



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

April 7, 2022

Mr. Peter Dietrich  
Senior Vice President  
and Chief Nuclear Officer  
DTE Electric Company  
Fermi 2 – 260 TAC  
6400 North Dixie Highway  
Newport, MI 48166

SUBJECT: FERMI 2 - ISSUANCE OF AMENDMENT NO. 222 REGARDING REVISION OF TECHNICAL SPECIFICATIONS TO REMOVE OBSOLETE INFORMATION, MAKE MINOR CORRECTIONS, AND MAKE SEVERAL EDITORIAL CHANGES (EPID L-2021-LLA-0057)

Dear Mr. Dietrich:

The U.S. Nuclear Regulatory Commission (NRC, the Commission) has issued the enclosed Amendment No. 222 to Renewed Facility Operating License No. NPF-43, for Fermi 2. The amendment consists of changes to the technical specifications (TSs) in response to your application dated March 31, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21090A194), as supplemented by your letters dated August 17, 2021, and March 18, 2022 (ADAMS Accession Nos. ML21229A090 and ML22077A094, respectively).

The amendment revises Fermi 2 TSs to remove obsolete information, make several miscellaneous editorial changes, and other changes as discussed in the enclosed safety evaluation.

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 No. 50-341

Enclosures:

1. Amendment No. 222 to NPF-43
2. Safety Evaluation

cc: Listserv



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

DTE ELECTRIC COMPANY

DOCKET NO. 50-341

FERMI 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 222  
Renewed License No. NPF-43

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by DTE Electric Company dated March 31, 2021, as supplemented by letters dated August 17, 2021, and March 18, 2022, 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) of Renewed Facility Operating License No. NPF-43 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 222, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this renewed license. DTE Electric Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 60 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Nancy L. Salgado, Chief  
Plant Licensing Branch III  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Renewed Facility  
Operating License No. NPF-43  
and Technical Specifications

Date of Issuance: April 7, 2022

ATTACHMENT TO LICENSE AMENDMENT NO. 222

FERMI 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

DOCKET NO. 50-341

Renewed Facility Operating License No. NPF-43

Replace the following page of the Renewed Facility Operating Licenses No. NPF-43 with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the area of change.

REMOVE

- 4 -

INSERT

- 4 -

Technical Specifications

Replace the following pages of the Appendix A, Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE

i  
1.1-3a  
3.0-1  
3.0-3a  
3.0-5  
3.2-1  
3.2-4  
3.3-20a  
3.3-41  
3.3-42  
3.3-43  
3.3-44  
3.3-49c  
3.3-70a  
3.3-70d  
3.4-12  
3.4-14  
3.4-16  
3.4-18  
3.4-23  
3.4-26  
3.4-29  
3.5-8

INSERT

i  
1.1-3a  
3.0-1  
3.0-3a  
3.0-5  
3.2-1  
3.2-4  
3.3-20a  
3.3-41  
3.3-42  
3.3-43  
3.3-44  
3.3-49c  
3.3-70a  
3.3-70d  
3.4-12  
3.4-14  
3.4-16  
3.4-18  
3.4-23  
3.4-26  
3.4-29  
3.5-8

REMOVE

3.5-9  
3.5-9a  
3.6-20  
3.6-50  
3.7-11  
3.7-18  
3.8-1  
3.8-2  
3.8-2a  
3.8-2b  
3.8-18  
3.8-18a  
5.0-1  
5.0-2  
5.0-3  
5.0-8  
5.0-19a  
5.0-19b  
5.0-21  
5.0-24

INSERT

3.5-9  
3.5-9a  
3.6-20  
3.6-50  
3.7-11  
3.7-18  
3.8-1  
3.8-2  
3.8-2a  
3.8-2b  
3.8-18  
3.8-18a  
5.0-1  
5.0-2  
5.0-3  
5.0-8  
5.0-19a  
5.0-19b  
5.0-21  
5.0-24

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 222, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this renewed license. DTE Electric Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Antitrust Conditions

DTE Electric Company shall abide by the agreements and interpretations between it and the Department of Justice relating to Article I, Paragraph 3 of the Electric Power Pool Agreement between DTE Electric Company and Consumers Power Company as specified in a letter from The Detroit Edison Company to the Director of Regulation, dated August 13, 1971, and the letter from Richard W. McLaren, Assistant Attorney General, Antitrust Division, U.S. Department of Justice, to Bertram H. Schur, Associate General Counsel, Atomic Energy Commission, dated August 16, 1971.

(4) Deleted

(5) Deleted

(6) Deleted

(7) Deleted

(8) Deleted

(9) Modifications for Fire Protection (Section 9.5.1, SSER #5 and SSER #6)\*

DTE Electric Company shall implement and maintain in effect all provisions of the approved fire protection program as described in its Final Safety Analysis Report for the facility through Amendment 60 and as approved in the SER through Supplement No. 5, subject to the following provision:

- (a) DTE Electric Company may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

---

\* The parenthetical notation following the title of many license conditions denotes the section of the Safety Evaluation Report (SER) and/or its supplements wherein the license condition is discussed.

TABLE OF CONTENTS

1.0	USE AND APPLICATION.....	1.1-1
1.1	Definitions .....	1.1-1
1.2	Logical Connectors .....	1.2-1
1.3	Completion Times .....	1.3-1
1.4	Frequency .....	1.4-1
2.0	SAFETY LIMITS (SLs).....	2.0-1
2.1	SLs .....	2.0-1
2.2	SL Violations .....	2.0-1
3.0	LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY.....	3.0-1
3.0	SURVEILLANCE REQUIREMENT (SR) APPLICABILITY.....	3.0-4
3.1	REACTIVITY CONTROL SYSTEMS.....	3.1-1
3.1.1	SHUTDOWN MARGIN (SDM) .....	3.1-1
3.1.2	Reactivity Anomalies .....	3.1-5
3.1.3	Control Rod OPERABILITY .....	3.1-7
3.1.4	Control Rod Scram Times .....	3.1.12
3.1.5	Control Rod Scram Accumulators .....	3.1-15
3.1.6	Rod Pattern Control .....	3.1-18
3.1.7	Standby Liquid Control (SLC) System .....	3.1-20
3.1.8	Scram Discharge Volume (SDV) Vent and Drain Valves ..	3.1-24
3.2	POWER DISTRIBUTION LIMITS.....	3.2-1
3.2.1	AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR) .....	3.2-1
3.2.2	MINIMUM CRITICAL POWER RATIO (MCPR) .....	3.2-2
3.2.3	LINEAR HEAT GENERATION RATE (LHGR) .....	3.2-4
3.3	INSTRUMENTATION.....	3.3-1
3.3.1.1	Reactor Protection System (RPS) Instrumentation .....	3.3-1
3.3.1.2	Source Range Monitor (SRM) Instrumentation .....	3.3-11
3.3.2.1	Control Rod Block Instrumentation .....	3.3-17
3.3.2.2	Feedwater and Main Turbine High Water Level Trip Instrumentation.....	3.3-22
3.3.3.1	Post Accident Monitoring (PAM) Instrumentation .....	3.3-24
3.3.3.2	Remote Shutdown System .....	3.3-28
3.3.4.1	Anticipated Transient Without Scram Recirculation Pump Trip (ATWS-RPT) Instrumentation.....	3.3-31
3.3.5.1	Emergency Core Cooling System (ECCS) Instrumentation	3.3-34
3.3.5.2	Reactor Core Isolation Cooling (RCIC) System Instrumentation.....	3.3-46
3.3.5.3	Reactor Pressure Vessel (RPV) Water Inventory Control Instrumentation.....	3.3-49a
3.3.6.1	Primary Containment Isolation Instrumentation .....	3.3-50
3.3.6.2	Secondary Containment Isolation Instrumentation .....	3.3-59
3.3.6.3	Low-Low Set (LLS) Instrumentation .....	3.3-63

(continued)

## 1.1 Definitions

---

### DRAIN TIME (continued)

2. Penetration flow paths capable of being isolated by valves that will close automatically without offsite power prior to the RPV water level being equal to the TAF when actuated by RPV water level isolation instrumentation; or
  3. Penetration flow paths with isolation devices that can be closed prior to the RPV water level being equal to the TAF by a dedicated operator trained in the task, who in continuous communication with the control room, is stationed at the controls, and is capable of closing the penetration flow path isolation device without offsite power.
- c) The penetration flow paths required to be evaluated per paragraph b) are assumed to open instantaneously and are not subsequently isolated, and no water is assumed to be subsequently added to the RPV water inventory;
  - d) No additional draining events occur; and
  - e) Realistic cross-sectional areas and drain rates are used.

A bounding DRAIN TIME may be used in lieu of a calculated value.

### EMERGENCY CORE COOLING SYSTEM (ECCS) RESPONSE TIME

The ECCS RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its ECCS initiation setpoint at the channel sensor until the ECCS equipment is capable of performing its safety function (i.e., the valves travel to their required positions, pump discharge pressures reach their required values, etc.). Times shall include diesel generator starting and sequence loading delays, where applicable. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured.

---

(continued)



3.0 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY

---

---

LCO 3.0.1 LCOs shall be met during the MODES or other specified conditions in the Applicability, except as provided in LCO 3.0.2, LCO 3.0.7, LCO 3.0.8, and LCO 3.0.9.

---

LCO 3.0.2 Upon discovery of a failure to meet an LCO, the Required Actions of the associated Conditions shall be met, except as provided in LCO 3.0.5 and LCO 3.0.6.

If the LCO is met or is no longer applicable prior to expiration of the specified Completion Time(s), completion of the Required Action(s) is not required, unless otherwise stated.

---

LCO 3.0.3 When an LCO is not met and the associated ACTIONS are not met, an associated ACTION is not provided, or if directed by the associated ACTIONS, the unit shall be placed in a MODE or other specified condition in which the LCO is not applicable. Action shall be initiated within 1 hour to place the unit, as applicable, in:

- a. MODE 2 within 7 hours;
- b. MODE 3 within 13 hours; and
- c. MODE 4 within 37 hours.

Exceptions to this Specification are stated in the individual Specifications.

Where corrective measures are completed that permit operation in accordance with the LCO or ACTIONS, completion of the actions required by LCO 3.0.3 is not required.

LCO 3.0.3 is only applicable in MODES 1, 2, and 3.

---

(continued)

3.0 LCO APPLICABILITY (continued)

---

LCO 3.0.9 When one or more required barriers are unable to perform their related support function(s), any supported system LCO(s) are not required to be declared not met solely for this reason for up to 30 days provided that at least one division or subsystem of the supported system is OPERABLE and supported by barriers capable of providing their related support function(s), and risk is assessed and managed. This specification may be concurrently applied to more than one division or subsystem of a multiple division or subsystem supported system provided at least one division or subsystem of the supported system is OPERABLE and the barriers supporting each of these divisions or subsystems provide their related support function(s) for different categories of initiating events.

For the purposes of this specification, the High Pressure Coolant Injection (HPCI) system, the Reactor Core Isolation Cooling (RCIC) system, and the Automatic Depressurization System (ADS) are considered independent subsystems of a single system.

If the required OPERABLE division or subsystem becomes inoperable while this specification is in use, it must be restored to OPERABLE status within 24 hours or the provisions of this specification cannot be applied to the divisions or subsystems supported by the barriers that cannot perform their related support function(s).

At the end of the specified period, the required barriers must be able to perform their related support function(s) or the supported system LCO(s) shall be declared not met.

---

3.0 SR APPLICABILITY (continued)

---

SR 3.0.3 If it is discovered that a Surveillance was not performed within its specified Frequency, then compliance with the requirement to declare the LCO not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified Frequency, whichever is greater. This delay period is permitted to allow performance of the Surveillance. The delay period is only applicable when there is a reasonable expectation the surveillance will be met when performed. A risk evaluation shall be performed for any Surveillance delayed greater than 24 hours and the risk impact shall be managed.

If the Surveillance is not performed within the delay period, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.

When the Surveillance is performed within the delay period and the Surveillance is not met, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.

---

SR 3.0.4 Entry into a MODE or other specified condition in the Applicability of an LCO shall only be made when the LCO's Surveillances have been met within their specified Frequency, except as provided by SR 3.0.3. When an LCO is not met due to Surveillances not having been met, entry into a MODE or other specified condition in the Applicability shall only be made in accordance with LCO 3.0.4.

This provision shall not prevent entry into MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

---

---

3.2 POWER DISTRIBUTION LIMITS

3.2.1 AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR)

LCO 3.2.1 All APLHGRs shall be less than or equal to the limits specified in the COLR.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Any APLHGR not within limits.	A.1 Restore APLHGR(s) to within limits.	2 hours
B. Required Action and associated Completion Time not met.	B.1 Reduce THERMAL POWER to < 25% RTP.	4 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.2.1.1 Verify all APLHGRs are less than or equal to the limits specified in the COLR.	Once within 12 hours after $\geq$ 25% RTP  <u>AND</u>  In accordance with the Surveillance Frequency Control Program

3.2 POWER DISTRIBUTION LIMITS

3.2.3 LINEAR HEAT GENERATION RATE (LHGR)

LCO 3.2.3 All LHGRs shall be less than or equal to the limits specified in the COLR.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Any LHGR not within limits.	A.1 Restore LHGR(s) to within limits.	2 hours
B. Required Action and associated Completion Time not met.	B.1 Reduce THERMAL POWER to < 25% RTP.	4 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.2.3.1 Verify all LHGRs are less than or equal to the limits specified in the COLR.	Once within 12 hours after $\geq$ 25% RTP  <u>AND</u>  In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.2.1.6	<p>-----NOTE----- Neutron detectors are excluded. ----- Perform CHANNEL CALIBRATION.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.3.2.1.7	Verify control rod sequences input to the RWM are in conformance with the prescribed withdrawal sequence.	Prior to declaring RWM OPERABLE following loading of sequence into RWM

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 Low, Level 1	1,2,3	4(b)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 24.8 inches
b. Drywell Pressure – High	1,2,3	4(b)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 1.88 psig
c. Reactor Steam Dome Pressure – Low (Injection Permissive)	1,2,3	4	C	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 441 psig
d. Manual Initiation	1,2,3	2(c)	C	SR 3.3.5.1.6	NA

(continued)

(a) Not Used.

(b) Also required to initiate the associated emergency diesel generator (EDG).

(c) Individual component controls.

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. Low Pressure Coolant Injection (LPCI) System					
a. Reactor Vessel Water Level – Low Low Low, Level 1	1,2,3	4	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 24.8 inches
b. Drywell Pressure – High	1,2,3	4	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 1.88 psig
c. Reactor Steam Dome Pressure – Low (Injection Permissive)	1,2,3	4	C	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 441 psig
d. Reactor Vessel Water Level – Low Low, Level 2 (Loop Select Logic)	1,2,3	4	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 103.8 inches
e. Reactor Steam Dome Pressure – Low (Break Detection Logic)	1,2,3	4	C	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 886 psig
f. Riser Differential Pressure – High (Break Detection)	1,2,3	4	C	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 0.927 psid
g. Recirculation Pump Differential Pressure – High (Break Detection)	1,2,3	4 per pump	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 1.927 psid
h. Manual Initiation	1,2,3	2 <sup>(c)</sup>	C	SR 3.3.5.1.6	NA

(continued)

(c) Individual component controls.



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, Level 2	1, 2(d), 3(d)	4	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 103.8 inches
b. Drywell Pressure – High	1, 2(e), 3(e)	4	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 1.88 psig
c. Reactor Vessel Water Level – High, Level 8	1, 2(d), 3(d)	2	C	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 219 inches
d. Condensate Storage Tank Level – Low	1, 2(d), 3(d)	2	D	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 0 inches
e. Suppression Pool Water Level – High	1, 2(d), 3(d)	2	D	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 5.0 inches
f. Manual Initiation	1, 2(e), 3(e)	1 <sup>(c)</sup>	C	SR 3.3.5.1.6	NA

(continued)

(c) Individual component controls.

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

(e) The injection functions of Drywell Pressure – High and Manual Initiation are not required to be OPERABLE with reactor steam dome pressure less than 550 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 Low, Level 1	1, 2(d), 3(d)	2	E	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 24.8 inches
b. Drywell Pressure – High	1, 2(d), 3(d)	2	E	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 1.88 psig
c. Automatic Depressurization System Initiation Timer	1, 2(d), 3(d)	1	F	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 117 seconds
d. Reactor Vessel Water Level – Low, Level 3 (Confirmatory)	1, 2(d), 3(d)	1	E	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 171.9 inches
e. Core Spray Pump Discharge Pressure – High	1, 2(d), 3(d)	1 per pump	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 125 psig
f. Low Pressure Coolant Injection Pump Discharge Pressure – High	1, 2(d), 3(d)	2 per pump	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 115 psig
g. Drywell Pressure – High Bypass	1, 2(d), 3(d)	2	F	SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 450 seconds
h. Manual Inhibit	1, 2(d), 3(d)	1	F	SR 3.3.5.1.5	NA
i. Manual Initiation	1, 2(d), 3(d)	1 per valve	F	SR 3.3.5.1.6	NA

(continued)

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

RPV Water Inventory Control Instrumentation  
3.3.5.3

Table 3.3.5.3-1 (page 1 of 1)  
RPV Water Inventory Control 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 Steam Dome Pressure-Low (Injection Permissive)	4,5	4(a)	C	SR 3.3.5.3.1 SR 3.3.5.3.2	≥ 441 psig
b. Manual Initiation	4,5	1 per subsystem (a), (c)	D	SR 3.3.5.3.3	NA
2. Low Pressure Coolant Injection (LPCI) System					
a. Reactor Steam Dome Pressure-Low (Injection Permissive)	4,5	4(a)	C	SR 3.3.5.3.1 SR 3.3.5.3.2	≥ 441 psig
b. Manual Initiation	4,5	1 per subsystem (a), (c)	D	SR 3.3.5.3.3	NA
3. RHR System Isolation					
a. Reactor Vessel Water Level-Low, Level 3	(b)	2 in one trip system	B	SR 3.3.5.3.1 SR 3.3.5.3.2	≥ 171.9 inches
4. Reactor Water Cleanup (RWCU) System Isolation					
a. Reactor Vessel Water Level-Low Low, Level 2	(b)	2 in one trip system	B	SR 3.3.5.3.1 SR 3.3.5.3.2	≥ 103.8 inches

- (a) Associated with an ECCS subsystem required to be OPERABLE by LCO 3.5.2, "Reactor Pressure Vessel Water Inventory Control."
- (b) When automatic isolation of the associated penetration flow path(s) is credited in calculating DRAIN TIME.
- (c) Individual component controls.

3.3 INSTRUMENTATION

3.3.7.2 Mechanical Vacuum Pump (MVP) Trip Instrumentation

LC0 3.3.7.2 Four channels of Main Steam Line Radiation – High Function for the MVP trip shall be OPERABLE.

APPLICABILITY: MODES 1 and 2 with any MVP in service, any main steam line not isolated, and THERMAL POWER ≤ 10% RTP.

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required channels inoperable.	A.1 Restore channel to OPERABLE status.	12 hours
	<u>OR</u> A.2 -----NOTE----- Not applicable if inoperable channel is the result of a non-functional MVP breaker. ----- Place channel in trip.	12 hours
B. MVP trip capability not maintained.	B.1 Restore trip capability.	1 hour

(continued)

3.3 INSTRUMENTATION

3.3.7.3 Gland Seal Exhauster (GSE) Trip Instrumentation

LC0 3.3.7.3 Four channels of Main Steam Line Radiation – High Function for the main turbine GSE trip shall be OPERABLE.

APPLICABILITY: MODES 1 and 2 with any GSE in service, any main steam line not isolated, and THERMAL POWER ≤ 10% RTP.

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required channels inoperable.	A.1 Restore channel to OPERABLE status.	12 hours
	<u>OR</u> A.2 -----NOTE----- Not applicable if inoperable channel is the result of a non-functional GSE breaker. ----- Place channel in trip.	12 hours
B. GSE trip capability not maintained.	B.1 Restore trip capability.	1 hour

(continued)

ACTIONS (continued)

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

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.4.5.1 -----NOTE----- Not required to be performed in MODE 3. -----</p> <p>Verify equivalent leakage of each RCS PIV, at an RCS pressure <math>\geq 1035</math> and <math>\leq 1055</math> psig:</p> <ul style="list-style-type: none"> <li>a. For PIVs other than LPCI loop A and B injection isolation valves is <math>\leq 0.5</math> gpm per nominal inch of valve size up to a maximum of 5 gpm;</li> <li>b. For LPCI loop A and B outboard injection isolation valves is <math>\leq 0.4</math> gpm through-seat, and <math>\leq 5</math> ml/min external leakage; and</li> <li>c. For LPCI loop A and B inboard injection isolation check valves is <math>\leq 10</math> gpm.</li> </ul>	<p>In accordance with the INSERVICE TESTING PROGRAM</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>----- NOTE ----- Only applicable when the primary containment atmosphere gaseous radiation monitor is the only OPERABLE monitor. -----</p> <p>D. Drywell floor drain sump flow monitoring system inoperable.</p> <p><u>AND</u></p> <p>Drywell floor drain sump level monitoring system inoperable.</p>	<p>D.1 Analyze grab samples of the primary containment atmosphere.</p> <p><u>AND</u></p> <p>D.2 Monitor RCS LEAKAGE by administrative means.</p> <p><u>AND</u></p> <p>D.3.1 Restore drywell floor drain sump flow monitoring system to OPERABLE status.</p> <p><u>OR</u></p> <p>D.3.2 Restore drywell floor drain sump level monitoring system to OPERABLE status</p>	<p>Once per 12 hours</p> <p>Once per 12 hours</p> <p>7 days</p> <p>7 days</p>
<p>E. Primary containment atmosphere gaseous radioactivity monitoring system inoperable.</p> <p><u>AND</u></p> <p>Drywell floor drain sump level monitoring system inoperable.</p>	<p>E.1 Restore primary containment atmosphere gaseous radioactivity monitoring system to OPERABLE status.</p> <p><u>OR</u></p> <p>E.2 Restore drywell floor drain sump level monitoring system to OPERABLE status.</p>	<p>30 days</p> <p>30 days</p>

(continued)

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.7 RCS Specific Activity

LCO 3.4.7 The specific activity of the reactor coolant shall be limited to DOSE EQUIVALENT I-131 specific activity  $\leq 0.2 \mu\text{Ci/gm}$ .

APPLICABILITY: MODE 1,  
MODES 2 and 3 with any main steam line not isolated.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME	
A. Reactor coolant specific activity $> 0.2 \mu\text{Ci/gm}$ and $\leq 4.0 \mu\text{Ci/gm}$ DOSE EQUIVALENT I-131.	-----NOTE----- LCO 3.0.4.c is applicable. -----		
	A.1 Determine DOSE EQUIVALENT I-131.		Once per 4 hours
	<u>AND</u> A.2 Restore DOSE EQUIVALENT I-131 to within limits.		48 hours

(continued)



3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.8 Residual Heat Removal (RHR) Shutdown Cooling System– Hot Shutdown

LCO 3.4.8 Two RHR shutdown cooling subsystems shall be OPERABLE, and, with no recirculation pump in operation, at least one RHR shutdown cooling subsystem shall be in operation.

- NOTES-----
1. Both RHR shutdown cooling subsystems and recirculation pumps may be removed from operation for up to 2 hours per 8 hour period.
  2. One RHR shutdown cooling subsystem may be inoperable for up to 2 hours for the performance of Surveillances.
- 

APPLICABILITY: MODE 3, with reactor steam dome pressure less than the RHR cut in permissive pressure.

ACTIONS

-----NOTE-----  
Separate Condition entry is allowed for each RHR shutdown cooling subsystem.  
-----

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or two required RHR shutdown cooling subsystems inoperable.	A.1 Initiate action to restore required RHR shutdown cooling subsystem(s) to OPERABLE status.	Immediately
	<u>AND</u>	(continued)

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.10 RCS Pressure and Temperature (P/T) Limits

LCO 3.4.10 RCS pressure, RCS temperature, RCS heatup and cooldown rates, and the recirculation pump starting temperature requirements shall be maintained within the limits specified in the PTLR.

APPLICABILITY: At all times.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. -----NOTE----- Required Action A.2 shall be completed if this Condition is entered. ----- Requirements of the LCO not met in MODES 1, 2, and 3.</p>	<p>A.1 Restore parameter(s) to within limits.  <u>AND</u> A.2 Determine RCS is acceptable for continued operation.</p>	<p>30 minutes   72 hours</p>
<p>B. Required Action and associated Completion Time of Condition A not met.</p>	<p>B.1 Be in MODE 3.  <u>AND</u> B.2 Be in MODE 4.</p>	<p>12 hours  36 hours</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.4.10.5 -----NOTE-----            Only required to be met during a THERMAL POWER increase or recirculation flow increase in MODES 1 and 2 with one idle recirculation loop when THERMAL POWER is <math>\leq 30\%</math> RTP or when operating loop flow is <math>\leq 50\%</math> rated loop flow.            -----            Verify the difference between the bottom head coolant temperature and the RPV steam space coolant temperature is within the limits specified in the PTLR.</p>	<p>Once within 15 minutes prior to a THERMAL POWER increase or recirculation flow increase</p>
<p>SR 3.4.10.6 -----NOTE-----            Only required to be met during a THERMAL POWER increase or recirculation flow increase in MODES 1 and 2 with one non-isolated idle recirculation loop when THERMAL POWER is <math>\leq 30\%</math> RTP or when operating loop flow is <math>\leq 50\%</math> rated loop flow.            -----            Verify the difference between the reactor coolant temperature in the idle recirculation loop and the RPV coolant temperature is within the limits specified in the PTLR.</p>	<p>Once within 15 minutes prior to a THERMAL POWER increase or recirculation flow increase</p>

(continued)

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.11 Reactor Steam Dome Pressure

LC0 3.4.11 The reactor steam dome pressure shall be  $\leq$  1045 psig.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Reactor steam dome pressure not within limit.	A.1 Restore reactor steam dome pressure to within limit.	15 minutes
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.11.1 Verify reactor steam dome pressure is $\leq$ 1045 psig.	In accordance with the Surveillance Frequency Control Program

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS), RPV WATER INVENTORY CONTROL, AND REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM

3.5.2 Reactor Pressure Vessel (RPV) Water Inventory Control

LCO 3.5.2 DRAIN TIME of RPV water inventory to the top of active fuel (TAF) shall be  $\geq$  36 hours.

AND

One low pressure ECCS injection/spray subsystem shall be OPERABLE.

-----NOTE-----  
A Low Pressure Coolant Injection (LPCI) subsystem may be considered OPERABLE during alignment and operation for decay heat removal if capable of being manually realigned and not otherwise inoperable.  
-----

APPLICABILITY: MODES 4 and 5.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Required ECCS injection/spray subsystem inoperable.	A.1 Restore required ECCS injection/spray subsystem to OPERABLE status.	4 hours
B. Required Action and associated Completion Time of Condition A not met.	B.1 Initiate action to establish a method of water injection capable of operating without offsite electrical power.	Immediately

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. DRAIN TIME < 36 hours and ≥ 8 hours.	C.1 Verify secondary containment boundary is capable of being established in less than the DRAIN TIME.	4 hours
	<u>AND</u>	
	C.2 Verify each secondary containment penetration flow path is capable of being isolated in less than the DRAIN TIME.	4 hours
	<u>AND</u>	
	C.3 Verify one standby gas treatment subsystem is capable of being placed in operation in less than the DRAIN TIME.	4 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME	
D. DRAIN TIME < 8 hours.	D.1 -----NOTE----- Required ECCS injection/spray subsystem or additional method of water injection shall be capable of operating without offsite electrical power. ----- Initiate action to establish an additional method of water injection with water sources capable of maintaining RPV water level > TAF for ≥ 36 hours.	Immediately	
	<u>AND</u>		
	D.2	Initiate action to establish secondary containment boundary.	Immediately
	<u>AND</u>		
	D.3	Initiate action to isolate secondary containment penetration flow path or verify it can be manually isolated from the control room.	Immediately
	<u>AND</u>		
	D.4	Initiate action to verify one standby gas treatment subsystem is capable of being placed in operation.	Immediately

(continued)

3.6 CONTAINMENT SYSTEMS

3.6.1.6 Low-Low Set (LLS) Valves

LCO 3.6.1.6 The LLS function of two safety/relief valves shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One LLS valve inoperable.	A.1 Restore LLS valve to OPERABLE status.	14 days
B. Required Action and associated Completion Time of Condition A not met.	B.1 -----NOTE----- LCO 3.0.4.a is not applicable when entering MODE 3. ----- Be in MODE 3.	12 hours
C. Both LLS valves inoperable.	C.1 Be in MODE 3. <u>AND</u> C.2 Be in MODE 4.	12 hours  36 hours



SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.3.1	Operate each SGT subsystem for $\geq 15$ continuous minutes with heaters operating.	In accordance with the Surveillance Frequency Control Program
SR 3.6.4.3.2	Perform required SGT filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.6.4.3.3	Verify each SGT subsystem actuates on an actual or simulated initiation signal.	In accordance with the Surveillance Frequency Control Program
SR 3.6.4.3.4	Verify each SGT filter cooler bypass damper can be opened and the fan started.	In accordance with the Surveillance Frequency Control Program

3.7 PLANT SYSTEMS

3.7.4 Control Center Air Conditioning (AC) System

LCO 3.7.4 Two control center AC subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.  
During movement of recently irradiated fuel assemblies in the secondary containment.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One control center AC subsystem inoperable.	A.1 Restore control center AC subsystem to OPERABLE status.	30 days
B. Two control center AC subsystems inoperable.	B.1 Verify control room area temperature <90°F.	Once per 4 hours
	<u>AND</u> B.2 Restore one control center AC subsystem to OPERABLE status.	72 hours
C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, or 3.	C.1 -----NOTE----- LCO 3.0.4.a is not applicable when entering MODE 3. -----  Be in MODE 3.	12 hours

(continued)

3.7 PLANT SYSTEMS

3.7.7 Spent Fuel Storage Pool Water Level

LCO 3.7.7        The spent fuel storage pool water level shall be  $\geq$  22 ft over the top of irradiated fuel assemblies seated in the spent fuel storage pool racks.

APPLICABILITY:    During movement of irradiated fuel assemblies in the spent fuel storage pool.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Spent fuel storage pool water level not within limit.	A.1        -----NOTE----- LCO 3.0.3 is not applicable. -----  Suspend movement of irradiated fuel assemblies in the spent fuel storage pool.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.7.1    Verify the spent fuel storage pool water level is $\geq$ 22 ft over the top of irradiated fuel assemblies seated in the spent fuel storage pool racks.	In accordance with the Surveillance Frequency Control Program

3.8 ELECTRICAL POWER SYSTEMS

3.8.1 AC Sources—Operating

LCO 3.8.1 The following AC electrical power sources shall be OPERABLE:

- a. Two qualified circuits between the offsite transmission network and the onsite Class 1E AC Electrical Power Distribution System; and
- b. Two emergency diesel generators (EDGs) per division.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One EDG inoperable.	A.1 Perform SR 3.8.1.1 for OPERABLE offsite circuit(s).	1 hour <u>AND</u> Once per 8 hours thereafter
	<u>AND</u> A.2 Declare required feature(s), supported by the inoperable EDG, inoperable when the redundant required feature(s) are inoperable.	4 hours from discovery of an inoperable EDG concurrent with inoperability of redundant required feature(s)
	<u>AND</u> A.3 Verify the status of CTG 11-1.	Once per 8 hours
	<u>AND</u>	(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	<p>A.4.1 Determine OPERABLE EDG(s) are not inoperable due to common cause failure.</p> <p style="text-align: center;"><u>OR</u></p> <p>A.4.2 Perform SR 3.8.1.2 for OPERABLE EDG(s).</p> <p style="text-align: center;"><u>AND</u></p> <p>A.5 Restore availability of CTG 11-1.</p> <p style="text-align: center;"><u>AND</u></p> <p>A.6 Restore EDG to OPERABLE status.</p>	<p>24 hours</p> <p>24 hours</p> <p>72 hours from discovery of Condition A concurrent with CTG 11-1 not available</p> <p>14 days</p>
B. Both EDGs in one division inoperable.	<p>B.1 Perform SR 3.8.1.1 for OPERABLE offsite circuit(s).</p> <p style="text-align: center;"><u>AND</u></p>	<p>1 hour</p> <p style="text-align: center;"><u>AND</u></p> <p>Once per 8 hours thereafter</p> <p style="text-align: right;">(continued)</p>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. (continued)	B.2 Declare required feature(s), supported by the inoperable EDGs, inoperable when the redundant required feature(s) are inoperable.	4 hours from discovery of the inoperable EDGs concurrent with inoperability of redundant required feature(s)
	<u>AND</u>	
	B.3.1 Determine OPERABLE EDG(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 EDG(s).	24 hours
	<u>AND</u>	
	B.4 Restore one EDG in the division to OPERABLE status.	72 hours
C. One or both EDGs in both divisions inoperable.	C.1 Restore both EDGs in one division to OPERABLE status.	2 hours
D. One offsite circuit inoperable.	D.1 Perform SR 3.8.1.1 for OPERABLE offsite circuit.	1 hour
	<u>AND</u>	<u>AND</u> Once per 8 hours thereafter  (continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. (continued)	D.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> D.3 Restore offsite circuit to OPERABLE status.	72 hours
E. Two offsite circuits inoperable.	E.1 Declare required feature(s) inoperable when the redundant required feature(s) are inoperable.	12 hours from discovery of Condition E concurrent with inoperability of redundant required feature(s)
	<u>AND</u> E.2 Restore one offsite circuit to OPERABLE status.	24 hours

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.8.4.6    Verify each required battery charger supplies $\geq 100$ amps at $\geq 124.7$ V for $\geq 4$ hours.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.7    .....-NOTE-..... The performance discharge test in SR 3.8.4.8 may be performed in lieu of the service test in SR 3.8.4.7. ..... Verify battery capacity is adequate to supply, and maintain in OPERABLE status, the actual or simulated emergency loads for the design duty cycle when subjected to a battery service test.	In accordance with the Surveillance Frequency Control Program

(continued)



SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.4.8 .....-NOTE-.....            This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR.            .....            Verify battery capacity is <math>\geq</math> 80% of the manufacturer's rating when subjected to a performance discharge test.</p>	<p>In accordance with the Surveillance Frequency Control Program</p> <p><u>AND</u></p> <p>12 months when battery shows degradation or has reached 85% of expected life with capacity &lt; 100% of manufacturer's rating</p> <p><u>AND</u></p> <p>24 months when battery has reached 85% of the expected life with capacity <math>\geq</math> 100% of manufacturer's rating</p>

## 5.0 ADMINISTRATIVE CONTROLS

-----NOTE-----

Plant specific titles are designated in the UFSAR for each organizational position listed or described in this Section.

-----

### 5.1 Responsibility

---

5.1.1 The Plant Manager shall be responsible for overall unit operation and shall delegate in writing the succession to this responsibility during any absence.

The Plant Manager or designee shall approve, prior to implementation, each proposed test, experiment or modification to systems or equipment that affect nuclear safety.

5.1.2 The Shift Manager (SM) shall be responsible for the control room command function. During any absence of the SM from the control room while the unit is in MODE 1, 2, or 3, an individual with an active Senior Reactor Operator (SRO) license shall be designated to assume the control room command function. During any absence of the SM from the control room while the unit is in MODE 4 or 5, an individual with an active SRO license or Reactor Operator license shall be designated to assume the control room command function.

---

## 5.0 ADMINISTRATIVE CONTROLS

### 5.2 Organization

---

#### 5.2.1 Onsite and Offsite Organizations

Onsite and offsite organizations shall be established for unit operation and corporate management, respectively. The onsite and offsite organizations shall include the positions for activities affecting safety of the nuclear power plant.

- a. Lines of authority, responsibility, and communication shall be defined and established throughout highest management levels, intermediate levels, and all operating organization positions. These relationships shall be documented and updated, as appropriate, in organization charts, functional descriptions of departmental responsibilities and relationships, and job descriptions for key personnel positions, or in equivalent forms of documentation. These requirements shall be documented in the UFSAR;
- b. The Plant Manager shall be responsible for overall safe operation of the plant and shall have control over those onsite activities necessary for safe operation and maintenance of the plant;
- c. The Senior Vice President and Chief Nuclear Officer shall have corporate responsibility for overall plant nuclear safety and shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support to the plant to ensure nuclear safety; and
- d. The individuals who train the operating staff, carry out radiation protection, or perform quality assurance functions may report to the appropriate onsite manager; however, these individuals shall have sufficient organizational freedom to ensure their independence from operating pressures.

---

(continued)

## 5.2 Organization (continued)

---

### 5.2.2 Unit Staff

The unit staff organization shall include the following:

- a. At least two non-licensed operators shall be assigned while operating in MODE 1, 2, or 3 and at least one non-licensed operator shall be assigned whenever the reactor contains fuel.
- b. At least one licensed Reactor Operator (RO) shall be present in the control room when fuel is in the reactor. In addition, while the unit is in MODE 1, 2, or 3, at least one licensed Senior Reactor Operator (SRO) shall be present in the control room.
- c. Shift crew composition may be less than the minimum requirement of 10 CFR 50.54(m)(2)(i) and 5.2.2.a and 5.2.2.g for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on-duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements.
- d. A Radiation Protection Technician shall be on site when fuel is in the reactor. The position may be vacant for not more than 2 hours, in order to provide for unexpected absence, provided immediate action is taken to fill the required position.
- e. Deleted.
- f. The Superintendent-Operations, Assistant Superintendent-Operations, or the Operations Engineer shall hold an SRO license.
- g. An STA shall be assigned whenever the reactor is operating in MODES 1, 2, and 3. The Shift Technical Advisor (STA) shall provide advisory technical support to the Shift Manager (SM) in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the unit. In addition, the STA shall meet the qualifications specified by the Commission Policy Statement on Engineering Expertise on Shift.

## 5.5 Programs and Manuals

---

### 5.5.1 Offsite Dose Calculation Manual (ODCM) (continued)

3. Shall be submitted to the NRC in the form of a complete, legible copy of the entire ODCM as a part of or concurrent with the Radioactive Effluent Release Report for the period of the report in which any change in the ODCM was made.

Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (i.e., month and year) the change was implemented.

### 5.5.2 Primary Coolant Sources Outside Containment

This program provides controls to minimize leakage from those portions of systems outside containment that could contain highly radioactive fluids during a serious transient or accident to levels as low as practicable. The systems include Core Spray, High Pressure Coolant Injection, Residual Heat Removal, Reactor Core Isolation Cooling, reactor water sampling, Post Accident Sampling, reactor water cleanup, Primary Containment Monitoring, control rod drive discharge headers, and Standby Gas Treatment. The program shall include the following:

- a. Preventive maintenance and periodic visual inspection requirements; and
- b. Integrated leak test requirements for each system at refueling cycle intervals or less.

### 5.5.3 Not Used

---

(continued)

## 5.5 Programs and Manuals

---

### 5.5.14 Control Room Envelope Habitability Program (continued)

- d. Measurement, at designated locations, of the CRE pressure relative to all external areas adjacent to the CRE boundary during the pressurization mode of operation by one subsystem of the CREF System, operating at the flow rate required by the VFTP, at a Frequency of 24 months on a STAGGERED TEST BASIS. The results shall be trended and assessed every 24 months.
- e. The quantitative limits on unfiltered air leakage into the CRE. These limits shall be stated in a manner to allow direct comparison to the unfiltered air leakage measured by the testing described in paragraph c. The unfiltered air leakage limit for radiological challenges is the leakage flow rate assumed in the licensing basis analyses of DBA consequences. Unfiltered air leakage limits for hazardous chemicals must ensure that exposure of CRE occupants to these hazards will be within the assumptions in the licensing basis.
- f. The provisions of SR 3.0.2 are applicable to the Frequencies for assessing CRE habitability, determining CRE unfiltered leakage, 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 the 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 the NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1.

The one-time 24 Month Fuel Cycle related Surveillance Requirement Frequency changes approved by the NRC in License Amendment 218 are not subject to this provision. Subsequent changes are subject to the Surveillance Frequency Control Program.

(continued)

---

5.5 Programs and Manuals

---

5.5.15 Surveillance Frequency Control Program (continued)

- 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.
- 
-

5.6 Reporting Requirements (continued)

---

5.6.4 Deleted

5.6.5 CORE OPERATING LIMITS REPORT (COLR)

- a. Core operating limits shall be established prior to each reload cycle, or prior to any remaining portion of a reload cycle, and shall be documented in the COLR for the following;

LCO 3.2.1, "AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR)";

LCO 3.2.2, "MINIMUM CRITICAL POWER RATIO (MCPR)";

LCO 3.2.3, "LINEAR HEAT GENERATION RATE (LHGR)"; and

LCO 3.3.2.1, "Control Rod Block Instrumentation."

The MCPR<sub>99.9%</sub> value used to calculate the LCO 3.2.2, "MCPR," limit shall be specified in the COLR.

- b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC, specifically those described in the following document:

1. NEDE-24011-P-A, "General Electric Standard Application for Reactor Fuel," (latest approved version).

- 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.

---

(continued)



5.7 High Radiation Area (continued)

---

- 5.7.2 In addition to the requirements of Specification 5.7.1, areas accessible to individuals with radiation levels such that an individual could receive in 1 hour a dose equivalent  $> 1000$  mremS but  $< 500$  rads at one meter from sources of radioactivity shall be provided with locked doors to prevent unauthorized entry, and the keys shall be maintained under the administrative control of the Shift Manager (SM) on duty and/or the radiation protection supervision. Doors shall remain locked except during periods of access by personnel under an approved RWP that shall specify the dose rate levels in the immediate work areas and the maximum allowable stay times for individuals in those areas. In lieu of the stay time specification of the RWP, direct or remote (such as closed circuit TV cameras) continuous surveillance may be made by personnel qualified in radiation protection procedures to provide positive exposure control over the activities being performed within the area.
- 5.7.3 For individual areas accessible to individuals with radiation levels such that a major portion of the individual's body could receive in 1 hour a dose  $> 1000$  mremS with measurement made at 30 centimeters from the source of radioactivity, but  $< 500$  rads at one meter from sources of radioactivity that are located within large areas such as reactor containment, where no enclosure exists for purposes of locking, and where no enclosure can be reasonably constructed around the individual area, that individual area shall be roped off and conspicuously posted, and a flashing light shall be activated as a warning device.
-



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 222 TO

RENEWED FACILITY OPERATING LICENSE NO. NPF-43

DTE ELECTRIC COMPANY

FERMI 2

DOCKET NO. 50-341

1.0 INTRODUCTION

By letter dated March 31, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21090A194), as supplemented by its letters dated August 17, 2021, and March 18, 2022 (ADAMS Accession Nos. ML21229A090 and ML22077A094, respectively), DTE Electric Company (DTE, the licensee) submitted a request for changes to the Fermi 2 technical specifications (TSs). The DTE request would make the following changes to the Fermi 2 TSs.

- a) correction of line formatting inconsistency throughout the TS
- b) correction of continuation notation throughout the TS
- c) correction of typographical error in TS Section 3.0
- d) correction of typographical error in TS Sections 3.2.1 and 3.2.3
- e) correction of missing completion time in TS Sections 3.3.7.2 and 3.3.7.3
- f) correction of logical connector formatting errors throughout the TS
- g) correction of typographical errors in TS Section 3.4 title
- h) correction of formatting error of dashed lines for notes in TS Sections 3.4.10 and 3.7.7
- i) correction of typographical error in TS Section 3.5.2
- j) correction of formatting inconsistency in TS Section 3.8.1
- k) correction of position title in TS Section 5.2.1
- l) correction of position title in TS Sections 5.1.2, 5.2.2, and 5.7.2
- m) removal of obsolete information from TS Section 5.5.2
- n) removal of a reference from TS Section 5.6.5
- o) removal of excess detail from TS Section 3.4.5

The supplemental letter dated August 17, 2021, provided additional information that clarified the application, and the supplemental letter dated March 18, 2022, removed TS page 5.0-19 from the scope of the original request. The proposed change to TS page 5.0-19 was to correct an administrative inconsistency and was not a technical change. Therefore, the two supplements did not expand the scope of the application as originally noticed and did not change the U.S. Nuclear Regulatory Commission (NRC or Commission) staff's original proposed no significant

hazards consideration determination as published the *Federal Register* on June 15, 2021 (86 FR 31738).

## 2.0 REGULATORY EVALUATION

Section 50.36 of Title 10 of the *Code of Federal Regulations* (10 CFR) requires that each licensee operate a station in accordance with plant-specific TSs. Pursuant to 10 CFR 50.36, TSs are required to include items in the following five specific categories related to station operation:

- 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.

The requirements in 10 CFR 50.36 do not specify the particular requirements to be included in a station's TSs nor the format or style of a station's TSs.

## 3.0 TECHNICAL EVALUATION

The proposed amendment would make changes to the Fermi 2 TSs as listed in Section 1.0 and evaluated in this section.

### 3.1 Editorial Changes

Proposed changes a) – d) and f) – j) listed in Section 1 of this safety evaluation have been confirmed to be editorial changes to the Fermi 2 TSs, and, as such, these do not make any meaningful changes to operational requirements. None of these changes would change the operation of the station or the implementation of the Fermi 2 TSs. Since the changes are editorial in nature and do not change the permissible operation of the station (i.e., they do not change the requirements in the TSs), the NRC staff finds the proposed changes acceptable.

### 3.2 Missing Completion Time in TS Sections 3.3.7.2 and 3.3.7.3

TS Sections 3.3.7.2 "Mechanical Vacuum Pump (MVP) Trip Instrumentation" and 3.3.7.3 "Gland Seal Exhauster (GSE) Trip Instrumentation" were added to Fermi TSs in amendment number 212 (ADAMS Accession Number ML18250A163). Each section contains a "Condition A" with two possible "Required Actions" A.1 and A.2 separated by the logical connector "OR". In the "Completion Time" column, 12 hours completion time is currently aligned with Required Action A.1. The staff's safety evaluation for amendment number 212 states, in part, that "The Actions associated with the new LCOs specify that if one or more channels is inoperable, that channel be restored to operable status or placed in trip within 12 hours." Based on the above evaluation, the staff finds the addition of completion time of 12 hours for Action A.2 in TS Sections 3.3.7.2 and 3.3.7.3 acceptable.

### 3.3 Position Title Change in TS Section 5.2.1

In TS Section 5.2.1, the licensee proposed to change the position title of "Senior Vice President-Nuclear Generation" to "Senior Vice President and Chief Nuclear Officer." The proposed title is consistent with Sections 13.1 and 17.2.1 of the Fermi 2 UFSAR and is acceptable.

### 3.4 Position Title Change in TS Sections 5.1.2, 5.2.2, and 5.7.2

The Fermi 2 TS Section 5.1.2 designates the Nuclear Shift Supervisor (NSS) as the person responsible for control room command function. This position title and/or its abbreviation, NSS, is also used in TS Sections 5.2.2 and 5.7.2. The licensee proposed to change NSS to shift manager (SM) for these TS sections. Fermi 2 UFSAR Section 13.1.2.6 documents that the NSS has the same functional responsibilities as the SM. The licensee also confirmed in its submittal that the rest of the UFSAR has been updated over the years to use the "SM" title. Therefore, this TS change makes the title consistent with the UFSAR and is acceptable.

### 3.5 Removal of Excess Detail from TS Section 3.4.5 "RCS PIV Leakage

The licensee proposed to delete the word "testable" from "isolation testable check valves" and change it to "isolation check valves," in the Surveillance Requirement (SR) 3.4.5.1.c. The proposed change is consistent with the Fermi 2 TS Bases 3.4.5, which states, in part, that "A study (NUREG-0677, "The Probability of the Intersystem LOCA [loss-of-coolant accident]: Impact Due to Leak Testing and Operation Changes" (ADAMS Accession No. ML19323E667)) evaluated various PIV [pressure isolation valves] configurations to determine the probability of intersystem LOCAs. This study concluded that periodic leakage testing of the PIVs can reduce intersystem LOCA substantially." This study cited in NUREG-0677 only considered "check valves" for evaluation. Therefore, The NRC staff determines that this is an appropriate change to remove the unnecessary information and concludes it is acceptable since the change is consistent with the NUREG-0677 guidance.

### 3.6 Removal of Obsolete Information from TS Section 5.5.2 "Primary Coolant Sources Outside Containment"

The licensee proposed to delete the hydrogen recombiners from the list of systems outside containment that could contain highly radioactive fluids during a serious transient or accident in TS Section 5.5.2. The licensee has justified this change by stating that Fermi 2 has taken action to retire the hydrogen recombiners in place by de-energizing the electrical circuits and isolating the fluid process piping from primary containment with redundant locked closed isolation valves. Fermi 2 operating procedures and Updated Final Safety Analysis Report have been updated to reflect that the hydrogen recombiner system is retired and isolated. The NRC staff determines that this is an appropriate removal of obsolete information and concludes it is acceptable since in the current design and licensing basis, the hydrogen recombiners are no longer a system outside containment that could contain highly radioactive fluids during a serious transient or accident.

### 3.7 Removal of Obsolete Information from TS Section 5.6.5 "CORE OPERATING LIMITS REPORT (COLR)"

The licensee proposed to remove the reference in TS Section 5.6.5 to NEDE-23785-1-PA for the GESTR-LOCA and SAFER models for evaluation of LOCAs which is no longer used. Fermi 2 TS Section 5.6.5 identifies the analytical methods used to determine the core operating limits, and currently lists both NEDE-24011-P-A (TRACG-LOCA) and NEDE-23785-1-PA (SAFER/GESTR). The licensee justified this change by stating that LOCA reanalysis was performed using the TRACG-LOCA method rather than SAFER/GESTR, and all of the analytical methods used to determine the core operating limits for Fermi 2 are now documented in NEDE-24011-P-A. The NRC staff determines that this is an appropriate change to remove

obsolete information and concludes it is acceptable since the licensee has discontinued use of the NEDE-23785-1-PA methodology.

#### 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Michigan State official was notified of the proposed issuance of the amendment on November 12, 2021. The State official had no comments.

#### 5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes the format of the license or permit or otherwise makes editorial, corrective or other minor revisions. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, as published in the *Federal Register* on June 15, 2021 (86 FR 31738), 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)(10)(v). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

#### 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.

Principal Contributor: J. Wilson, NRR

Date of issuance: April 7, 2022

SUBJECT: FERMILAB - ISSUANCE OF AMENDMENT NO. 222 REGARDING REVISION OF TECHNICAL SPECIFICATIONS TO REMOVE OBSOLETE INFORMATION, MAKE MINOR CORRECTIONS, AND MAKE SEVERAL EDITORIAL CHANGES (EPID L-2021-LLA-0057) DATED APRIL 7, 2022

**DISTRIBUTION:**

- PUBLIC
- PM File Copy
- RidsACRS\_MailCTR Resource
- RidsNrrDorlLpl3 Resource
- RidsNrrLASRohrer Resource
- RidsNrrPMFermi2 Resource
- RidsNrrDssStsb Resource
- RidsRgn3MailCenter Resource
- JWilson, NRR
- GBedi, NRR

**ADAMS Accession No. ML21335A280**

OFFICE	NRR/DORL/LPL3/PM	NRR/DORL/LPL3/LA	NRR/DSS/STSB/BC (A)	NRR/DEX/EMIB/BC (A)
NAME	SArora	SRohrer	MHamm	ITseng
DATE	12/01/21	12/06/21	11/09/21	02/23/22
OFFICE	OGC/NLO	NRR/DORL/LPL3/BC	NRR/DORL/LPL3/PM	
NAME	JAzeizat	RKuntz for NSalgado	SArora	
DATE	01/12/22	04/07/22	04/07/22	

**OFFICIAL RECORD COPY**