	7 days
		<u>OR</u>
		-----NOTE----- Only applicable when a loss of function has not occurred. -----
		In accordance with the Risk Informed Completion Time Program

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. As required by Required Action A.1 and referenced in Table 3.3.5.1-1.	F.1 Declare Automatic Depressurization System (ADS) valves inoperable.	1 hour from discovery of loss of ADS initiation capability in both trip systems
	<u>AND</u> F.2 Place channel in trip.	96 hours from discovery of inoperable channel concurrent with HPCI or isolation condenser (IC) inoperable <u>OR</u> -----NOTE----- Only applicable when a loss of function has not occurred. ----- In accordance with the Risk Informed Completion Time Program <u>AND</u> 8 days <u>OR</u> (continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. (continued)		-----NOTE----- Only applicable when a loss of function has not occurred. ----- In accordance with the Risk Informed Completion Time Program
G. As required by Required Action A.1 and referenced in Table 3.3.5.1-1.	G.1 Declare ADS valves inoperable. <u>AND</u> G.2 Restore channel to OPERABLE status.	1 hour from discovery of loss of ADS initiation capability in both trip systems 96 hours from discovery of inoperable channel concurrent with HPCI or IC inoperable <u>OR</u> (continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
G. (continued)		-----NOTE----- Only applicable when a loss of function has not occurred. ----- In accordance with the Risk Informed Completion Time Program <u>AND</u> 8 days <u>OR</u> -----NOTE----- Only applicable when a loss of function has not occurred. ----- In accordance with the Risk Informed Completion Time Program
H. Required Action and associated Completion Time of Condition B, C, D, E, F, or G not met.	H.1 Declare associated supported feature(s) inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

- NOTES-----
1. Refer to Table 3.3.5.1-1 to determine which SRs apply for each ECCS Function.
 2. When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed as follows: (a) for up to 6 hours for Functions 3.c, 3.f, and 3.g; and (b) for up to 6 hours for Functions other than 3.c, 3.f, and 3.g provided the associated Function or the redundant Function maintains ECCS initiation capability.
-

SURVEILLANCE	FREQUENCY
SR 3.3.5.1.1 Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program
SR 3.3.5.1.2 Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program
SR 3.3.5.1.3 Calibrate the trip unit.	In accordance with the Surveillance Frequency Control Program
SR 3.3.5.1.4 Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.3.5.1.5	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program
SR 3.3.5.1.6	Perform LOGIC SYSTEM FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program

Table 3.3.5.1-1 (page 1 of 5)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Core Spray System					
a. Reactor Vessel Water Level—Low Low	1,2,3	4 ^(a)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ -54.15 inches
b. Drywell Pressure—High	1,2,3	4 ^(a)	B	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≤ 1.81 psig
c. Reactor Steam Dome Pressure—Low (Permissive)	1,2,3	2	C	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≥ 308.5 psig and ≤ 341.7 psig
d. Core Spray Pump Discharge Flow—Low (Bypass)	1,2,3	1 per pump	E	SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 802 gpm and ≤ 992 gpm
e. Core Spray Pump Start-Time Delay Relay	1,2,3	1 per pump	C	SR 3.3.5.1.5 SR 3.3.5.1.6	≤ 11.0 seconds
2. Low Pressure Coolant Injection (LPCI) System					
a. Reactor Vessel Water Level—Low Low	1,2,3	4	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ -54.15 Inches
b. Drywell Pressure—High	1,2,3	4	B	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≤ 1.81 psig
c. Reactor Steam Dome Pressure—Low (Permissive)	1,2,3	2	C	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≥ 308.5 psig and ≤ 341.7 psig

(continued)

(a) Also required to initiate the associated diesel generator (DG).

Table 3.3.5.1-1 (page 2 of 5)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. LPCI System (continued)					
d. Reactor Steam Dome Pressure—Low (Break Detection)	1,2,3	4	B	SR 3.3.5.1.2 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 802 psig and ≤ 898 psig
e. Low Pressure Coolant Injection Pump Start—Time Delay Relay Pumps B and D	1,2,3	1 per pump	C	SR 3.3.5.1.5 SR 3.3.5.1.6	≤ 5.5 seconds
f. Low Pressure Coolant Injection Pump Discharge Flow—Low (Bypass)	1,2,3	1 per loop	E	SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 1107 gpm
g. Recirculation Pump Differential Pressure—High (Break Detection)	1,2,3	4 per pump	C	SR 3.3.5.1.2 SR 3.3.5.1.5 SR 3.3.5.1.6	≤ 5.9 psid
h. Recirculation Riser Differential Pressure—High (Break Detection)	1,2,3	4	C	SR 3.3.5.1.2 SR 3.3.5.1.5 SR 3.3.5.1.6	≤ 2.0 psid
i. Recirculation Pump Differential Pressure Time Delay—Relay (Break Detection)	1,2,3	2	C	SR 3.3.5.1.5 SR 3.3.5.1.6	≤ 0.53 seconds
j. Reactor Steam Dome Pressure Time Delay— Relay (Break Detection)	1,2,3	2	B	SR 3.3.5.1.5 SR 3.3.5.1.6	≤ 2.12 seconds
k. Recirculation Riser Differential Pressure Time Delay—Relay (Break Detection)	1,2,3	2	C	SR 3.3.5.1.5 SR 3.3.5.1.6	≤ 0.53 seconds

(continued)

Table 3.3.5.1-1 (page 3 of 5)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3. High Pressure Coolant Injection (HPCI) System					
a. Reactor Vessel Water Level—Low Low	1, 2 ^(b) , 3 ^(b)	4	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ -54.15 Inches
b. Drywell Pressure—High	1, 2 ^(b) , 3 ^(b)	4	B	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≤ 1.81 psig
c. Reactor Vessel Water Level—High	1, 2 ^(b) , 3 ^(b)	2	C	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≤ 46.2 inches
d. Contaminated Condensate Storage Tank (CCST) Level—Low	1, 2 ^(b) , 3 ^(b)	2 per CCST	D	SR 3.3.5.1.2 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 11.1158 ft for CCST 2/3 A and ≥ 7.5637 ft for CCST 2/3 B
e. Suppression Pool Water Level—High	1, 2 ^(b) , 3 ^(b)	2	D	SR 3.3.5.1.2 SR 3.3.5.1.5 SR 3.3.5.1.6	≤ 15 ft 5.625 inches
f. High Pressure Coolant Injection Pump Discharge Flow—Low (Bypass)	1, 2 ^(b) , 3 ^(b)	1	E	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≥ 616 gpm
g. Manual Initiation	1, 2 ^(b) , 3 ^(b)	1	C	SR 3.3.5.1.6	NA

(continued)

(b) With reactor steam dome pressure > 150 psig.

Table 3.3.5.1-1 (page 4 of 5)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
4. Automatic Depressurization System (ADS) Trip System A					
a. Reactor Vessel Water Level—Low Low	1, 2 ^(b) , 3 ^(b)	2	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ -54.15 Inches
b. Drywell Pressure—High	1, 2 ^(b) , 3 ^(b)	2	F	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≤ 1.81 psig
c. Automatic Depressurization System Initiation Timer	1, 2 ^(b) , 3 ^(b)	1	G	SR 3.3.5.1.5 SR 3.3.5.1.6	≤ 113 seconds
d. Core Spray Pump Discharge Pressure—High	1, 2 ^(b) , 3 ^(b)	2	G	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≥ 101.5 psig and ≤ 148.5 psig
e. Low Pressure Coolant Injection Pump Discharge Pressure—High	1, 2 ^(b) , 3 ^(b)	4	G	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≥ 101.5 psig and ≤ 148.5 psig
f. Automatic Depressurization System Low Low Water Level Actuation Timer	1, 2 ^(b) , 3 ^(b)	1	G	SR 3.3.5.1.5 SR 3.3.5.1.6	≤ 580 seconds

(continued)

(b) With reactor steam dome pressure > 150 psig.

Table 3.3.5.1-1 (page 5 of 5)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
5. ADS Trip System B					
a. Reactor Vessel Water Level—Low Low	1, 2 ^(b) , 3 ^(b)	2	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ -54.15 inches
b. Drywell Pressure—High	1, 2 ^(b) , 3 ^(b)	2	F	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≤ 1.81 psig
c. Automatic Depressurization System Initiation Timer	1, 2 ^(b) , 3 ^(b)	1	G	SR 3.3.5.1.5 SR 3.3.5.1.6	≤ 113 seconds
d. Core Spray Pump Discharge Pressure—High	1, 2 ^(b) , 3 ^(b)	2	G	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≥ 101.5 psig and ≤ 148.5 psig
e. Low Pressure Coolant Injection Pump Discharge Pressure—High	1, 2 ^(b) , 3 ^(b)	4	G	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.6	≥ 101.5 psig and ≤ 148.5 psig
f. Automatic Depressurization System Low Low Water Level Actuation Timer	1, 2 ^(b) , 3 ^(b)	1	G	SR 3.3.5.1.5 SR 3.3.5.1.6	≤ 580 seconds

(b) With reactor steam dome pressure > 150 psig.

3.3 INSTRUMENTATION

3.3.5.3 Isolation Condenser (IC) System Instrumentation

LCO 3.3.5.3 Four channels of Reactor Vessel Pressure-High instrumentation shall be OPERABLE.

APPLICABILITY: MODE 1,
MODES 2 and 3 with reactor steam dome pressure > 150 psig.

ACTIONS

-----NOTE-----
Separate Condition entry is allowed for each channel.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Reactor Vessel Pressure-High channels inoperable.	A.1 Declare IC System inoperable.	1 hour from discovery of loss of IC initiation capability
	<u>AND</u> A.2 Place channel(s) in trip.	24 hours <u>OR</u> -----NOTE----- Only applicable when a loss of function has not occurred. ----- In accordance with the Risk Informed Completion Time Program

(continued)

ACTIONS		
CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time not met.	B.1 Declare IC System inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

-----NOTE-----
When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided the Reactor Vessel Pressure-High Function maintains IC initiation capability.

SURVEILLANCE		FREQUENCY
SR 3.3.5.3.1	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program
SR 3.3.5.3.2	-----NOTE----- Not required for the time delay portion of the channel. ----- Perform CHANNEL CALIBRATION. The Allowable Value shall be ≤ 1068 psig.	In accordance with the Surveillance Frequency Control Program
SR 3.3.5.3.3	Perform CHANNEL CALIBRATION for the time delay portion of the channel. The Allowable Value shall be ≤ 15 seconds.	In accordance with the Surveillance Frequency Control Program
SR 3.3.5.3.4	Perform LOGIC SYSTEM FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program

3.3 INSTRUMENTATION

3.3.6.1 Primary Containment Isolation Instrumentation

LC0 3.3.6.1 The primary containment isolation instrumentation for each Function in Table 3.3.6.1-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.6.1-1.

ACTIONS

- NOTES -----
1. Penetration flow paths may be unisolated intermittently under administrative controls.
 2. Separate Condition entry is allowed for each channel.
-

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required channels inoperable.	A.1 Place channel in trip.	12 hours for Functions 1.a, 2.a, 2.b, 5.b, and 6.b <u>OR</u> In accordance with the Risk Informed Completion Time Program <u>AND</u> 24 hours for Functions other than Functions 1.a, 2.a, 2.b, 5.b, and 6.b <u>OR</u> (continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)		In accordance with the Risk Informed Completion Time Program
B. One or more automatic Functions with isolation capability not maintained.	B.1 Restore isolation capability.	1 hour
C. Required Action and associated Completion Time of Condition A or B not met.	C.1 Enter the Condition referenced in Table 3.3.6.1-1 for the channel.	Immediately
D. As required by Required Action C.1 and referenced in Table 3.3.6.1-1.	D.1 Isolate associated main steam line (MSL).	12 hours
	<u>OR</u>	
	D.2.1 Be in MODE 3.	12 hours
	<u>AND</u>	
	D.2.2 Be in MODE 4.	36 hours
E. As required by Required Action C.1 and referenced in Table 3.3.6.1-1.	E.1 Be in MODE 2.	8 hours
F. As required by Required Action C.1 and referenced in Table 3.3.6.1-1.	F.1 Isolate the affected penetration flow path(s).	1 hour

(continued)

3.3 INSTRUMENTATION

3.3.6.3 Relief Valve Instrumentation

LC0 3.3.6.3 The relief valve instrumentation for each Function in Table 3.3.6.3-1 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One relief valve inoperable due to inoperable channel(s).	A.1 Restore channel(s) to OPERABLE status.	14 days <u>OR</u> -----NOTE----- Only applicable when a loss of function has not occurred. ----- In accordance with the Risk Informed Completion Time Program
B. Required Action and associated Completion Time of Condition A not met. <u>OR</u> Two or more relief valves inoperable due to inoperable channels.	B.1 Be in MODE 3. <u>AND</u> B.2 Be in MODE 4.	12 hours 36 hours

3.3 INSTRUMENTATION

3.3.8.1 Loss of Power (LOP) Instrumentation

LC0 3.3.8.1 The LOP instrumentation for each Function in Table 3.3.8.1-1 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

-----NOTE-----
Separate Condition entry is allowed for each channel.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more channels inoperable.	A.1 Place channel in trip.	1 hour <u>OR</u> -----NOTE----- Only applicable when a loss of function has not occurred. ----- In accordance with the Risk Informed Completion Time Program
B. Required Action and associated Completion Time not met.	B.1 Declare associated diesel generator (DG) inoperable.	Immediately

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.3 Safety and Relief Valves

LC0 3.4.3 The safety function of 9 safety valves shall be OPERABLE.

AND

The relief function of 5 relief valves shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One relief valve inoperable.	A.1 Restore the relief valve to OPERABLE status.	14 days <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. Required Action and associated Completion Time of Condition A not met.	-----NOTE----- LC0 3.0.4.a is not applicable when entering MODE 3. ----- B.1 Be in MODE 3.	 12 hours
C. Two or more relief valves inoperable. <u>OR</u> One or more safety valves inoperable.	C.1 Be in MODE 3. <u>AND</u> C.2 Be in MODE 4.	12 hours 36 hours

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS), REACTOR PRESSURE VESSEL (RPV) WATER INVENTORY CONTROL, AND ISOLATION CONDENSER (IC) SYSTEM

3.5.1 ECCS—Operating

LCO 3.5.1 Each ECCS injection/spray subsystem and the Automatic Depressurization System (ADS) function of five relief valves shall be OPERABLE.

APPLICABILITY: MODE 1,
MODES 2 and 3, except high pressure coolant injection (HPCI) and ADS valves are not required to be OPERABLE with reactor steam dome pressure ≤ 150 psig.

ACTIONS

----- NOTE -----
LCO 3.0.4.b is not applicable to HPCI.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One Low Pressure Coolant Injection (LPCI) pump inoperable.	A.1 Restore LPCI pump to OPERABLE status.	30 days
B. One LPCI subsystem inoperable for reasons other than Condition A. <u>OR</u> One Core Spray subsystem inoperable.	B.1 Restore low pressure ECCS injection/spray subsystem to OPERABLE status.	7 days <u>OR</u> In accordance with the Risk Informed Completion Time Program

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. One LPCI pump in each subsystem inoperable.	C.1 Restore one LPCI pump to OPERABLE status.	7 days <u>OR</u> In accordance with the Risk Informed Completion Time Program
D. Required Action and associated Completion Time of Condition A, B, or C not met.	-----NOTE----- LCO 3.0.4.a is not applicable when entering MODE 3. ----- D.1 Be in MODE 3.	12 hours
E. Two LPCI subsystems inoperable for reasons other than Condition C.	E.1 Restore one LPCI subsystem to OPERABLE status.	72 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program
F. Required Action and associated Completion Time of Condition E not met.	F.1 Be in MODE 3. <u>AND</u> F.2 Be in MODE 4.	12 hours 36 hours

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
G. HPCI System inoperable.	G.1 Verify by administrative means IC System is OPERABLE.	Immediately
	<u>AND</u> G.2 Restore HPCI System to OPERABLE status.	14 days <u>OR</u> In accordance with the Risk Informed Completion Time Program
H. One ADS valve inoperable.	H.1 Restore ADS valve to OPERABLE status.	14 days <u>OR</u> In accordance with the Risk Informed Completion Time Program
I. Required Action and associated Completion Time of Condition G or H not met.	-----NOTE----- LCO 3.0.4.a is not applicable when entering MODE 3. ----- I.1 Be in Mode 3.	12 hours

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
J. Two or more ADS valves inoperable.	J.1 Be in Mode 3.	12 hours
	<u>AND</u> J.2 Reduce reactor steam dome pressure to ≤ 150 psig.	36 hours
K. Two or more low pressure ECCS injection/spray subsystems inoperable for reasons other than Condition C or E. <u>OR</u> HPCI System and one or more ADS valves inoperable. <u>OR</u> One or more low pressure ECCS injection/spray subsystems inoperable and one or more ADS valves inoperable. <u>OR</u> HPCI System inoperable and either one low pressure ECCS injection/spray subsystem is inoperable or Condition C entered.	K.1 Enter LCO 3.0.3	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE				FREQUENCY																				
SR	3.5.1.1	Verify, for each ECCS injection/spray subsystem, locations susceptible to gas accumulation are sufficiently filled with water.		In accordance with the Surveillance Frequency Control Program																				
SR	3.5.1.2	-----NOTE----- Not required to be met for system vent flow paths opened under administrative control. ----- Verify each ECCS injection/spray subsystem manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position.		In accordance with the Surveillance Frequency Control Program																				
SR	3.5.1.3	Verify correct breaker alignment to the LPCI swing bus.		In accordance with the Surveillance Frequency Control Program																				
SR	3.5.1.4	Verify each recirculation pump discharge valve cycles through one complete cycle of full travel or is de-energized in the closed position.		In accordance with the INSERVICE TESTING PROGRAM																				
SR	3.5.1.5	Verify the following ECCS pumps develop the specified flow rate against a test line pressure corresponding to the specified reactor pressure. <table><tr><td></td><td></td><td></td><td>TEST LINE PRESSURE CORRESPONDING TO A REACTOR PRESSURE OF</td></tr><tr><td></td><td><u>SYSTEM</u></td><td><u>FLOW RATE</u></td><td><u>NO. OF PUMPS</u></td></tr><tr><td></td><td>Core</td><td></td><td></td></tr><tr><td></td><td>Spray</td><td>≥ 4500 gpm</td><td>1 ≥ 90 psig</td></tr><tr><td></td><td>LPCI</td><td>≥ 9000 gpm</td><td>2 ≥ 20 psig</td></tr></table>					TEST LINE PRESSURE CORRESPONDING TO A REACTOR PRESSURE OF		<u>SYSTEM</u>	<u>FLOW RATE</u>	<u>NO. OF PUMPS</u>		Core				Spray	≥ 4500 gpm	1 ≥ 90 psig		LPCI	≥ 9000 gpm	2 ≥ 20 psig	In accordance with the INSERVICE TESTING PROGRAM
			TEST LINE PRESSURE CORRESPONDING TO A REACTOR PRESSURE OF																					
	<u>SYSTEM</u>	<u>FLOW RATE</u>	<u>NO. OF PUMPS</u>																					
	Core																							
	Spray	≥ 4500 gpm	1 ≥ 90 psig																					
	LPCI	≥ 9000 gpm	2 ≥ 20 psig																					

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.5.1.6	-----NOTE----- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. ----- Verify, with reactor pressure ≤ 1005 and ≥ 920 psig, the HPCI pump can develop a flow rate ≥ 5000 gpm against a system head corresponding to reactor pressure.	In accordance with the INSERVICE TESTING PROGRAM
SR 3.5.1.7	-----NOTE----- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. ----- Verify, with reactor pressure ≤ 180 psig, the HPCI pump can develop a flow rate ≥ 5000 gpm against a system head corresponding to reactor pressure.	In accordance with the Surveillance Frequency Control Program
SR 3.5.1.8	-----NOTE----- Vessel injection/spray may be excluded. ----- Verify each ECCS injection/spray subsystem actuates on an actual or simulated automatic initiation signal, except for valves that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.5.1.9	-----NOTE----- Valve actuation may be excluded. ----- Verify the ADS actuates on an actual or simulated automatic initiation signal.	In accordance with the Surveillance Frequency Control Program
SR 3.5.1.10	Verify each ADS valve actuator strokes when manually actuated.	In accordance with the Surveillance Frequency Control Program
SR 3.5.1.11	Verify automatic transfer capability of the LPCI swing bus power supply from the normal source to the backup source.	In accordance with the Surveillance Frequency Control Program
SR 3.5.1.12	Verify ADS pneumatic supply header pressure is > 80 psig.	In accordance with the Surveillance Frequency Control Program

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS), REACTOR PRESSURE VESSEL (RPV) WATER INVENTORY CONTROL, AND ISOLATION CONDENSER (IC) SYSTEM

3.5.3 IC System

LC0 3.5.3 The IC System shall be OPERABLE.

APPLICABILITY: MODE 1,
MODES 2 and 3 with reactor steam dome pressure > 150 psig.

ACTIONS

-----NOTE-----
LC0 3.0.4.b is not applicable to IC.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. IC System inoperable.	A.1 Verify by administrative means High Pressure Coolant Injection System is OPERABLE.	Immediately
	<u>AND</u> A.2 Restore IC System to OPERABLE status.	14 days <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. Required Action and associated Completion Time not met.	-----NOTE----- LC0 3.0.4.a is not applicable when entering MODE 3. -----	
	B.1 Be in MODE 3.	12 hours

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. (continued)	B.2 Lock an OPERABLE door closed.	24 hours
	<u>AND</u> B.3 -----NOTE----- Air lock doors in high radiation areas or areas with limited access due to inerting may be verified locked closed by administrative means. ----- Verify an OPERABLE door is locked closed.	Once per 31 days
C. Primary containment air lock inoperable for reasons other than Condition A or B.	C.1 Initiate action to evaluate primary containment overall leakage rate per LCO 3.6.1.1, using current air lock test results.	Immediately
	<u>AND</u>	
	C.2 Verify a door is closed.	1 hour
	<u>AND</u>	(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. (continued)	C.3 Restore air lock to OPERABLE status.	24 hours <u>OR</u> -----NOTE----- Not applicable if leakage exceeds limits or if loss of function has occurred. ----- In accordance with the Risk Informed Completion Time Program
D. Required Action and associated Completion Time not met.	D.1 Be in MODE 3. <u>AND</u> D.2 Be in MODE 4.	12 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.2.1	-----NOTES----- 1. An inoperable air lock door does not invalidate the previous successful performance of the overall air lock leakage test. 2. Results shall be evaluated against acceptance criteria applicable to SR 3.6.1.1.1. ----- Perform required primary containment air lock leakage rate testing in accordance with the Primary Containment Leakage Rate Testing Program.	In accordance with the Primary Containment Leakage Rate Testing Program
SR 3.6.1.2.2	Verify only one door in the primary containment air lock can be opened at a time.	In accordance with the Surveillance Frequency Control Program

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. -----NOTE----- Only applicable to penetration flow paths with two or more PCIVs. ----- One or more penetration flow paths with one PCIV inoperable for reasons other than Condition D.	A.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured.	4 hours except for main steam line <u>OR</u> In accordance with the Risk Informed Completion Time Program <u>AND</u> 8 hours for main steam line <u>OR</u> In accordance with the Risk Informed Completion Time Program
	<u>AND</u>	(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.2 -----NOTES----- 1. Isolation devices in high radiation areas may be verified by use of administrative means. 2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means. ----- Verify the affected penetration flow path is isolated.	Once per 31 days following isolation for isolation devices outside primary containment <u>AND</u> Prior to entering MODE 2 or 3 from MODE 4, if primary containment was de-inerted while in MODE 4, if not performed within the previous 92 days, for isolation devices inside primary containment

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. (continued)	C.2 -----NOTES----- 1. Isolation devices in high radiation areas may be verified by use of administrative means. 2. Isolation devices that are a locked, sealed, or otherwise secured may be verified by use of administrative means. ----- Verify the affected penetration flow path is isolated.	Once per 31 days following isolation
D. MSIV leakage rate not within limit.	D.1 Restore leakage rate to within limit.	8 hours
E. Required Action and associated Completion Time of Condition A, B, C, or D not met.	E.1 Be in MODE 3. <u>AND</u> E.2 Be in MODE 4.	12 hours 36 hours

3.6 CONTAINMENT SYSTEMS

3.6.1.6 Low Set Relief Valves

LC0 3.6.1.6 The low set relief function of two relief valves shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One low set relief valve inoperable.	A.1 Restore low set relief valve to OPERABLE status.	14 days <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. Required Action and associated Completion Time of Condition A not met.	-----NOTE----- LC0 3.0.4.a is not applicable when entering MODE 3. ----- B.1 Be in MODE 3.	 12 hours
C. Two low set relief valves inoperable.	C.1 Be in MODE 3. <u>AND</u> C.2 Be in MODE 4.	12 hours 36 hours

3.6 CONTAINMENT SYSTEMS

3.6.1.7 Reactor Building-to-Suppression Chamber Vacuum Breakers

LC0 3.6.1.7 Each reactor building-to-suppression chamber vacuum breaker shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

-----NOTE-----
Separate Condition entry is allowed for each line.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more lines with one reactor building-to-suppression chamber vacuum breaker not closed.	A.1 Close the open vacuum breaker.	7 days <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. One or more lines with two reactor building-to-suppression chamber vacuum breakers not closed.	B.1 Close one open vacuum breaker.	1 hour
C. One line with one or more reactor building-to-suppression chamber vacuum breakers inoperable for opening.	C.1 Restore the vacuum breaker(s) to OPERABLE status.	7 days <u>OR</u> In accordance with the Risk Informed Completion Time Program

(continued)

3.6 CONTAINMENT SYSTEMS

3.6.1.8 Suppression Chamber-to-Drywell Vacuum Breakers

LCO 3.6.1.8 Nine suppression chamber-to-drywell vacuum breakers shall be OPERABLE for opening.

AND

Twelve suppression chamber-to-drywell vacuum breakers shall be closed.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required suppression chamber-to-drywell vacuum breaker inoperable for opening.	A.1 Restore one vacuum breaker to OPERABLE status.	72 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. Required Action and associated Completion Time of Condition A not met.	-----NOTE----- LCO 3.0.4.a is not applicable when entering MODE 3. ----- B.1 Be in MODE 3.	 12 hours
C. One suppression chamber-to-drywell vacuum breaker not closed.	C.1 Close the open vacuum breaker.	4 hours

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition C not met.	D.1 Be in MODE 3.	12 hours
	<u>AND</u>	
	D.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.8.1	-----NOTES----- 1. Not required to be met for vacuum breakers that are open during Surveillances. 2. Not required to be met for vacuum breakers open when performing their intended function. ----- Verify each vacuum breaker is closed.	In accordance with the Surveillance Frequency Control Program
SR 3.6.1.8.2	Perform a functional test of each required vacuum breaker.	In accordance with the Surveillance Frequency Control Program <u>AND</u> Within 12 hours after any discharge of steam to the suppression chamber from the relief valves
SR 3.6.1.8.3	Verify the opening setpoint of each required vacuum breaker is ≤ 0.5 psid.	In accordance with the Surveillance Frequency Control Program

3.6 CONTAINMENT SYSTEMS

3.6.2.3 Suppression Pool Cooling

LC0 3.6.2.3 Two suppression pool cooling subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One suppression pool cooling subsystem inoperable.	A.1 Restore suppression pool cooling subsystem to OPERABLE status.	7 days <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. Required Action and associated Completion Time of Condition A not met.	-----NOTE----- LC0 3.0.4.a is not applicable when entering MODE 3. ----- B.1 Be in MODE 3.	12 hours
C. Two suppression pool cooling subsystems inoperable.	C.1 Restore one suppression pool cooling subsystem to OPERABLE status.	8 hours
D. Required Action and associated Completion Time of Condition C not met.	D.1 Be in MODE 3. <u>AND</u> D.2 Be in MODE 4.	12 hours 36 hours

3.6 CONTAINMENT SYSTEMS

3.6.2.4 Suppression Pool Spray

LC0 3.6.2.4 Two suppression pool spray subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One suppression pool spray subsystem inoperable.	A.1 Restore suppression pool spray subsystem to OPERABLE status.	7 days <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. Two suppression pool spray subsystems inoperable.	B.1 Restore one suppression pool spray subsystem to OPERABLE status.	8 hours
C. Required Action and associated Completion Time not met.	-----NOTE----- LC0 3.0.4.a is not applicable when entering MODE 3. ----- C.1 Be in MODE 3.	12 hours

3.6 CONTAINMENT SYSTEMS

3.6.2.6 Drywell Spray

LC0 3.6.2.6 Two drywell spray subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One drywell spray subsystem inoperable.	A.1 Restore drywell spray subsystem to OPERABLE status.	7 days <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. Two drywell spray subsystems inoperable.	B.1 Restore one drywell spray subsystem to OPERABLE status.	8 hours
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3. <u>AND</u>	12 hours
	C.2 Be in MODE 4.	36 hours

3.7 PLANT SYSTEMS

3.7.1 Containment Cooling Service Water (CCSW) System

LCO 3.7.1 Two CCSW subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CCSW pump inoperable.	A.1 Restore CCSW pump to OPERABLE status.	30 days
B. One CCSW pump in each subsystem inoperable.	B.1 Restore one CCSW pump to OPERABLE status.	7 days <u>OR</u> In accordance with the Risk Informed Completion Time Program
C. One CCSW subsystem inoperable for reasons other than Condition A.	C.1 Restore CCSW subsystem to OPERABLE status.	7 days <u>OR</u> In accordance with the Risk Informed Completion Time Program
D. Required Action and associated Completion Time of Conditions A, B, or C not met.	-----NOTE----- LCO 3.0.4.a is not applicable when entering MODE 3. ----- D.1 Be in MODE 3.	12 hours

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Both CCSW subsystems inoperable for reasons other than Condition B.	E.1 Restore one CCSW subsystem to OPERABLE status.	8 hours
F. Required Action and associated Completion Time of Condition E not met.	F.1 Be in MODE 3.	12 hours
	<u>AND</u> F.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.1.1	Verify each CCSW manual and power operated valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position or can be aligned to the correct position.	In accordance with the Surveillance Frequency Control Program

ACTIONS

-----NOTE-----
 LCO 3.0.4.b is not applicable to the unit and common DGs, but is applicable to the opposite unit DG.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required offsite circuit inoperable.	A.1 Perform SR 3.8.1.1 for OPERABLE required offsite circuit.	1 hour <u>AND</u> Once per 8 hours thereafter
	<u>AND</u> A.2 Declare required feature(s) with no offsite power available inoperable when the redundant required feature(s) are inoperable.	24 hours from discovery of no offsite power to one division concurrent with inoperability of redundant required feature(s)
	<u>AND</u> A.3 Restore required offsite circuit to OPERABLE status.	7 days <u>OR</u> In accordance with the Risk Informed Completion Time Program

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One required DG inoperable.	B.1 Perform SR 3.8.1.1 for OPERABLE required offsite circuit(s).	1 hour <u>AND</u> Once per 8 hours thereafter
	<u>AND</u>	
	B.2 Declare required feature(s), supported by the inoperable DG, inoperable when the redundant required feature(s) are inoperable.	4 hours from discovery of Condition B concurrent with inoperability of redundant required feature(s)
	<u>AND</u>	
	B.3.1 Determine OPERABLE DG(s) are not inoperable due to common cause failure.	24 hours
	<u>OR</u>	
	B.3.2 Perform SR 3.8.1.2 for OPERABLE DG(s).	24 hours
	<u>AND</u>	
	B.4 Restore required DG to OPERABLE status.	7 days <u>OR</u> In accordance with the Risk Informed Completion Time Program

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Two required offsite circuits inoperable.	C.1 Declare required feature(s) inoperable when the redundant required feature(s) are inoperable.	12 hours from discovery of Condition C concurrent with inoperability of redundant required feature(s)
	<u>AND</u>	
	C.2 Restore one required offsite circuit to OPERABLE status.	24 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One required offsite circuit inoperable. <u>AND</u> One required DG inoperable.	-----NOTE----- Enter applicable Conditions and Required Actions of LCO 3.8.7, "Distribution Systems—Operating," when Condition D is entered with no AC power source to any division. ----- D.1 Restore required offsite circuit to OPERABLE status. <u>OR</u> D.2 Restore required DG to OPERABLE status.	12 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program 12 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program
E. Two required DGs inoperable.	E.1 Restore one required DG to OPERABLE status.	2 hours

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. Required Action and associated Completion Time of Condition A, B, C, D, or E not met.	-----NOTE----- LC0 3.0.4.a is not applicable when entering MODE 3. ----- F.1 Be in MODE 3.	12 hours
G. Three or more required AC sources inoperable.	G.1 Enter LC0 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

- NOTES -----
1. SR 3.8.1.1 through SR 3.8.1.20 are applicable only to the given unit's AC electrical power sources.
 2. SR 3.8.1.21 is applicable to the opposite unit's AC electrical power sources.
-

SURVEILLANCE		FREQUENCY
SR 3.8.1.1	Verify correct breaker alignment and indicated power availability for each required offsite circuit.	In accordance with the Surveillance Frequency Control Program
SR 3.8.1.2	-----NOTES----- 1. All DG starts may be preceded by an engine prelube period and followed by a warmup period prior to loading. 2. A modified DG start involving idling and gradual acceleration to synchronous speed may be used for this SR as recommended by the manufacturer. When modified start procedures are not used, the time, voltage, and frequency tolerances of SR 3.8.1.8 must be met. 3. A single test of the common DG at the specified Frequency will satisfy the Surveillance for both units. ----- Verify each DG starts from standby conditions and achieves steady state voltage ≥ 3952 V and ≤ 4368 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.1.3	-----NOTES----- 1. DG loadings may include gradual loading as recommended by the manufacturer. 2. Momentary transients outside the load range do not invalidate this test. 3. This Surveillance shall be conducted on only one DG at a time. 4. This SR shall be preceded by and immediately follow, without shutdown, a successful performance of SR 3.8.1.2 or SR 3.8.1.8. 5. A single test of the common DG at the specified Frequency will satisfy the Surveillance for both units. ----- Verify each DG is synchronized and loaded and operates for ≥ 60 minutes at a load ≥ 2340 kW and ≤ 2600 kW.	In accordance with the Surveillance Frequency Control Program
SR 3.8.1.4	Verify each day tank contains ≥ 245 gal of fuel oil and each bulk fuel storage tank contains $\geq 10,000$ gal of fuel oil.	In accordance with the Surveillance Frequency Control Program
SR 3.8.1.5	Remove accumulated water from each day tank.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.1.6	Verify each fuel oil transfer pump operates to automatically transfer fuel oil from the storage tank to the day tank.	In accordance with the Surveillance Frequency Control Program
SR 3.8.1.7	Check for and remove accumulated water from each bulk storage tank.	In accordance with the Surveillance Frequency Control Program
SR 3.8.1.8	-----NOTES----- 1. All DG starts may be preceded by an engine prelube period. 2. A single test of the common DG at the specified Frequency will satisfy the Surveillance for both units. ----- Verify each DG starts from standby condition and achieves: a. In ≤ 13 seconds, voltage ≥ 3952 V and frequency ≥ 58.8 Hz; and b. Steady state voltage ≥ 3952 V and ≤ 4368 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz.	In accordance with the Surveillance Frequency Control Program
SR 3.8.1.9	Verify manual transfer of unit power supply from the normal offsite circuit to the alternate offsite circuit.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.1.10 -----NOTE----- A single test of the common DG at the specified Frequency will satisfy the Surveillance for both units. ----- Verify each DG rejects a load greater than or equal to its associated single largest post-accident load, and: - Following load rejection, the frequency is ≤ 66.73 Hz; - Within 3 seconds following load rejection, the voltage is ≥ 3952 V and ≤ 4368 V; and - Within 4 seconds following load rejection, the frequency is ≥ 58.8 Hz and ≤ 61.2 Hz.	In accordance with the Surveillance Frequency Control Program
SR 3.8.1.11 -----NOTES----- 1. A single test of the common DG at the specified Frequency will satisfy the Surveillance for both units. 2. Momentary transients outside the voltage limit do not invalidate this test. ----- Verify each DG does not trip and voltage is maintained ≤ 5000 V during and following a load rejection of ≥ 2340 kW and ≤ 2600 kW.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.1.12 -----NOTE----- All DG starts may be preceded by an engine prelube period. ----- Verify on an actual or simulated loss of offsite power 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 ≤ 13 seconds, 2. maintains steady state voltage ≥ 3952 V and ≤ 4368 V, 3. maintains steady state frequency ≥ 58.8 Hz and ≤ 61.2 Hz, and 4. supplies permanently connected loads for ≥ 5 minutes.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.1.13 -----NOTE----- All DG starts may be preceded by an engine prelube period. ----- Verify on an actual or simulated Emergency Core Cooling System (ECCS) initiation signal each DG auto-starts from standby condition and: a. In ≤ 13 seconds after auto-start, achieves voltage ≥ 3952 V and frequency ≥ 58.8 Hz; b. Achieves steady state voltage ≥ 3952 V and ≤ 4368 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz; and c. Operates for ≥ 5 minutes.	In accordance with the Surveillance Frequency Control Program
SR 3.8.1.14 Verify each DG's automatic trips are bypassed on actual or simulated loss of voltage signal on the emergency bus concurrent with an actual or simulated ECCS initiation signal except: a. Engine overspeed; and b. Generator differential current.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.1.15 -----NOTES----- 1. Momentary transients outside the load range and power factor limit do not invalidate this test. 2. If grid conditions do not permit, the power factor limit is not required to be met. Under this condition, the power factor shall be maintained as close to the limit as practicable. 3. A single test of the common DG at the specified Frequency will satisfy the Surveillance for both units. ----- Verify each DG operating within the power factor limit operates for ≥ 24 hours: a. For ≥ 2 hours loaded ≥ 2730 kW and ≤ 2860 kW; and b. For the remaining hours of the test loaded ≥ 2340 kW and ≤ 2600 kW.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.1.16 -----NOTES----- 1. This Surveillance shall be performed within 5 minutes of shutting down the DG after the DG has operated ≥ 2 hours loaded ≥ 2340 kW. Momentary transients below the load limit do not invalidate this test. 2. All DG starts may be preceded by an engine prelube period. 3. A single test of the common DG at the specified Frequency will satisfy the Surveillance for both units. ----- Verify each DG starts and achieves: a. In ≤ 13 seconds, voltage ≥ 3952 and frequency ≥ 58.8 Hz; and b. Steady state voltage ≥ 3952 V and ≤ 4368 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz.	In accordance with the Surveillance Frequency Control Program
SR 3.8.1.17 Verify each DG: a. Synchronizes with offsite power source while loaded with emergency loads upon a simulated restoration of offsite power; b. Transfers loads to offsite power source; and c. Returns to ready-to-load operation.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.1.18 Verify interval between each sequenced load block is $\geq 90\%$ of the design interval for each load sequence time delay relay.	In accordance with the Surveillance Frequency Control Program
SR 3.8.1.19 -----NOTE----- All DG starts may be preceded by an engine prelube period. ----- Verify, on an actual or simulated loss of offsite power signal in conjunction with an actual or simulated ECCS initiation 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 ≤ 13 seconds, 2. energizes auto-connected emergency loads including through time delay relays, where applicable, 3. maintains steady state voltage ≥ 3952 V and ≤ 4368 V, 4. maintains steady state frequency ≥ 58.8 Hz and ≤ 61.2 Hz, and 5. supplies permanently connected and auto-connected emergency loads for ≥ 5 minutes.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.1.20 -----NOTE----- All DG starts may be preceded by an engine prelube period. ----- Verify, when started simultaneously from standby condition, each DG achieves, in ≤ 13 seconds, voltage ≥ 3952 V and frequency ≥ 58.8 Hz.	In accordance with the Surveillance Frequency Control Program
SR 3.8.1.21 -----NOTE----- When the opposite unit is in MODE 4 or 5, or moving recently irradiated fuel assemblies in secondary containment, the following opposite unit SRs are not required to be performed: SR 3.8.1.3, SR 3.8.1.10 through SR 3.8.1.12, and SR 3.8.1.14 through SR 3.8.1.17. ----- For required opposite unit AC electrical power sources, the SRs of the opposite unit's Specification 3.8.1, except SR 3.8.1.9, SR 3.8.1.13, SR 3.8.1.18, SR 3.8.1.19, and SR 3.8.1.20, are applicable.	In accordance with applicable SRs

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.3 Restore the required 250 VDC battery charger to OPERABLE status.	7 days <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. One 250 VDC battery inoperable as a result of maintenance or testing.	B.1 Restore 250 VDC battery to OPERABLE status.	Prior to exceeding 7 cumulative days per operating cycle of battery inoperability, on a per battery basis, as a result of maintenance or testing
C. One 250 VDC battery inoperable, due to the need to replace the battery, as determined by maintenance or testing.	C.1 Restore 250 VDC battery to OPERABLE status.	7 days <u>OR</u> In accordance with the Risk Informed Completion Time Program

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One 250 VDC electrical power subsystem inoperable for reasons other than Conditions A, B, or C.	D.1 Restore 250 VDC electrical power subsystem to OPERABLE status.	2 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program
E. One required Division 1 or 2 125 VDC battery charger inoperable.	E.1 Restore 125 VDC battery terminal voltage to greater than or equal to the minimum established float voltage. <u>AND</u> E.2 Verify 125 VDC battery float current is ≤ 2 amps. <u>AND</u> E.3 Restore the required Division 1 or 2 125 VDC battery charger to OPERABLE status.	2 hours Once per 12 hours 7 days <u>OR</u> In accordance with the Risk Informed Completion Time Program

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. -----NOTE----- Only applicable if the opposite unit is in MODE 1, 2, or 3. ----- Division 1 or 2 125 VDC battery inoperable as a result of maintenance or testing.	F.1 Place associated OPERABLE alternate 125 VDC electrical power subsystem in service. <u>AND</u> F.2 Restore Division 1 or 2 125 VDC battery to OPERABLE status.	2 hours Prior to exceeding 7 cumulative days per operating cycle on a per battery basis
G. -----NOTE----- Only applicable if the opposite unit is in MODE 1, 2, or 3. ----- Division 1 or 2 125 VDC battery inoperable, due to the need to replace the battery, as determined by maintenance or testing.	G.1 Place associated OPERABLE alternate 125 VDC electrical power subsystem in service. <u>AND</u> G.2 Restore Division 1 or 2 125 VDC battery to OPERABLE status.	2 hours 7 days <u>OR</u> In accordance with the Risk Informed Completion Time Program

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
H. Division 1 or 2 125 VDC electrical power subsystem inoperable for reasons other than Conditions E, F, or G.	H.1 Restore Division 1 or 2 125 VDC electrical power subsystem to OPERABLE status.	2 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program
	<u>OR</u> H.2 -----NOTE----- Only applicable if the opposite unit is not in MODE 1, 2, or 3. ----- Place associated OPERABLE alternate 125 VDC electrical power subsystem in service.	2 hours
I. Opposite unit Division 2 125 VDC electrical power subsystem inoperable.	I.1 Restore opposite unit Division 2 125 VDC electrical power subsystem to OPERABLE status.	7 days <u>OR</u> -----NOTE----- Only applicable when a loss of function has not occurred. ----- In accordance with the Risk Informed Completion Time Program

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
J. Required Action and associated Completion Time not met.	-----NOTE----- LCO 3.0.4.a is not applicable when entering MODE 3. ----- J.1 Be in MODE 3.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.4.1 Verify battery terminal voltage is greater than or equal to the minimum established float voltage: a. for each 250 VDC subsystem; b. for each 125 VDC subsystem; and c. -----NOTE----- Only required to be met when the Unit 2 alternate battery is required to be OPERABLE. ----- for Unit 2 alternate battery.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.2 Verify each required 250 VDC battery charger supplies ≥ 200 amps at greater than or equal to the minimum established float voltage for ≥ 4 hours for the 250 VDC subsystems. <u>OR</u> Verify each 250 VDC battery charger can recharge the battery to the fully charged state within 24 hours while supplying the largest combined demands of the various continuous steady state loads, after a battery discharge to the bounding design basis event discharge state.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.4.3 Verify each required 125 VDC battery charger supplies ≥ 200 amps at greater than or equal to the minimum established float voltage for ≥ 4 hours for the 125 VDC subsystems. <u>OR</u> Verify each 125 VDC battery charger can recharge the battery to the fully charged state within 24 hours while supplying the largest combined demands of the various continuous steady state loads, after a battery discharge to the bounding design basis event discharge state.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.4 -----NOTE----- The modified performance discharge test in SR 3.8.6.6 may be performed in lieu of SR 3.8.4.4 provided the modified performance discharge test completely envelopes the service test. ----- Verify battery capacity is adequate to supply, and maintain in OPERABLE status, the required emergency loads for the design duty cycle when subjected to a battery service test.	In accordance with the Surveillance Frequency Control Program

3.8 ELECTRICAL POWER SYSTEMS

3.8.7 Distribution Systems—Operating

- LCO 3.8.7 The following electrical power distribution subsystems shall be OPERABLE:
- a. Division 1 and Division 2 AC and DC electrical power distribution subsystems; and
 - b. The portions of the opposite unit's Division 2 AC and DC electrical power distribution subsystem necessary to support equipment required to be OPERABLE by LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," LCO 3.7.4, "Control Room Emergency Ventilation (CREV) System" (Unit 3 only), LCO 3.7.5, "Control Room Emergency Ventilation Air Conditioning (AC) System" (Unit 3 only), and LCO 3.8.1, "AC Sources—Operating."

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more AC electrical power distribution subsystems inoperable.	A.1 Restore AC electrical power distribution subsystems to OPERABLE status.	8 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One or more DC electrical power distribution subsystems inoperable.	B.1 Restore DC electrical power distribution subsystems to OPERABLE status.	2 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program
C. One or more required opposite unit Division 2 AC or DC electrical power distribution subsystems inoperable.	-----NOTE----- Enter applicable Conditions and Required Actions of LCO 3.8.1 when Condition C results in the inoperability of a required offsite circuit. ----- C.1 Restore required opposite unit Division 2 AC and DC electrical power distribution subsystems to OPERABLE status.	7 days <u>OR</u> -----NOTE----- Only applicable when a loss of function has not occurred. ----- In accordance with the Risk Informed Completion Time Program

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition A, B, or C not met.	-----NOTE----- LC0 3.0.4.a is not applicable when entering MODE 3. ----- D.1 Be in MODE 3.	12 hours
E. Two or more electrical power distribution subsystems inoperable that, in combination, result in a loss of function.	E.1 Enter LC0 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.7.1	Verify correct breaker alignments and voltage to required AC and DC electrical power distribution subsystems.	In accordance with the Surveillance Frequency Control Program

5.5 Programs and Manuals

5.5.14 Control Room Envelope Habitability Program (continued)

inleakage, and measuring CRE pressure and assessing the CRE boundary as required by paragraphs c and d, respectively.

5.5.15 Surveillance Frequency Control Program

This program provides controls for Surveillance Frequencies. The program shall ensure that Surveillance Requirements specified in the Technical Specifications are performed at intervals sufficient to assure the associated Limiting Conditions for Operation are met.

- a. The Surveillance Frequency Control Program shall contain a list of Frequencies of those Surveillance Requirements for which the Frequency is controlled by the program.
- b. Changes to the Frequencies listed in the Surveillance Frequency Control Program shall be made in accordance with NEI 04-10, "Risk-informed Method for Control of Surveillance Frequencies," Revision 1.
- c. The provisions of Surveillance Requirements 3.0.2 and 3.0.3 are applicable to the Frequencies established in the Surveillance Frequency Control Program.

5.5.16 Risk Informed Completion Time Program

This program provides controls to calculate a Risk Informed Completion Time (RICT) and must be implemented in accordance with NEI 06-09-A, Revision 0, "Risk-Managed Technical Specifications (RMTS) Guidelines." The program shall include the following:

- a. The RICT may not exceed 30 days;
- b. A RICT may only be utilized in MODE 1 and 2;
- c. When a RICT is being used, any change to the plant configuration, as defined in NEI 06-09-A, Appendix A, must be considered for the effect on the RICT.
 1. For planned changes, the revised RICT must be determined prior to implementation of the change in configuration.

(continued)

5.5 Programs and Manuals

5.5.16 Risk Informed Completion Time Program (continued)

2. For emergent conditions, the revised RICT must be determined within the time limits of the Required Action Completion Time (i.e., not the RICT) or 12 hours after the plant configuration change, whichever is less.
 3. Revising the RICT is not required if the plant configuration change would lower plant risk and would result in a longer RICT.
 - d. For emergent conditions, if the extent of condition evaluation for inoperable structures, systems, or components (SSCs) is not complete prior to exceeding the Completion Time, the RICT shall account for the increased possibility of common cause failure (CCF) by either:
 1. Numerically accounting for the increased possibility of CCF in the RICT calculation; or
 2. Risk Management Actions (RMAs) not already credited in the RICT calculation shall be implemented that support redundant or diverse SSCs that perform the function(s) of the inoperable SSCs, and, if practicable, reduce the frequency of initiating events that challenge the function(s) performed by the inoperable SSCs.
 - e. A RICT calculation must include the following hazard groups: internal flood and internal events PRA model, internal fire PRA model, and seismic penalty factor, and external flood penalty factor. Changes to these means of assessing the hazard groups require prior NRC approval.
 - f. The PRA models used to calculate a RICT shall be maintained and upgraded in accordance with the processes endorsed in the regulatory positions of Regulatory Guide 1.200, Revision 3, "Acceptability of Probabilistic Risk Assessment Results for Risk-Informed Activities."
 - g. A report shall be submitted in accordance with Specification 5.6.7 before a newly developed method is used to calculate a RICT.
-

5.6 Reporting Requirements

5.6.5 CORE OPERATING LIMITS REPORT (COLR) (continued)

- c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.
- d. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

5.6.6 Post Accident Monitoring (PAM) Instrumentation Report

When a report is required by Condition B or F of LCO 3.3.3.1, "Post Accident Monitoring (PAM) Instrumentation," a report shall be submitted within the following 14 days. The report shall outline the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels of the Function to OPERABLE status.

5.6.7 Risk Informed Completion Time (RICT) Program Upgrade Report

A report describing newly developed methods and their implementation must be submitted following a probabilistic risk assessment (PRA) upgrade associated with newly developed methods and prior to the first use of those methods to calculate a RICT. The report shall include:

- a. The PRA models upgraded to include newly developed methods;
 - b. A description of the acceptability of the newly developed methods consistent with Section 5.2 of PWR0G-19027-NP, Revision 2, "Newly Developed Method Requirements and Peer Review;"
 - c. Any open findings from the peer-review of the implementation of the newly developed methods and how those findings were dispositioned; and
 - d. All changes to key assumptions related to newly developed methods or their implementation.
-



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NOS. 286 AND 279 TO RENEWED
FACILITY OPERATING LICENSE NOS. DPR-19 AND DPR-25
CONSTELLATION ENERGY GENERATION, LLC
DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3
DOCKET NOS. 50-237 and 50-249

1.0 INTRODUCTION

By application dated May 8, 2024 (Reference [1]), as supplemented by letters dated October 21, 2024 (Supplement No. 1, Reference [2]), March 21, 2025 (Supplement No. 2, Reference [3]), April 23, 2025 (request for additional information (RAI) response), (Reference [4]) and June 2, 2025 (Supplement No. 3, Reference [5]). Constellation Energy Generation, LLC (Constellation, the licensee) submitted a license amendment request (LAR) for Dresden Nuclear Power Station, Units 2 and 3 (Dresden or DNPS).

The amendment would revise technical specification (TS) requirements to permit the use of risk-informed completion times (RICTs) for actions to be taken when limiting conditions for operation (LCOs) are not met. The proposed changes are based on Technical Specifications Task Force (TSTF) Traveler TSTF-505, Revision 2, "Provide Risk Informed Extended Completion Times – RITSTF [Risk-Informed TSTF] Initiative 4b," dated July 2, 2018 (TSTF-505) (Reference [6]), as revised by Traveler TSTF-591, Revision 0, "Revise Risk-Informed Completion Time (RICT) Program" (TSTF-591) (Reference [7]). The U.S. Nuclear Regulatory Commission (NRC, the Commission) issued final revised model safety evaluations (SEs) for the following: TSTF-505 on November 21, 2018 [Reference 8], and TSTF-591 on September 21, 2023 [Reference 9].

On October 21, 2024, Dresden submitted a supplement that corrected RICT days estimates listed in Table E1-2 of the LAR that did not incorporate the high wind/tornado missile penalty factor values. The extent of condition also included correcting the sensitivity calculations performed in Enclosure 9 of the LAR.

The licensee has proposed variations from the TS changes approved in TSTF-505, which are provided in Section 2.4, "Optional Changes and Variations," of Attachment 1, "Description and Assessment," to the LAR and evaluated in section 3.2.1 of this SE.

The NRC staff participated in a regulatory audit to ascertain the information needed to support its review of the application and to develop RAIs, as needed. Following the regulatory audit, the licensee submitted a supplemental letter dated March 21, 2025, that included additional information resulting from the audit. In the letter, the licensee proposed inclusion of TS 3.6.2.4.A.1 into the scope of the Dresden RICT program. In the letter dated April 23, 2025, the

licensee provided its response to an RAI to further support the NRC staff's review. On June 2, 2025, in a supplement to the initial RAI response, the licensee addressed (1) including the external flooding penalty factor in a markup for TS 5.5.16, (2) addressing a discrepancy in procedure revisions, (3) updating the Modular Accident Analysis Program (MAAP) analysis to not include any availability from vital direct current (DC) power, and (4) addressing uncertainty in the MAAP analysis results. In a letter to the licensee dated May 20, 2025, the NRC staff issued an audit summary (Reference [10]).

The supplemental letters and response to the RAI provided additional information that included an additional TS LCO to the proposed Dresden RICT program and clarified the application. The supplemental letters and RAI response did not expand the scope of the application as originally noticed in the *Federal Register* and did not change the NRC staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on July 9, 2024 (89 FR 56441).

2.0 REGULATORY EVALUATION

2.1 Regulatory Review

2.1.1 Applicable Regulations

Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50 provides the general provisions for "Domestic Licensing of Production and Utilization Facilities." The general provisions include but are not limited to establishing the regulatory requirements that a licensee must adhere to for the submittal of a license application. The NRC staff has identified the following applicable sections within 10 CFR Part 50 for the staff's review of the licensee's application to adopt TSTF-505.

- 10 CFR 50.36, "Technical specifications," which specifies the content and information that must be included in the licensee's TS. In accordance with 10 CFR 50.36(c), the TSs are required to include (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation; (3) surveillance requirements; (4) design features; and (5) administrative controls.
- 10 CFR 50.55a, "Codes and standards," of which 10 CFR 50.55a(h), "Protection and safety systems", specifies the requirements for protections systems of the nuclear power reactors of all types.
- 10 CFR 50.65, "Requirements for monitoring the effectiveness of maintenance at nuclear power plants," (i.e., the Maintenance Rule), which requires that the power reactor licensees monitor the performance or condition of structures, systems, and components against licensee-established goals in a manner sufficient to provide reasonable assurance that such structures, systems, and components are capable of fulfilling their intended functions.

2.1.2 Regulatory Guidance

NRC Regulatory Guides (RGs) provide one way to ensure that the codified regulations continue to be met. The NRC staff considered the following guidance, along with industry guidance endorsed by the NRC, during its review of the proposed changes:

- RG 1.200, Revision 3, “Acceptability of Probabilistic Risk Assessment Results for Risk-Informed Activities,” dated December 2020 Reference [11]).
- RG 1.174, Revision 3, “An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis,” dated January 2018 (Reference [12]).
- RG 1.177, Revision 2, “An Approach for Plant-Specific, Risk-Informed Decisionmaking: -Technical Specifications,” dated January 2021 (Reference [13]).
- NUREG-1855, Revision 1, “Guidance on the Treatment of Uncertainties Associated with PRAs [Probabilistic Risk Assessments] in Risk-Informed Decisionmaking,” dated March 2017 (Reference [14]).
- NUREG-0800, “Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR [Light-Water Reactor] Edition [SRP],” Section 16.1, “Risk-Informed Decision Making: Technical Specifications,” and Section 19.2, Review of Risk Information Used to Support Permanent Plant-Specific Changes to the Licensing Basis: General Guidance,” dated March 2007, and June 2007, respectively (Reference [15]).
- Nuclear Energy Institute (NEI) Topical Report NEI 06-09, Revision 0-A, “Risk-Informed Technical Specifications Initiative 4b, Risk-Managed Technical Specifications (RMTS) Guidelines,” dated October 2012 (NEI 06-09-A) (Reference [16]), provides guidance for risk-informed TSs. The NRC staff issued a final SE approving NEI 06-09 on May 17, 2007 (Reference [17]).

RG 1.174 has been updated to Revision 3. The update does not include any technical changes that impact the consistency with NEI 06-09-A; therefore, the NRC staff finds the updated revision to RG 1.174 is also applicable for use in the licensee’s adoption of TSTF-505 and will be the revision referred to in the remainder of this SE.

2.2 Description of the RICT Program

The TS LCOs are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When an LCO is not met, the licensee must shut down the reactor or follow any required action (e.g., testing, maintenance, or repair activity) permitted by the TSs until the condition can be met. The required actions (i.e., ACTIONS) associated with an LCO contain Conditions that typically describe the ways in which the requirements of the LCO can fail to be met. Specified with each stated Condition are Required Action(s) and Completion Time(s) (CT). The CTs are referred to as the “front stops” in the context of this SE. For certain conditions, the TSs require exiting the Mode of Applicability of an LCO (i.e., shut down the reactor).

The licensee's submittal requested approval to add a RICT Program to the Administrative Controls section of the TSs, and modify selected CTs to permit extending the CTs, provided risk is assessed and managed as described in NEI 06-09-A. Consistent with Table 1, "Conditions Requiring Additional Technical Justification NUREG-1433, BWR/4 STS" (standard technical specifications)(Reference [18]) of TSTF-505, Revision 2, the licensee provided plant-specific LCOs and associated Actions that DNPS proposed to be included in the RICT Program, along with additional justification. The NRC staff's review of these variations and the justification is provided in Section 3.0 of this SE.

The licensee proposes no changes to the design of the plant or any operating parameter, and no new changes to the design basis in the proposed changes to the TSs. The effect of the proposed changes, when implemented, will allow CTs to vary based on the risk significance of the given plant configuration (i.e., the equipment out of service at any given time), provided that the system(s) retain(s) the capability to perform the applicable safety function(s) without any further failures (e.g., one train of a two-train system is inoperable). These restrictions on inoperability of all required trains of a system ensure that consistency with the defense-in-depth (DID) philosophy is maintained by following existing guidance when the capability to perform TS safety function(s) is lost.

The proposed RICT Program uses plant-specific operating experience for component reliability and availability data. Thus, the allowances permitted by the RICT Program are directly reflective of actual component performance in conjunction with component risk significance.

For the TS use and application, Example 1.3-8, will be added to TS 1.3, CTs, and will read as follows:

Example 1.3-8

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One subsystem inoperable.	A.1 Restore subsystem to OPERABLE status.	7 days <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. <u>AND</u> B.2 Be in MODE 4.	12 hours 36 hours.

When a subsystem is declared inoperable, Condition A is entered. The 7-day Completion Time may be applied as discussed in Example 1.3-2. However, the licensee may elect to apply the Risk Informed Completion Time Program which permits calculation of a Risk Informed Completion Time (RICT) that may be used to complete the Required Action beyond the 7-day Completion Time.

The RICT cannot exceed 30 days. After the 7-day Completion Time has expired, the subsystem must be restored to OPERABLE status within the RICT, or Condition B must also be entered.

The RICT Program requires recalculation of the RICT to reflect changing plant conditions. For planned changes, the revised RICT must be determined prior to implementation of the change in configuration. For emergent conditions, the revised RICT must be determined within the time limits of the Required Action Completion Time (i.e., not the RICT) or 12 hours after the plant configuration change, whichever is less.

If the 7-day Completion Time clock of Condition A has expired and subsequent changes in plant condition result in exiting the applicability of the RICT Program without restoring the inoperable subsystem to OPERABLE status, Condition B is also entered, and the Completion Time clocks for Required Actions B.1 and B.2 start.

If the RICT expires or is recalculated to be less than the elapsed time since the Condition was entered and the inoperable subsystem has not been restored to OPERABLE status, Condition B is also entered, and the Completion Time clocks for Required Actions B.1 and B.2 start. If the inoperable subsystems are restored to OPERABLE status after Condition B is entered, Condition A is exited, and therefore, the Required Actions of Condition B May be terminated.

3.0 TECHNICAL EVALUATION

An acceptable approach for making risk-informed decisions about proposed TS changes, including both permanent and temporary changes, is to demonstrate that the proposed licensing basis changes meet the five key principles provided in RGs 1.174 and 1.177 and the three-tiered approach outlined in RG 1.177.

3.1 Method of NRC Staff Review

Each of the key principles and tiers are addressed in NEI 06-09-A and approved in the final model SE issued by the NRC for TSTF-505, Revision 2. NEI 06-09-A provides a methodology for extending existing CTs, and to thereby delay exiting the operational mode of applicability or taking Required Actions if risk is assessed and managed within the limits and programmatic requirements established by a RICT Program. The NRC staff's evaluation of the licensee's proposed use of RICTs against the key safety principles of RGs 1.174 and 1.177 is discussed below.

3.2 Review of Key Principles

3.2.1 Key Principle 1: Evaluation of Compliance with Current Regulations

10 CFR 50.36(c)(2) requires that LCOs are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When an LCO of a nuclear reactor

is not met, the licensee shall shut down the reactor or follow any required action permitted by the TS until the condition can be met.

The CTs in the current TSs were established using experiential data, risk insights, and engineering judgement. The RICT Program provides the necessary administrative controls to permit extension of CTs and, thereby, delay reactor shutdown or Required Actions, if risk is assessed and managed appropriately within specified limits and programmatic requirements and the safety margins and DID remains sufficient. The option to determine the extended CT in accordance with the RICT Program allows the licensee to perform an integrated evaluation in accordance with the methodology prescribed in NEI 06-09-A and proposed TS 5.5.16, "Risk Informed Completion Time Program." The RICT is limited to a maximum of 30 days (termed the "back stop").

The typical CT is modified by the application of the RICT Program as shown in the following example. The changed portion is indicated in italics.

ACTIONS		
CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One subsystem inoperable.	A.1 Restore subsystem to OPERABLE status.	7 days <u>OR</u> <i>In accordance with the Risk Informed Completion Time Program</i>

In attachment 2, "Proposed Technical Specification Changes (Mark-Up)," and Enclosure 1, "List of Revised Required Actions to Corresponding PRA Functions," to the LAR, as supplemented, the licensee provided a list of the TSs, associated LCOs, and Required Actions for the CTs proposed to be included in the RICT program. The markups included modifications and variations from the approved TSTF-505. The modifications and variations consisted of proposed addition of a RICT to the Required Action CTs for TS Actions 3.5.3.A and 3.6.2.6.A which were not included in TSTF-505, as well as variations due to plant-specific variations from the STS such as differences in TS numbering and plant nomenclature. Furthermore, consistent with table 1 of TSTF-505, the licensee included additional technical justification to demonstrate the acceptability for including these TSs in the RICT program. The additional justifications were provided in Table E1-3, "TSTF-505, Revision 2, Table 1 TS that Require Additional Justification," of Enclosure 1 to the LAR, as supplemented. The NRC staff reviewed the proposed changes to the TSs, associated LCOs, Required Actions, and CTs provided by the licensee for the scope of the RICT Program and concluded that, with the incorporation of the RICT Program, the required performance levels of equipment specified in LCOs are not changed, only the required CT for the Required Actions are modified, such that 10 CFR 50.36(c)(2) will continue to be met. Based on the discussion provided above, the NRC staff finds that the TS program provided in section 2.0 of this SE, LCOs, Required Actions, and CTs meet the first key principle of RGs 1.174 and 1.177.

3.2.2 Key Principle 2: Evaluation of DID

In RG 1.174, the NRC identified the following considerations used for evaluation of how the licensing basis change is maintained for the DID philosophy:

- Preserve a reasonable balance among the layers of defense.
- Preserve adequate capability of design features without an overreliance on programmatic activities as compensatory measures.
- Preserve system redundancy, independence, and diversity commensurate with the expected frequency and consequences of challenges to the system, including consideration of uncertainty.
- Preserve adequate defense against potential CCFs [common cause failures].
- Maintain multiple fission product barriers.
- Preserve sufficient defense against human errors.
- Continue to meet the intent of the plant's design criteria.

The licensee requested to use the RICT Program to extend the existing CTs for the respective TS LCOs described in attachment 2 to the LAR, as supplemented. For the TS LCOs in Section 5, "Evaluation of Instrumentation and Control Systems," of Enclosure 1 to the LAR, as supplemented, the licensee provided a description and assessment of the redundancy and diversity for the proposed changes. The NRC staff's evaluation of the proposed changes for these LCOs assessed Dresden redundant or diverse means to mitigate accidents to ensure consistency with the plant licensing basis requirements using the guidance in RGs 1.174 and 1.177, and TSTF-505 to ensure adequate DID (for each of the functions) to operate the facility in the proposed manner (i.e., that the changes are consistent with the DID criteria).

Enclosure 1 to the LAR, as supplemented, provided information supporting the Dresden evaluation of the redundancy, diversity, and DID for each TS LCO and TS Required Action as it relates to instrumentation and control (I&C) and electrical power systems. The NRC confirmed that for the following TS LCOs, the above DID criteria were applicable except for the criteria for maintaining multiple fission product barriers.

- LCO 3.3.1.1, "Reactor Protection System (RPS) Instrumentation," in which changes to the following COMPLETION TIMES are proposed:
 - CONDITION A. REQUIRED ACTIONs A.1 & A.2
 - CONDITION B. REQUIRED ACTIONs B.1 B.2
- LCO 3.3.2.2, "Feedwater System and Main Turbine High Water Level Trip Instrumentation," in which changes to the following COMPLETION TIMES are proposed:
 - CONDITION A. REQUIRED ACTION A.1

- LCO 3.3.4.1, "Anticipated Transient Without Scram Recirculation Pump Trip (ATWS-RPT) Instrumentation," in which changes to the following COMPLETION TIMES are proposed:
 - CONDITION A REQUIRED ACTIONS A.1 & A.2
 - CONDITION B REQUIRED ACTION B.3
 - CONDITION C REQUIRED ACTION C.2
 - CONDITION D REQUIRED ACTION D.2.1
 - CONDITION E REQUIRED ACTION E.2
 - CONDITION F REQUIRED ACTION F.2
 - CONDITION G REQUIRED ACTION G.2
- LCO 3.3.5.3, "Isolation Condenser (IC) System Instrumentation," in which changes to the following COMPLETION TIMES are proposed:
 - CONDITION A REQUIRED ACTION A.2
- LCO 3.3.6.1, "Primary Containment Isolation Instrumentation," in which changes to the following COMPLETION TIMES are proposed:
 - CONDITION A REQUIRED ACTION A.1
- LCO 3.3.6.3, "Relief Valve Instrumentation," in which changes to the following COMPLETION TIMES are proposed:
 - CONDITION A REQUIRED ACTION A.1
- LCO 3.3.8.1, "Loss of Power (LOP) Instrumentation," in which changes to the following COMPLETION TIMES are proposed:
 - CONDITION A REQUIRED ACTION A.1

For the TS LCO specific to I&C (i.e., TS 3.3 INSTRUMENTATION), the NRC staff reviewed the specific trip logic arrangements, redundancy, backup systems, manual actions, and diverse trips specified for each of the protective safety functions and associated instrumentation as described in the associated Updated Final Safety Analysis Report (UFSAR) (Reference [19]) sections, and as reflected in Enclosure 1 to the LAR, as supplemented, for each I&C LCO above. The NRC staff verified that, in accordance with the Dresden UFSAR, the equipment and actions credited in Enclosure 1 to the LAR, as supplemented, and the notes proposed in the LAR that prohibit the application of the RICT Program when there is a loss of function in all applicable operating modes, the affected protective feature performs its intended function by ensuring the ability to detect and mitigate the associated event or accident when the CT of a channel is extended.

Furthermore, the NRC staff concludes that there is sufficient I&C redundancy, diversity, and DID, to protect against CCFs and potential single failure for the instrumentation systems evaluated in LAR Enclosure 1, as supplemented, during a RICT. There is at least one diverse means, including manual actuations, specified by the licensee for initiating mitigating action for each accident event, thus providing DID against a failure of instrumentation during the RICT for each TS LCO.

The NRC staff confirms that sufficient diversities exist for all proposed changes and concludes that there is not over-reliance of programmatic activities as compensatory measures. Therefore, the NRC staff finds that the DID principle for the I&C safety functions is maintained.

For the TS LCO specific to electrical power systems (i.e., TS 3.6.3), the NRC staff reviewed the information the licensee provided in the LAR, as supplemented, for the proposed TS LCOs, TS Bases, and the UFSAR to verify the capacity and capability of the affected electrical power systems to perform their safety functions (assuming no additional failures) is maintained. The NRC staff verified that the design success criteria in enclosure 1, table E1-1, "In scope TS/LCO Conditions to Corresponding PRA Functions," to the LAR, as supplemented, for the affected TS LCOs reflect the minimum electrical power source(s)/subsystem(s) required to be operable to support their safety functions necessary to mitigate postulated design basis accidents (DBAs), safely shutdown the reactor, and maintain the reactor in a safe shutdown condition. In addition, the NRC staff reviewed the risk management action (RMA) examples in enclosure 12, "Risk Management Action Examples," to the LAR, which provide reasonable assurance that the appropriate RMAs will be implemented to monitor and control risk. The NRC staff finds that the intent of the plant's design criteria (e.g., safety functions) applicable to the electrical power systems related TS LCOs provided above is maintained.

The NRC staff notes that while in a TS LCO condition, the redundancy of the affected system is temporarily relaxed and, consequently, the system reliability is degraded accordingly. The NRC staff examined the design information from the DNPS UFSAR and the risk-informed TS LCO conditions for the affected safety functions. Based on this information, the NRC staff confirmed that under any given DBA evaluated in the DNPS UFSAR, the affected protective features maintain adequate DID.

Considering that the CT extensions are implemented in accordance with the NEI 06-09-A guidance that also considers RMAs, and the redundancy of the offsite and onsite power system, the NRC staff finds that the plant maintains adequate DID. Therefore, the NRC staff finds the TS LCOs proposed by the licensee in attachment 2 to the LAR, as supplemented, are acceptable for the RICT Program.

The NRC staff reviewed all TS LCOs proposed by the licensee in attachment 2 to the LAR, as supplemented, and concludes that the proposed changes do not alter the ways in which the DNPS systems fail, do not introduce new CCF modes, and the system independence is maintained.

The NRC staff finds that some proposed changes reduce the level of redundancy of the affected systems, and this reduction may reduce the level of defense against some CCFs; however, such reductions in redundancy and defense against CCFs are acceptable due to existing diverse means available to maintain adequate DID against a potential single failure during a RICT. The NRC staff finds that extending the selected CTs with the RICT Program following loss of redundancy, but maintaining the capability of the system to perform its safety function, is an acceptable reduction in DID during the proposed RICT period provided that the licensee identifies and implements compensatory measures in accordance with the RICT Program during the extended CT.

Based on the above, the NRC staff finds that the licensee's proposed changes are consistent with the NRC-endorsed guidance prescribed in NEI 06-09-A and satisfy the second key principle in RGs 1.174 and 1.177. Additionally, the NRC staff concludes that the changes are consistent with the DID philosophy as described in RG 1.174.

3.2.3 Key Principle 3: Evaluation of Safety Margins

Paragraph 50.55a(h) of 10 CFR requires, in part, that “[p]rotection systems of nuclear power reactors of all types must meet the requirements specified in this paragraph.” Section 2.2.2, “Technical Specification Change Maintains Sufficient Safety Margin (Principle 3),” of RG 1.177 states, in part, that sufficient safety margins are maintained when:

- a. Codes and standards ... or alternatives approved for use by the NRC are met....
- b. Safety analysis acceptance criteria in the final safety analysis report are met, or proposed revisions provide sufficient margin to account for analysis and data uncertainties....

The licensee is not proposing to change any quality standard, material, or operating specification in this application. In the LAR, as supplemented, the licensee proposed to add a new program, “Risk Informed Completion Time Program,” in section 5.0, “Administrative Controls,” of the DNPS TSs, which requires adherence to NEI 06-09-A.

The NRC staff evaluated the effect on safety margins when the RICT is applied to extend the CT up to a backstop of 30 days in a TS condition with sufficient trains remaining operable to fulfill the TS safety function. Although the licensee is able to have design basis equipment out of service longer than the current TS allowance, any increase in unavailability is expected to be insignificant and is addressed by the consideration of the single failure criterion in the design basis analyses. Acceptance criteria for operability of equipment are not changed and, if sufficient trains remain operable to fulfill the TS safety function, the operability of the remaining train(s) ensures that the current safety margins are maintained. The NRC staff finds that if the specified TS safety function remains operable, sufficient safety margins would be maintained during the extended CT of the RICT Program.

Safety margins are also maintained if PRA functionality is determined for the inoperable train, which would result in an increased CT. Credit for PRA functionality, as described in NEI 06-09-A, is limited to the inoperable train, subsystem, or component.

Based on the above, the NRC staff finds that the design basis analyses for DNPS remains applicable and unchanged, sufficient safety margins are maintained during the extended CT, and the proposed changes to the TSs do not include any change in the standards applied or the safety analysis acceptance criteria. The NRC staff concludes that the proposed changes meet 10 CFR 50.55a(h), and therefore, the third key principle of RGs 1.174 and 1.177.

3.2.4 Key Principle 4: Change in Risk Consistent with the Safety Goal Policy Statement

NEI 06-09-A provides a methodology for a licensee to evaluate and manage the risk impact of extensions to TS CTs. Permanent changes to the fixed TS CTs are typically evaluated by using the three-tiered approach described in section 16.1 of the SRP and RG 1.177. This approach addresses the calculated change in risk as measured by the change in core damage frequency (CDF) and large early release frequency (LERF), as well as the incremental conditional core damage probability and incremental conditional large early release probability, the use of compensatory measures to reduce risk, and the implementation of a Configuration Risk Management Program (CRMP) to identify risk-significant plant configurations.

The NRC staff evaluated the licensee's processes and methodologies for determining that the change in risk from implementation of RICTs is small and consistent with the intent of the Commission's Safety Goal Policy Statement (Reference [20]). In addition, the NRC staff evaluated the licensee's proposed changes against the three-tiered approach in RG 1.177 for the licensee's evaluation of the risk associated with a proposed TS CT change. The results of the NRC staff's review are discussed below.

3.2.4.1 Tier 1: PRA Capability and Insights

The first tier evaluates the impact of the proposed changes on plant operational risk. The Tier 1 review involves two aspects: (1) scope and acceptability of the PRA models and their application to the proposed changes, and (2) a review of the PRA results and insights described in the licensee's application.

Enclosures 2, "Information Supporting Consistency with Regulatory Guide 1.200, Revision 3," and 4, "Information Supporting Justification of Excluding Sources of Risk Not Addressed by the PRA Models," to the LAR identified the following modeled hazards and alternate methodologies the licensee proposed to be used in the DNPS RICT Program to assess the risk contribution for extending the CT of a TS LCO.

- Internal events PRA model (includes internal floods)
- Internal fire events PRA model
- Seismic hazard: CDF penalty of $8.0\text{E-}06$ per year and a LERF penalty of $2.6\text{E-}06$ per year for an inerted containment or $8.0\text{E-}06$ per year for a de-inerted containment
- External flooding: CDF penalty of $2.0\text{E-}5$ per year for entries into the isolation condenser (IC) system LCO 3.5.3. There is no LERF penalty associated with external flooding
- Extreme winds and tornado hazards: baseline high wind/tornado missile (HW/TM) CDF penalty of $5.0\text{E-}05$ per year and a HW/TM LERF penalty of $5.0\text{E-}06$ per year; HW/TM CDF penalty of $1.1\text{E-}04$ per year when either an emergency diesel generator (EDG) (LCO 3.8.1) or Division 1 AC (LCO 3.8.7) is unavailable and HW/TM LERF penalty of $1.5\text{E-}05$ per year when either containment (LCO 3.6.1) or Division 1 AC (LCO 3.8.7) is unavailable
- Other external hazards: screened out from RICT program based on appendix 6-A of the American Society of Mechanical Engineers (ASME)/American Nuclear Society (ANS) RA-Sa-2009 PRA Standard (Reference [21])

Evaluation of Internal Events and Fire PRA Models

In Enclosure 2, Sections 3 and 4 of the LAR, the licensee states that the internal events PRA (IEPRA) and fire PRA (FPRA) models were subjected to a full-scope peer review in 2016 with the internal floods peer review performed in 2009, and the initial FPRA full-scope peer review report issued in 2014. Subsequently, in 2017, 2021, and 2023, the licensee conducted Independent Assessments for closure of the finding-level facts and observations (F&Os) and concluded that all the IEPRA (includes internal floods) and FPRA F&Os have been closed. In 2023, for the IEPRA, a focused-scope peer review was performed on a new method with a

follow-up F&O closure review. In 2021 and 2023, focused-scope peer reviews were performed on the FPRA, and a final F&O closure review was conducted in June 2023 closing all remaining open findings. All peer reviews were conducted using ASME/ANS RA-Sa-2009 PRA standard, as endorsed by RG 1.200, Revision 2 (Reference [22]). F&O closure reviews were conducted using the process documented in Appendix X to NEI 05-04, NEI 07-12 and NEI 12-13 (Reference [23]), as accepted with conditions by NRC in the letter dated May 3, 2017 (Reference [24]).

The licensee further asserts for the IEPR and FPRA models, there are no PRA upgrades that have not been peer reviewed, or PRA upgrades associated with the resolution of findings. Furthermore, in Enclosure 2 of the LAR, the Independent Assessment team concurred with the licensee that there were no PRA upgrades associated with the resolution of the finding-level F&Os for both the IEPR and FPRA models. The NRC staff concluded that all F&Os were appropriately assessed by the Independent Assessment team to assure that no new methods or upgrades were inadvertently incorporated into the IEPR without a peer review in accordance with the ASME/ANS RA-Sa-2009 PRA standard as endorsed by the NRC. Specifically, for the FPRA, the licensee provided LAR Supplement No. 2 that included additional information to demonstrate and confirm that the FPRA does not incorporate any unapproved methods, or methods that deviate from NUREG/CR-6850 (Reference [25]) .

The NRC staff reviewed the IEPR and FPRA models' peer review history provided by the licensee in Enclosure 2 to the LAR, as supplemented. The licensee adequately applied the guidance for establishing PRA technical acceptability for the IEPR (includes internal floods) and FPRA models. The NRC staff further considered the key PRA assumptions and key sources of uncertainty identified by the licensee, the licensee's proposed use of surrogates in the PRA models for specific TS functions, and credit for FLEX equipment and digital I&C. Therefore, the NRC staff finds the DNPS IEPR (includes internal floods) and FPRA to be acceptable commensurate with the RICT application.

Evaluation of Seismic Hazard

The licensee's approach for including the seismic risk contribution in the RICT calculation is to add a penalty seismic CDF and a penalty seismic LERF to each RICT calculation. The proposed bounding seismic CDF estimate was based on using the plant-specific mean seismic hazard curve developed in response to the Near-Term Task Force recommendation 2.1 (Reference [26]) and a plant-level mean high confidence of low probability of failure (HCLPF) capacity of 0.2g referenced to peak ground acceleration (PGA). The uncertainty parameter for seismic capacity was represented by a composite beta factor (β_c) of 0.4. The calculated seismic CDF penalty is 8.0E-06 per year based on PGA, which is conservative when compared to a typical average of four frequencies, namely PGA (100), 10, 5, and 1 Hertz. The staff's review finds that the method to determine the baseline seismic CDF acceptable because it is consistent with the approach used in NRC Generic Issue 199 (GI-199) (Reference [27]). In addition, the plant-level HCLPF of 0.2g and beta factor of 0.4 used are also consistent with the values presented for DNPS in Table C-2, "Plant-Level Fragility Data," of GI-199. For this application, the NRC staff convolved the input parameters identified by the licensee to confirm the proposed bounding seismic CDF estimate.

Concerning the proposed bounding seismic LERF estimate, the licensee explained in the LAR that an estimate of the seismic LERF was obtained by convolving the estimated seismic CDF (as described above) with a limiting fragility for primary containment integrity of 0.28g PGA HCLPF based on the DNPS Individual Plant Examination of External Events (IPEEE) seismic

margins assessment (Reference [28]). The calculated seismic LERF is $2.6\text{E-}06$ per year for an inerted containment. For the de-inerted containment, the penalty assumes that the seismic LERF estimate is equal to seismic CDF estimate and, therefore, is $8.0\text{E-}6$ per year. The NRC staff finds that the licensee's approach to determining a seismic LERF estimate to be acceptable because use of a 0.28 PGA HCLPF as the limiting fragility for containment integrity (which is close to 0.2 PGA HCLPF for the plant level fragility in the seismic CDF estimation), is conservative for the inerted containment and because the approach for de-inerted containment is acceptable for this application.

The licensee stated in the LAR that the DNPS seismic penalty calculation addresses the risk of seismic-induced loss of offsite power (LOOP) by conservatively including very low magnitude seismic events (as low as 0.0005g PGA), which is a very small fraction of the DNPS safe shutdown earthquake (SSE), in the seismic CDF and seismic LERF convolution calculations. The 24-hr non-recovered seismic-induced LOOP frequency is a very small percentage (approximately 1.1 percent for seismic events up to the SSE) of the frequency of such challenges already captured in the IEPRA such that it will not significantly impact the RICT Program calculations and therefore has been omitted. The NRC staff finds that this evaluation adequately addresses the impact of seismic-induced LOOPS for very low magnitude seismic events and has an insignificant impact on the RICT Program calculations.

In LAR supplement (Reference[3]) Section 4.6, "Question 06 – Discrepancies [10 CFR 50.69 and TSTF-505]," the licensee dispositioned an apparent non-bounding use of an alternative seismic approach relative to a seismic probabilistic risk assessment (SPRA). Quantification of the baseline Dresden seismic risk in the 50.69 LAR (Reference [29]) showed a baseline LERF of $2.9\text{E-}6$ per year (Unit 2) and $2.8\text{E-}6$ per year (Unit 3) using the site's SPRA. The calculated SLERF RICT penalty in the TSTF-505 LAR, in contrast, is $2.6\text{E-}6$ per year. The licensee discussed how, on an individual structure, system, or component (SSC) basis, the alternative seismic approach penalties are generally conservative when evaluating configuration risk profiles for SSCs. Table APLC 6-1 (Reference [3]) demonstrates how the proposed use of a seismic penalty is still bounding compared to the use of an SPRA and is, therefore, acceptable to the NRC staff.

In summary, the NRC staff finds the licensee's proposal to use the seismic CDF contributions of $8.0\text{E-}06$ per year, a seismic LERF contribution of $2.6\text{E-}06$ per year for an inerted containment, and $8.0\text{E-}06$ per year for a de-inerted containment acceptable for the licensee's RICT Program at the DNPS. This is because (1) the licensee used the most current site-specific seismic hazard information for the DNPS; (2) the licensee used an acceptably low plant HCLPF value of 0.2g and a combined beta factor of 0.4, which is consistent with the information for the DNPS in the GI-199 evaluation, in the convolution to develop the bounding seismic CDF; (3) the licensee used an acceptably low primary containment HCLPF value of 0.28g and a combined beta factor of 0.4 for the containment integrity fragility in the convolution to develop the bounding seismic LERF; and (4) adding baseline seismic annual risk to RICT calculations no matter the duration of the RICT, which assumes fully correlated failures, is conservative for SSCs credited in seismic events, while any potential non-conservative results for SSCs that are not credited in seismic events is small or nonexistent.

Evaluation of Extreme Winds and Tornado Hazards

The licensee determined that the high winds hazard does not screen out for the TSTF-505 application based on design information in the UFSAR, and the risk assessment performed for the IPEEE. The licensee explained in the LAR that RICT calculations will include a risk

contribution from high winds / tornado missile events using a “penalty” approach. This approach adds a HW/TM CDF and HW/TM LERF to each RICT calculation. The three main categories of wind hazards that DNPS analyzed for the penalty were straight winds, tornado winds and missiles based on American Society of Civil Engineers (ASCE) 7 (Reference [30]) and tornado missiles using a simplified and conservative tornado missile target model.

The licensee identified that the original sample RICT calculations included in Enclosure 1 of the LAR did not incorporate the high wind / tornado missile penalty factor values. Supplement No. 1 (Reference [2]) provided updates to Enclosures 1 and 9 of the LAR, which corrected this discrepancy and properly included the penalty factor values.

The approach to estimation of the high wind risk for the TSTF-505 application was to perform a numerical convolution calculation of the DNPS high wind hazard curves with DNPS SSC wind fragilities. Hazard frequencies were developed for wind speed intervals for both tornado winds and straight winds. The three key DNPS structures considered for risk impact from wind pressure failures are listed in Table E4-7, “DG Fragility Parameters (Table D-19 from DR-MISC-033 (Reference [30]))” of the LAR. As a result of the analysis in DR-MISC-033, some design wind capacities were updated from the UFSAR for this risk application. The hazard curves are based on 3-second gust wind speeds. However, the design-basis wind speeds in the UFSAR and DR-MISC-033 are based on the “fastest mile” wind speed. To reconcile the difference, the fastest mile wind speeds were converted to 3-second gust wind speeds, which are found in Table E4-7 of the LAR.

The approach used to determine tornado missile risk in the LAR is based on the guidance in NEI 17-02 (Reference [31]), which has been reviewed by NRC staff for plant-specific LARs. Frequencies and probabilities of tornado missile failure were calculated for combinations of significant tornado missile targets. Tornado missile failure probabilities are estimated for the targets over a range of tornado intensities based on the target size, location, missile barriers, and susceptibility to missile damage. Target failure frequencies are then obtained by convolving the failure probability for each tornado missile wind speed interval with the tornado frequency for the respective interval. The NRC staff’s plant-specific review of the consideration of tornado missile risk for this application finds that the estimated missile CDF is acceptable because the licensee’s approach for this application is adequate with conservative assumptions.

The licensee determined that certain maintenance configurations will result in higher risk profiles. The configurations with higher CDF risk are when either an EDG (LCO 3.8.1) or the Division I AC (LCO 3.8.7) is unavailable. With one EDG or Division I AC unavailable, the change in (i.e., D) CDF from straight winds and tornados is bounded by $1.1\text{E-}4$ per year. For all other configurations, the DCDF from straight winds and tornados is bounded by $5.0\text{E-}5$ per year. The configurations with higher LERF risk are when either the Division I AC (LCO 3.8.7) or containment (LCO 3.6.1) is unavailable. With the Division I AC or containment is unavailable, the DLERF from straight winds and tornados is bounded by $1.5\text{E-}5$ per year. For all other configurations, the DLERF from straight winds and tornados is bounded by $5.0\text{E-}6$ per year. These bounding changes in DCDF and DLERF are applied as penalty factors to the applicable LCOs in the licensee’s RICT Program.

The licensee identified several conservative assumptions in the development of the penalty factors. A few of these conservatisms are specific to the high winds methodology, including (1) straight winds are evaluated from 73 miles per hour (mph) to 300 mph, (2) a LOOP is assumed for wind speeds greater than 120 mph, (3) offsite power recovery is only credited for losses of offsite power caused by winds less than 165 mph, (4) structures not designed for high

wind speeds (i.e., greater than 120 mph) are conservatively assumed to fail for all straight wind speed intervals, and (5) limited credit is taken for FLEX equipment and operator actions.

Other conservatisms are specific to the tornado and tornado missile methodology, including (1) a tornado event is assumed to result in a LOOP and is considered unrecoverable, (2) tornado missile failure probabilities for potentially vulnerable SSCs are based on the methodology provided in NEI 17-02 [31], (3) SSCs in structures not protected against tornado winds and missiles are assumed to fail, and (4) limited credit is taken for FLEX equipment and operator actions. The NRC staff finds that these assumptions are acceptable for this application because they are conservative, which is appropriate for the penalty approach for the risk contribution from high winds and tornadoes for this application.

The NRC staff reviewed the licensee's evaluation provided in section 4 of Enclosure 4 to the LAR, as supplemented, and finds the licensee's determination of CDF and LERF high wind penalties acceptable because (1) results of a high wind risk assessment that uses the penalties are based on the use of relevant DNPS SSC wind design fragilities and site-specific tornado and straight wind hazard information, (2) it uses the peer-reviewed DNPS IEPRA as a foundation with a number of conservative assumptions, (3) the tornado missile risk is calculated using a conservative approach for tornado strike frequencies, and (4) all LCOs encompassed by the RICT program were evaluated and the results applied conservatively to determine a high wind and tornado missile penalty on a plant configuration basis.

Evaluation of External Flooding

The NRC staff previously reviewed the DNPS Flood Hazard Reevaluation Report (FHRR) with regard to the reevaluated local intense precipitation (LIP) and combined effects flooding (probable maximum flood + dam failure + wind-generated waves) hazards developed in response to the NRC Near-Term Task Force Recommendation 2.1 for Flooding (Reference [32]). The results indicate that all flood-causing mechanisms, except LIP and the combined effects flood, do not pose a challenge to the plant and are screened out. Following the completion of the FHRR, the licensee performed an additional analysis to calculate the volume of water that may enter into the buildings during a LIP without any temporary flood barriers installed. Regarding the screening of the LIP, the licensee concluded, based on the engineering evaluation, that maximum flooding heights will not challenge any safety functions at DNPS, and therefore LIP screened from further consideration.

To address the combined effects flooding mechanism, a probabilistic flood hazard assessment was performed for DNPS. For the probabilistic flood hazard assessment, water was shown to exceed plant grade (517.5 feet) at a $2E-5$ per year frequency. This hazard was screened out in the original DNPS RICT submittal based on the flood developing slowly, giving time for the plant to be placed in a cold shutdown condition. During the audit, this screening was found to be unacceptable by the staff. Subsequently the staff issued an RAI, with the final licensee response being documented in correspondence dated June 2, 2025 .

As described in the original TSTF-505 submittal (Reference [1]) and supplemental RAI response(Reference [5]), when flood waters are expected to exceed site grade and a water surface elevation of 517.5 feet, the plants are placed in cold shutdown and the majority of SSCs are assumed lost. Prior to exceeding 517.5 feet, offsite power is removed, and flood barriers are installed around the isolation condenser makeup pump (ICMUP) building. Long-term cooling is maintained with the IC with makeup water from the diesel-driven ICMUPs. If water were to continue to rise, prior to waters inundating the site, IC makeup is transferred to FLEX pumps,

which are pre-staged on floating barges in the turbine building.

In the RAI response dated June 2, 2025, the licensee determined that the combined effects flooding mechanism does not screen out for the DNPS TSTF-505 application. A conservative CDF penalty factor will be applied to the RICT Program, which is equal to the frequency at which the probabilistic flood hazard assessment determined flood waters would exceed plant grade ($2E-5$ per year). This CDF penalty will only apply to LCO 3.5.3 (IC system). The penalty is only applicable to LCO 3.5.3 because the IC is the only RICT TS system assumed to remain operable and relied upon to maintain long-term core cooling as part of the site's external flooding strategy. As a result, any other SSC inoperability would not result in an associated change in the risk profile for external flooding at Dresden, or DCDF. This is conservative because, although a viable core cooling strategy exists, the penalty is bounding by assuming core damage were to occur once flood waters exceed plant grade.

As documented in the RAI response, Dresden will not be taking a LERF penalty factor for external flooding. A detailed analysis of the combined effects flood was performed and documented in the licensee's risk management notebook, DR-LAR-008, "External Hazards Assessment for Dresden Nuclear Power Station," Revision 4. This analysis utilized MAAP to show that, even without any cooling available from the IC or FLEX, the local population could be adequately evacuated prior to any large release from the facility. This analysis was conservative because (1) no core cooling remains available once floodwater reaches plant grade, (2) the most limiting evacuation times are assumed, and (3) the event timing is assumed from the worst-case design basis flood. The licensee appropriately considered uncertainties in their analysis and have a large amount of margin (approximately 14 hours) in their calculations between evacuation timing and the time of a large release. The analysis and supporting documentation were made available and reviewed by the staff as part of the audit.

Based on the conclusions of the NRC assessment of the reevaluated hazards, the additional LIP analysis, and the detailed combined effects analysis, the NRC staff's review finds that the licensee has appropriately considered the risk from external flooding in the proposed RICTs. The licensee is taking an appropriately conservative CDF penalty, and the LERF contribution from external flooding is insignificant to configuration risk so an external flooding LERF penalty can be excluded from the calculation of the proposed RICTs. Furthermore, the NRC staff also finds that plant procedures exist to take appropriate mitigating actions during RICTs to manage the external flooding risk in the RICT Program.

Evaluation of Other External Hazards

Besides the seismic, extreme wind, tornado, and external flooding hazards discussed above, the licensee confirmed that other external hazards for DNPS have an insignificant contribution to plant risk and proposed these hazards be screened out from the RICT Program. In section 6 and table E4-15 of enclosure 4 to the LAR, the licensee documented the results of the plant-specific evaluation that assessed the IPEEE results using endorsed criteria in the ASME/ANS PRA Standard RA-Sa-2009 and current plant hazard information. The NRC staff notes that this plant-specific evaluation and its results were not peer reviewed against part 6 of the ASME/ANS PRA Standard Ra-SA-2009, as endorsed in RG 1.200, Revision 3 .

In LAR supplement No. 2 dated March 21, 2025, Section 4.5, "External Hazards Screening," the licensee stated that a different criterion is also valid for screening the biological fouling external hazard; namely, that it is an event that develops slowly, allowing adequate time to eliminate the threat. The licensee based its conclusion on the long amount of time over which Asiatic clams

foul the safety-related service water systems and the infestation trending program Dresden has implemented to monitor this external hazard.

In LAR supplement No. 2, section 4.5, the licensee provided justification for the amount of time necessary to mitigate a toxic gas external hazard. The immediate action of the procedure for smoke, noxious fumes, or airborne contaminants in the control room is to do a self-contained breathing apparatus (SCBA). This procedure is readily available in the control room. The licensee stated that the Dresden UFSAR includes a statement that two minutes is considered sufficient time for donning an SCBA per RG 1.78, Revision 0, "Evaluating the Habitability of a Nuclear Power Plant Control Room During a Postulated Hazardous Chemical Release" (Agencywide Documents Access and Management Systems Accession No. ML003740298). Additionally, the abnormal operating procedure used to place the control room HVAC in an isolated recirculation alignment was referenced, which involves the operation of a single switch in the main control room.

There were two errors in the LAR that the licensee addressed in LAR supplement No. 2, section 4.5. One error was associated with a language discrepancy between the Dresden 50.69 (Reference [29]) and TSTF-505 LAR external hazard screening tables for the low lake or river water level. The other error was associated with the wrong screening criteria referenced for the high summer temperature external hazard. The licensee adjusted the external hazard screening table as appropriate in the LAR supplement to correct the errors.

The licensee stated that this assessment included consideration of configuration-specific conditions. For all other external hazards, the NRC staff's review of the information in the submittal and supplement finds that the contributions from other external hazards have an insignificant contribution to configuration risk and can be excluded from the calculation of the proposed RICTs because they either do not challenge the plant or they are bounded by the external hazards analyzed for the plant. The NRC staff's review notes that the preliminary screening criteria and progressive screening criteria used and presented in LAR table E4-16 are the same criteria presented in supporting requirements for screening external hazards EXT-B1 and EXT-C1 of the ASME/ANS RA-Sa-2009 PRA standard.

Application of PRA Models, Results and Insights in the RICT Program

The Dresden base PRA models that have been determined to be acceptable in this SE are incorporated into an application-specific PRA model (i.e., CRMP tool), that is used to analyze the risk for an extended CT. The CRMP model produces results (i.e., risk metrics) that are consistent with the NEI 06-09-A guidance. The LAR, as supplemented, provided all information needed to support the requested LCO actions proposed for the Dresden RICT Program consistent with the limitations and conditions detailed in section 4.0 of the NRC's final SE incorporated in NEI 06-09-A.

The NRC staff did not identify any insufficiencies in the licensee's information or the CRMP tool as described in enclosure 8, "Attributes of the Real-Time Risk Model," to the LAR. Furthermore, as stated in attachment 1 to the LAR, the proposed changes do not change the design, configuration, or method of operation of the plant. The proposed changes do not involve a physical alteration of the plant (no new or different kinds of equipment will be installed). The NRC staff finds that the DNPS PRA models and CRMP tool used reflects the as-built, as-operated plant consistent with RG 1.200, Revision 2, for the IEPRA (includes internal floods) and FPRA for ensuring PRA acceptability is maintained. Therefore, the NRC staff concludes

that the proposed application of DNPS RICT Program is appropriate for use in the adoption of TSTF-505 for performing RICT calculations.

The licensee provided in Enclosure 5, "Baseline Core Damage Frequency (CDF) and Large Early Release Frequency (LERF)," to the LAR, as supplemented, the estimated mean total CDF and LERF of the base PRA models to demonstrate that DNPS meets the 1E-4/year CDF and 1E-5/year LERF criteria of RG 1.174 consistent with the guidance in NEI 06-09-A, and that these guidelines are satisfied for implementation of a RICT.

The licensee has incorporated NEI 06-09-A into TS 5.5.16. The estimated current mean total CDF and LERF for DNPS PRAs meet RG 1.174 guidelines, therefore, the NRC staff concludes that the PRA results and insights used by the licensee in the RICT Program are consistent with NEI 06-09-A.

3.2.4.1.1 Tier 1 Conclusions

Based on the above conclusions, the NRC staff finds that the licensee has satisfied the intent of Tier 1 in RG 1.177 and RG 1.174 for determining the PRA acceptable, and that the scope of the PRA models (i.e., IEPRAs, internal floods, FPRAs), evaluated PRA hazards, high winds and tornado hazards, external flooding hazards, other external hazards, and seismic methodology is appropriate for this application.

3.2.4.2 Tier 2: Avoidance of Risk-Significant Plant Configurations

As described in RG 1.177, the second tier evaluates the capability of the licensee to identify and avoid risk-significant plant configurations that could result if equipment, in addition to that associated with the proposed change, is taken out of service simultaneously, or if other risk-significant operational factors, such as concurrent system or equipment testing, are also involved. In section 2.0, "RICT Program and Procedures," of Enclosure 10, "Program Implementation," to the LAR, the licensee confirmed that the risk thresholds associated with 10 CFR 50.65(a)(4) are coordinated with the RICT limits. Enclosure 12 to the LAR identifies three kinds of RMAs (i.e., actions to provide increased risk awareness and control, actions to reduce the duration of maintenance activities, and actions to minimize the magnitude of the risk increase). In the LAR, the licensee also explains that RMAs are implemented, in accordance with current plant procedures and no later than the time at which the 1E-06 incremental core damage probability or 1E-07 incremental large early release probability threshold is reached and under emergent conditions when the instantaneous CDF and LERF thresholds are exceeded.

The NRC staff concludes that the Tier 2 attributes of the proposed RICT Program, including limits established for entry into a RICT and implementation of RMAs, are consistent with NEI 06-09-A. Therefore, the proposed changes are consistent with the intent of Tier 2 in RG 1.177.

3.2.4.3 Tier 3: Risk-Informed Configuration Risk Management

The third tier stipulates that a licensee should develop a program that ensures the risk impact of out-of-service equipment is appropriately evaluated prior to performing any maintenance activity.

The proposed RICT Program establishes a CRMP based on the underlying PRA models. The CRMP is then used to evaluate configuration-specific risk for planned activities associated with the RMTS extended CT, as well as emergent conditions which may arise during an extended CT. This required assessment of configuration risk, along with the implementation of compensatory measures and RMAs, is consistent with the principle of Tier 3 for assessing and managing the risk impact of out-of-service equipment.

Paragraph 50.36(c)(5) of 10 CFR identifies administrative controls as the provisions relating to organization and management, procedures, thereby assuring operation of the facility in a safe manner. In enclosure 8 to the LAR, the licensee confirmed that future changes made to the baseline PRA models and changes made to the online model (i.e., CRMP) are controlled and documented by plant procedures. In enclosure 10 to the LAR, the licensee provided the attributes that the RICT Program procedures will address, which are consistent with NEI 06-09-A. The NRC staff finds that the licensee has identified appropriate administrative controls consistent with NEI 06-09-A and 10 CFR 50.36(c)(5).

Based on the licensee's incorporation of NEI 06-09-A in the TSs, and its use of RMAs (discussed in LAR enclosure 12), and because the proposed changes are consistent with the Tier 3 guidance of RG 1.177, the NRC staff finds the licensee's Tier 3 program is acceptable and supports the proposed implementation of the RICT Program.

3.2.4.4 Key Principle 4: Conclusions

The licensee has demonstrated the technical acceptability and scope of its PRA models and alternative methods. This includes considering the impact of seismic events, extreme winds and tornado hazards, external flooding hazards, and other external hazards, and that the models can support implementation of the RICT Program for determining extensions to CTs. The licensee has made proper consideration of key assumptions and sources of uncertainty. The risk metrics are consistent with the approved methodology of NEI 06-09-A and the acceptance guidance in RGs 1.174 and 1.177. The RICT Program is controlled administratively through plant procedures and training and follows the NRC-approved methodology in NEI 06-09-A. The NRC staff concludes that the RICT Program satisfies the fourth key principle of RGs 1.174 and 1.177 and is, therefore, acceptable.

3.2.5 Key Principle 5: Performance Measurement Strategies – Implementation and Monitoring

The guidance in RGs 1.174 and 1.177 establishes the need for an implementation and monitoring program to ensure that extensions to TS CTs do not degrade operational safety over time and that no adverse degradation occurs due to unanticipated degradation or common cause mechanisms. In enclosure 11, "Monitoring Program," to the LAR, the licensee states that the SSCs in the scope of the RICT Program are also in the scope of 10 CFR 50.65 for the Maintenance Rule. The Maintenance Rule monitoring programs provide for evaluation and disposition of unavailability impacts, which may be incurred from implementation of the RICT Program. Furthermore, in enclosure 11 to the LAR, the licensee confirmed that the cumulative risk is calculated at least every refueling cycle, but the recalculation period does not exceed 24 months, which is consistent with NEI 06-09-A.

The NRC staff concludes that the RICT Program satisfies the fifth key principle of RGs 1.174 and 1.177 because: (1) the RICT Program monitors the average annual cumulative risk increase as described in NEI 06-09-A, thereby providing reasonable assurance that the program, as implemented, continues to meet RG 1.174 guidance for small risk increases; and

(2) all affected SSCs are within the Maintenance Rule program, which monitors changes to the reliability and availability of these SSCs.

3.2.6 Proposed TS Changes to Adopt TSTF-591

The NRC staff compared the licensee's proposed TS changes against the changes approved in Traveler TSTF-591. The TSTF-591 changes made enhancements and updates to the RICT Program approved in TSTF-505 (e.g., updating the program to require the use of RG 1.200, Revision 3 and to require the licensee to inform the NRC of the use of newly developed PRA methods to calculate a RICT). The NRC staff finds that the licensee's proposed changes to the DNPS TSs are consistent with those found acceptable in TSTF-591. In the final SE for Traveler TSTF-591, the NRC staff concluded that the TSTF-591 proposed changes to STS 5.5.20, "Risk Informed Completion Time Program," and the proposed addition of STS 5.6.8, "Risk Informed Completion Time (RICT) Program Upgrade Report," were acceptable. These modifications were acceptable because, as discussed in that SE, they continued to ensure the PRA models used to calculate a RICT are maintained and upgraded by the licensee's appropriate use of endorsed guidance (i.e., the ASME/ANS PRA Standard requirements, and specific industry guidance that the NRC staff has determined are sufficient for determining the acceptability of PRA models and newly developed methods for use in the RICT program). Furthermore, as discussed in the traveler SE, the addition of reporting requirements does not preclude any NRC staff oversight of PRA changes performed to ensure the PRA model(s) continue to be maintained and upgraded consistent with RG 1.200, Revision 3. Therefore, the NRC staff found that the proposed changes to the RICT Program and addition of the RICT Program Upgrade Report requirements were acceptable because they continued to meet the requirements of 10 CFR 50.36(c)(5) by providing administrative controls necessary to assure operation of the facility in a safe manner. For these same reasons, the NRC staff concludes that the corresponding changes to the DNPS TSs proposed in the LAR continue to meet the requirements of 10 CFR 50.36(c)(5).

3.2.7 Technical Evaluation Summary

The NRC staff evaluated the proposed changes against each of the five key principles in RGs 1.174 and 1.177, including the proposed variations from the approved TSTF-505, as discussed in sections 3.2.1 through 3.2.6 of this SE. The NRC staff concludes that the changes proposed by the licensee satisfy the key principles of risk informed decision-making identified in RGs 1.174 and 1.177, and therefore, the requested adoption of the proposed changes to the TSs and associated guidance, is acceptable to assure the paragraphs of 10 CFR Part 50 identified in section 2.0 of this SE continue to be met.

4.0 **STATE CONSULTATION**

In accordance with the Commission's regulations, the New York State official was notified of the proposed issuance of the amendment on July 1, 2025. The State official had no comments.

5.0 **ENVIRONMENTAL CONSIDERATION**

The amendment changes requirements with respect to the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no

significant hazards consideration, as published in the *Federal Register* on July 9, 2024 (89 FR 56441), and there has been no public comment on such finding. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

7.0 REFERENCES

- [1] Humphrey, M.D, Constellation Energy Generation, LLC, letter to U.S. Nuclear Regulatory Commission, "License Amendment Request to Revise Technical Specifications to Adopt Risk Informed Completion Times TSTF-505, Revision 2, 'Provide Risk-Informed Extended Completion Times - RITSTF Initiative 4b,' and TSTF-591, 'Revise Risk Informed Completion Time'," May 8, 2024 (ML24129A135).
- [2] Humphrey, M.D, Constellation Energy Generation, LLC, letter to U.S. Nuclear Regulatory Commission, "Supplement to License Amendment Request to Revise Technical Specifications to Adopt Risk Informed Completion Times TSTF-505, Revision 2, 'Provide Risk-Informed Extended Completion Times,' and TSTF-591, 'Revise Risk Informed Completion Time (RICT) Program'," October 21, 2024 (ML24295A350).
- [3] Humphrey, M.D, Constellation Energy Generation, LLC, letter to U.S. Nuclear Regulatory Commission, "Supplement to License Amendment Request to Revise Technical Specifications to Adopt Risk Informed Completion Times TSTF-505, Revision 2, 'Provide Risk- Informed Extended Completion Times - RITSTF Initiative 4b,' TSTF-591, and 10 CFR 50.69," March 21, 2025 (ML25080A153).
- [4] Humphrey, M.D, Constellation Energy Generation, LLC, letter to U.S. Nuclear Regulatory Commission, "Response to the Request for Additional Information Related to License Amendment Request to Revise Technical Specifications to Adopt Risk Informed Completion Times TSTF-505, Revision 2, and TSTF-591," April 23, 2025 (ML25113A134).
- [5] Humphrey, M.D, Constellation Energy Generation, LLC, letter to U.S. Nuclear Regulatory Commission, "Supplement to the Request for Additional Information Related to License Amendment Requests to Adopt TSTF-505, TSTF-591, and 10 CFR 50.69," June 2, 2025 (ML25153A051).
- [6] Technical Specifications Task Force, TSTF-505, Revision 2, "TSTF Comments on Draft Safety Evaluation for Traveler TSTF-505, 'Provide Risk-Informed Extended Completion Times' and Submittal of TSTF-505, Revision 2," July 2, 2018 (ML18183A493).
- [7] Technical Specifications Task Force, TSTF-591, Revision 0, "Revise Risk Informed Completion Time (RICT) Program," March 22, 2022 (ML22081A224).
- [8] Cusumano, V. G., U.S. Nuclear Regulatory Commission, letter to Technical Specifications Task Force, "Final Revised Model Safety Evaluation of Traveler TSTF-505, Revision 2, 'Provide Risk Informed Extended Completion Times - RITSTF Initiative 4[b]'," November 21, 2018 (ML18269A041).
- [9] U.S. Nuclear Regulatory Commission, letter to Technical Specifications Task Force, "Final SE of TSTF-591, Revision 0, 'Revise Risk-Informed Completion Time (RICT) Program'," September 21, 2023 (ML23262B230).
- [10] U.S. Nuclear Regulatory Commission to D.P. Rhoades, Constellation Energy Generation, LLC, "Dresden Nuclear Power Station, Units 2 and 3, Regulatory Audit in Support of LAR to Adopt TSTF-505, Rev. 2, TSTF-591, Rev. 0, and 10 CFR 50.69," May 20, 2025 (ML25098A179).
- [11] U.S. Nuclear Regulatory Commission, Regulatory Guide 1.200, Revision 3, "Acceptability of Probabilistic Risk Assessment Results for Risk-Informed Activities," December 2020 (ML20238B871).
- [12] U.S. Nuclear Regulatory Commission, Regulatory Guide 1.174, Revision 3, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," January 2018 (ML17317A256).

- [13] U.S. Nuclear Regulatory Commission, Regulatory Guide 1.177, Revision 2, "Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications," January 2021 (ML20164A034).
- [14] U.S. Nuclear Regulatory Commission, Final Report, NUREG-1855, Revision 1, "Guidance on the Treatment of Uncertainties Associated with PRAs in Risk-Informed Decisionmaking," March 2017 (ML17062A466).
- [15] U.S. Nuclear Regulatory Commission, NUREG-0800, SRP Section 16.1, Revision 1, "Risk-informed Decision Making: Technical Specifications," March 2007 (ML070380228) and Section 19.2, "Review of Risk Information Used to Support Permanent Plant-Specific Changes to the Licensing Basis: General Guidance," June 2007 (ML071700658).
- [16] Bradley, B., Nuclear Energy Institute, letter to S. D. Stuchell, U.S. Nuclear Regulatory Commission, "NEI 06-09, Risk Informed Technical Specifications Initiative 4b; Risk Managed Technical Specifications (RMTS) Guidelines," Revision 0-A, October 2012 (Package, ML122860402).
- [17] Golder, J. M., U.S. Nuclear Regulatory Commission, letter to B. Bradley, Nuclear Energy Institute, "Final Safety Evaluation for Nuclear Energy Institute (NEI) Topical Report (TR) NEI 06-09, 'Risk-Informed Technical Specification Initiative 4b, Risk-Managed Technical Specifications (RMTS) Guidelines' (TAC No. MD4995)," May 17, 2007 (ML071200238).
- [18] U.S. Nuclear Regulatory Commission, NUREG-1433, Volume 1, Revision 5.0, "Standard Technical Specifications, General Electric BWR/4 Plants: Revision 5.0, Volume 1, Specifications," September 2021 (ML21272A357).
- [19] Dresden Nuclear Power Station, Unit Nos. 2 and 3, "DNPS Updated Final Safety Analysis Report (UFSAR)," Revision 15, June 2023.
- [20] U.S. Nuclear Regulatory Commission, Commission's Safety Goal Policy Statement, "Safety Goals for the Operations of Nuclear Power Plants; Policy Statement," Published in the Federal Register on August 4, 1986 (51 FR 28044), as corrected, and republished, on August 21, 1986 (51 FR 30028).
- [21] American Society of Mechanical Engineers (ASME)/American Nuclear Society (ANS), PRA Standard ASME/ANS RA-Sa-2009, "Addenda to ASME/ANS RA-S 2008, Standard for Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications," February 2009, New York, NY (Copyright).
- [22] U.S. Nuclear Regulatory Commission, Regulatory Guide 1.200, Revision 2, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," March 2009 (ML090410014).
- [23] Anderson, V. K., Nuclear Energy Institute, letter to S. Rosenberg, U.S. Nuclear Regulatory Commission, "Final Revision of Appendix X to NEI 05-04/07-12/12-[13], Close-Out of Facts and Observations," February 21, 2017 (Package, ML17086A431).
- [24] U.S. Nuclear Regulatory Commission, letter to Greg Krueger, Nuclear Energy Institute, "U.S. Nuclear Regulatory Commission Acceptance on Nuclear Energy Institute Appendix X to Guidance 05-04, 07-12 and 12-13, Closeout of Facts and Observations (F&O's)," May 3, 2017 (ML17079A427).
- [25] U.S. Nuclear Regulatory Commission, NUREG/CR-6850, Volumes 1 and 2, and Supplement 1, "EPRI/NRC-RES, Fire PRA Methodology for Nuclear Power Facilities," Volume 1: "Summary & Overview"; Volume 2: "Detailed Methodology"; Supplement 1: "Fire Probabilistic Risk Assessment Methods Enhancements", ML052580075, ML052580118, and ML103090242, respectively.
- [26] Exelon Generation Company, LLC, Letter to the U.S. Nuclear Regulatory Commission, "Seismic Probabilistic Risk Assessment Report, Response to NRC Request for Information

Pursuant to 10 CFR 50.54(f) Regarding Recommendation 2.1 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident,” October 30, 2019 (ML19304B567).

- [27] U.S. Nuclear Regulatory Commission, NRC Generic Issue 199 (GI-199), “Implications of Updated Probabilistic Seismic Hazard Estimates in Central and Eastern United States on Existing Plants, Safety/Risk Assessment,” September 2, 2010 (ML101970221); Table C-2 (Package, ML100270582).
- [28] Letter from J. M. Heffley (Commonwealth Edison Company) to U.S. Nuclear Regulatory Commission, “Dresden Nuclear Power Station Units 2 and 3, Final Report - Individual Plant Examination of External Events (IPEEE), Generic Letter 88-20, Supplement 4,” December 30, 1997 (Non-Publicly Available).
- [29] Humphrey, M. D., Constellation Energy Generation, LLC, to U.S. Nuclear Regulatory Commission, “Dresden Nuclear Power Station, Units 2 and 3, Application to Adopt 10 CFR 50.69, ‘Risk-Informed Categorization and Treatment of Structures, Systems, and Components for Nuclear Power Plants’,” May 28, 2024 (ML24149A261).
- [30] American Society of Civil Engineers (ASCE) 7 Hazard Tool, in <https://asce7hazardtool.online/>.
- [31] Nuclear Energy Institute, NEI 17-02, Revision 1B, “Tornado Missile Risk Evaluator (TMRE) Industry Guidance Document,” September 2017 (ML17268A023, Enclosure 2).
- [32] Constellation Energy Nuclear Group, LLC, Letter to USNRC, Response to March 12, 2012, Request for Information Enclosure 2, Recommendation 2.1, Flooding, Required Response 2, “Flooding Hazard Reevaluation Report,” May 19, 2014 (ML15092A821).

Principal Contributors: A. Brown, NRR
M. Swim, NRR
D. Ju, NRR
R. Elliott, NRR
N. Carte, NRR
F. Forsaty, NRR
T. Scarbrough, NRR
H. Ahn, NRR
A. Stubbs, NRR

Date: July 30, 2025

SUBJECT: DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3 - ISSUANCE OF AMENDMENT NOS. 286 AND 279 RE: ADOPTION OF TSTF-505, "PROVIDE RISK-INFORMED EXTENDED COMPLETION TIMES – RITSTF INITIATIVE 4B" AND TSTF-591, "REVISE RISK INFORMED COMPLETION TIME (RICT) PROGRAM" (EPID L-2024-LLA-0061) DATED JULY 30, 2025

DISTRIBUTION:

PUBLIC

RidsACRS_MailCTR Resource

RidsNrrDorLpl3 Resource

RidsNrrDssStsb Resource

RidsNrrLASLent Resource

RidsNrrPMDresden Resource

RidsRgn3MailCenter Resource

Principal Contributor(s)

ADAMS Accession No.: ML25196A299***via eConcurrence****NRR-058**

OFFICE	NRR/DORL/LPL3/PM	NRR/DORL/LPL3/LA	NRR/DRA/APLA/BC	NRR/DSS/STSB/BC
NAME	SArora	SLent	RPascarelli	SMehta
DATE	7/1/2025	7/18/2025	7/2/2025	7/3/2025
OFFICE	NRR/DRA/APLB/BC	NRR/DRA/APLC/BC	NRR/DEX/EMIB/BC	NRR/DSS/SCP/BC
NAME	EDavidson	SAIferink	SBailey	MValentin
DATE	7/2/2025	7/2/2025	7/2/2025	7/2/2025
OFFICE	NRR/DEX/EICB/BC	NRR/DSS/SNSB/BC	NRR/DNRL/EXHB/BC	NRR/DEX/EEEB/BC
NAME	FSacko	NDiFrancesco	BHayes	WMorton
DATE	7/2/2025	7/7/2025	7/8/2025	7/10/2025
OFFICE	NRR/DORL/LPL3/BC	NRR/DORL/LPL3/PM		
NAME	IBerrios	SArora		
DATE	7/30/2025	7/30/2025		

OFFICIAL RECORD COPY