March 31, 2000

TEMPLATE = NRR-058

Mr. Douglas R. Gipson
Senior Vice President
Nuclear Generation
Detroit Edison Company
6400 North Dixie Highway
Newport, MI 48166

SUBJECT: FERMI 2 - ISSUANCE OF AMENDMENT RE: ENABLING THE OSCILLATION POWER RANGE MONITOR UPSCALE TRIP FUNCTION (TAC NO. MA6267)

Dear Mr. Gipson:

The Commission has issued the enclosed Amendment No. 139 to Facility Operating License No. NPF-43 for the Fermi 2 facility. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated July 30, 1999, as supplemented December 17, 1999, and March 1, 2000.

The amendment revises TS 3.3.1.1, "Reactor Protection System (RPS) Instrumentation," to reflect the activation of the automatic trip associated with the oscillation power range monitor (OPRM). The amendment also revises TS 3.4.1, "Recirculation Loops Operating," to remove requirements related to the manual detection and suppression of core thermal-hydraulic instabilities because these actions are no longer necessary after the OPRM upscale function is activated.

Because full implementation of this amendment may not take place until the spring of 2000, until full implementation, Detroit Edison should submit two sets of TS pages for any pages affected in future amendments by the issuance of this amendment. The TS pages should reflect the conditions before and after full implementation of this amendment so that the correct TS pages may be issued in any future amendments. The NRC also requests that you submit a letter informing the staff when this amendment is fully implemented.

A copy of our safety evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,
/s/
Andrew J. Kugler, Project Manager, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-341

Enclosures: 1. Amendment No. 139 to NPF-43
2. Safety Evaluation

cc w/encls: See next page

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

DETROIT EDISON COMPANY

DOCKET NO. 50-341

FERMI 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No.139
License No. NPF-43

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by the Detroit Edison Company (the licensee) dated July 30, 1999, as supplemented December 17, 1999, and March 1, 2000, 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 Facility Operating License No. NPF-43 is hereby amended to read as follows:

   Technical Specifications and Environmental Protection Plan

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 139 , and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. DECo 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 prior to the startup from the seventh refueling outage.

FOR THE NUCLEAR REGULATORY COMMISSION

for Claudia M. Craig, Chief, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: March 31, 2000

ATTACHMENT TO LICENSE AMENDMENT NO.139

FACILITY OPERATING LICENSE NO. NPF-43

DOCKET NO. 50-341

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	INSERT
3.3-1	3.3-1
3.3-2	3.3-2
3.3-3	3.3-3
N/A	3.3-3a
3.3-7	3.3-7
3.3-9	3.3-9
3.4-1	3.4-1
3.4-2	3.4-2
3.4-3	3.4-3
3.4-4	3.4-4
B 3.3.1.1-7	B 3.3.1.1-7*
B 3.3.1.1-7a	B 3.3.1.1-7a*
B 3.3.1.1-11	B 3.3.1.1-11*
B 3.3.1.1-11a	B 3.3.1.1-11a*
B 3.3.1.1-11b	B 3.3.1.1-11b*
B 3.3.1.1-21	B 3.3.1.1-21*
B 3.3.1.1-23	B 3.3.1.1-23*
B 3.3.1.1-24	B 3.3.1.1-24*
B 3.3.1.1-25	B 3.3.1.1-25*
B 3.3.1.1-25a	B 3.3.1.1-25a*
B 3.3.1.1-31	B 3.3.1.1-31*
B 3.3.1.1-34	B 3.3.1.1-34*
B 3.3.1.1-34a	B 3.3.1.1-34a*
B 3.3.1.1-35	B 3.3.1.1-35*
B 3.4.1-2	B 3.4.1-2*
B 3.4.1-4	B 3.4.1-4*
B 3.4.1-6	B 3.4.1-6*
B 3.4.1-7	B 3.4.1-7*
B 3.4.1-8	B 3.4.1-8*
B 3.4.1-9	B 3.4.1-9*
B 3.4.1-10	B 3.4.1-10*

*Bases pages are controlled by the licensee under Technical Specification 5.5.10, "Technical Specifications (TS) Bases Control Program." These pages are included with the amendment for information only.

3.3 INSTRUMENTATION

3.3.1.1 Reactor Protection System (RPS) Instrumentation

LCO 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

----------NOTE----------
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
	OR		
	A.2	---------NOTE-------- Not applicable for Functions 2.a, 2.b, 2.c, 2.d, and 2.f. ----------	
		Place associated trip system in trip.	12 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. ---------NOTE--------- Not applicable for Functions 2.a, 2.b, 2.c, 2.d, and 2.f. ---------- 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. OR B.2 Place one trip system in trip.	6 hours 6 hours
C. One or more Functions with RPS trip capability not maintained.	C.1 Restore RPS trip capability.	1 hour
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 < 30% 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.	6 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
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 Isolate all main steam lines. OR H.2 Be in MODE 3.	12 hours 12 hours
I. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	I.1 Initiate action to fully insert all insertable control rods in core cells containing one or more fuel assemblies.	Immediately
J. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	J.1 Initiate alternate method to detect and suppress thermal hydraulic instability oscillations. AND ----------NOTE---------- LCO 3.0.4 is not applicable. ---------- J.2 Restore required channels to OPERABLE status.	12 hours 120 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
K. Required Action and associated Completion Time of Condition J not met.	K.1 Reduce THERMAL POWER TO < 25% RTP.	4 hours

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.3.1.1.17	----------NOTES---------- 1. Neutron detectors are excluded. 2. For Functions 3 and 4 channel sensor response times are not required to be measured. 3. For Function 5 "n" equals 4 channels for the purpose of determining the STAGGERED TEST BASIS Frequency. ---------- Verify the RPS RESPONSE TIME is within limits.	18 months on a STAGGERED TEST BASIS
SR 3.3.1.1.18	----------NOTE---------- Neutron detectors are excluded. ---------- Perform CHANNEL CALIBRATION.	24 months
SR 3.3.1.1.19	Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months
SR 3.3.1.1.20	Verify OPRM is not bypassed when APRM Simulated Thermal Power is ≥ 28% and recirculation drive flow is < 60% of rated recirculation drive flow.	24 months

Table 3.3.1.1-1 (page 2 of 3)
Reactor Protection System Instrumentation

	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2.	Average Power Range Monitors (continued)					
	c. Neutron Flux - Upscale	1	3(c)	F	SR 3.3.1.1.2 SR 3.3.1.1.3 SR 3.3.1.1.8 SR 3.3.1.1.12 SR 3.3.1.1.18	≤ 120% RTP
	d. Inop	1,2	3(c)	G	SR 3.3.1.1.12	NA
	e. 2-out-of-4 Voter	1,2	2	G	SR 3.3.1.1.2 SR 3.3.1.1.12 SR 3.3.1.1.17 SR 3.3.1.1.19	NA
	f. OPRM Upscale	≥ 25% RTP	3(c)	J	SR 3.3.1.1.2 SR 3.3.1.1.8 SR 3.3.1.1.12 SR 3.3.1.1.18 SR 3.3.1.1.20	NA
3.	Reactor Vessel Steam Dome Pressure-High	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.9 SR 3.3.1.1.10 SR 3.3.1.1.14 SR 3.3.1.1.15 SR 3.3.1.1.17	≤ 1113 psig
4.	Reactor Vessel Water Level-Low, Level 3	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.9 SR 3.3.1.1.10 SR 3.3.1.1.14 SR 3.3.1.1.15 SR 3.3.1.1.17	≥ 171.9 inches
5.	Main Steam Isolation Valve-Closure	1	8	F	SR 3.3.1.1.9 SR 3.3.1.1.14 SR 3.3.1.1.15 SR 3.3.1.1.17	≤ 12% closed
6.	Main Steam Line Radiation - High	1,2	2	H	SR 3.3.1.1.1 SR 3.3.1.1.9 SR 3.3.1.1.14 SR 3.3.1.1.15	≤ 3.6 X full power background
7.	Drywell Pressure-High	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.9 SR 3.3.1.1.10 SR 3.3.1.1.14 SR 3.3.1.1.15	≤ 1.88 psig

(continued)

(c) Each APRM channel provides inputs to both trip systems.

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.1 Recirculation Loops Operating

LCO 3.4.1 Two recirculation loops with matched recirculation loop jet pump flows shall be in operation;

OR

One recirculation loop may be in operation provided the following limits are applied when the associated LCO is applicable:

1. LCO 3.2.1, "AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR)," single loop operation limits specified in the COLR;

2. LCO 3.2.2, "MINIMUM CRITICAL POWER RATIO (MCPR)," single loop operation limits specified in the COLR;

3. LCO 3.3.1.1, "Reactor Protection System (RPS) Instrumentation," Function 2.b (Average Power Range Monitors Simulated Thermal Power–Upscale) Allowable Value of Table 3.3.1.1-1 is reset for single loop operation, when in MODE 1; and

4. THERMAL POWER is $\leq$ 67.2% RTP.

---NOTE---
Application of the required limitations for single loop operation may be delayed for up to 4 hours after transition from two recirculation loop operations to single recirculation loop operation.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Recirculation jet pump loop flow mismatch not within limits.	A.1 Declare recirculation loop with lower flow: "not in operation."	2 hours
B. No recirculation loops operating.	B.1 Be in MODE 3.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.1.1	----------NOTE---------- Not required to be performed until 24 hours after both recirculation loops are in operation. ---------- Verify recirculation loop jet pump flow mismatch with both recirculation loops in operation is: a. $\leq$ 10% of rated core flow when operating at < 70% of rated core flow; and b. $\leq$ 5% of rated core flow when operating at $\geq$ 70% of rated core flow.	24 hours

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BASES

APPLICABLE SAFETY ANALYSIS, LCO, and APPLICABILITY (continued)

Average Power Range Monitor

The APRM channels provide the primary indication of neutron flux within the core and respond almost instantaneously to neutron flux increases. The APRM channels receive input signals from the local power range monitors (LPRMs) within the reactor core to provide an indication of the power distribution and local power changes. The APRM channels average these LPRM signals to provide a continuous indication of average reactor power from a few percent to greater than RTP. Each APRM also includes an Oscillation Power Range Monitor (OPRM) Upscale Function which monitors small groups of LPRM signals to detect thermal-hydraulic instabilities.

The APRM System is divided into 4 APRM channels and 4 2-out-of-4 voter channels. Each APRM channel provides inputs to each of the four voter channels. The four voter channels are divided into two groups of two each, with each group of two providing inputs to one RPS trip system. The APRM System is designed to allow one APRM channel, but no voter channels, to be bypassed. A trip from any one unbypassed APRM will result in a " half-trip" in all four voter channels, but no trip inputs to either RPS trip system. APRM trip functions 2.a, 2.b, 2.c, and 2.d are voted independently from OPRM Upscale Function 2.f. Therefore, any Function 2.a, 2.b, 2.c, or 2.d trip from any two unbypassed APRM channels will result in a full-trip in each of the four voter channels, which in turn results in two trip inputs into each RPS trip logic channel (A1, A2, B1, and B2). Similarly, a Function 2.f trip from any two unbypassed APRM channels will result in a full trip from each of the four voter channels. Three of the four APRM channels and all four of the voter channels are required to be OPERABLE to ensure that no single failure will preclude a scram on a valid signal. In addition, to provide adequate coverage of the entire core, consistent with the design bases for APRM Functions 2.a, 2.b, and 2.c, at least 20 LPRM inputs, with at least three LPRM inputs from each of the four axial levels at which the LPRMs are located, are required for each APRM channel. For the OPRM Upscale Function 2.f, LPRMs are assigned to cells of 4 detectors, with a total of 30 cells assigned to each APRM channel. A minimum of 21 cells per channel, each with a minimum of 2 LPRMs per cell, must be OPERABLE for the OPRM Upscale Function 2.f to be OPERABLE. The OPRM Upscale Trip Setpoint limits are calculated in accordance with methodologies outlined in Reference 16.

BASES

APPLICABLE SAFETY ANALYSIS, LCO, and APPLICABILITY (continued)

2.a. Average Power Range Monitor Neutron Flux–Upscale (Setdown)

For operation at low power (i.e., MODE 2), the Average Power Range Monitor Neutron Flux–Upscale (Setdown) Function is capable of generating a trip signal that prevents fuel damage resulting from abnormal operating transients in this power range. For most operation at low power levels, the Average Power Range Monitor Neutron Flux–Upscale (Setdown) Function will provide a secondary scram to the Intermediate Range Monitor Neutron Flux–High Function because of the relative setpoints. With the IRMs at Range 9 or 10, it is possible that the Average Power Range Monitor Neutron

BASES

APPLICABLE SAFETY ANALYSIS, LCO, and APPLICABILITY (continued)

There is no Allowable Value for this Function.

This Function is required to be OPERABLE in the MODES where the APRM Functions are required.

2.e. 2-out-of-4 Voter

The 2-out-of-4 Voter Function provides the interface between the APRM Functions, including the OPRM Upscale Function, and the final RPS trip system logic. As such, it is required to be OPERABLE in the MODES where the APRM Functions are required and is necessary to support the safety analysis applicable to each of those Functions. Therefore, the 2-out-of-4 Voter Function is required to be OPERABLE in MODES 1 and 2.

Both voter channels in each trip system (all four voter channels) are required to be OPERABLE. Each voter channel also includes self-diagnostic functions. If any voter channel detects a critical fault in its own processing, an Inop trip is issued from that voter channel to the associated trip system. The 2-out-of-4 Voter Function votes APRM Functions 2.a, 2.b, 2.c, and 2.d independently of Function 2.f. The voter also includes separate outputs to RPS for the two independently voted sets of Functions, each of which is redundant (four total outputs). The voter Function 2.e must be declared inoperable if any of its functionality is inoperable. However, due to the independent voting of APRM trips, and the redundancy of outputs, there may be conditions where the voter Function 2.e is inoperable, but trip capability for one or more of the other APRM Functions through that voter is still maintained. This may be considered when determining the condition of other APRM Functions resulting from partial inoperability of the Voter Function 2.e.

There is no Allowable Value for this Function.

2.f. Ocsillation Power range Monitor (OPRM) Upscale

The OPRM Upscale Function provides compliance with GDC 10 and GDC 12, thereby providing protection from exceeding the fuel MCPR safety limit (SL) due to anticipated thermal-hydraulic power oscillations.

BASES

APPLICABLE SAFETY ANALYSIS, LCO, and APPLICABILITY (continued)

References 14, 15, and 16 describe three algorithms for detecting thermal-hydraulic instability related neutron flux oscillations: the period based detection algorithm, the amplitude based algorithm, and the growth rate based algorithm. All three are implemented in the OPRM Upscale Function, but the safety analysis takes credit only for the period based detection algorithm. The remaining algorithms provide defense in depth and additional protection against unanticipated oscillations. OPRM Upscale Function OPERABILITY for Technical Specification purposes is based only on the period based detection algorithm.

The OPRM Upscale Function receives input signals from the local power range monitors (LPRMs) within the reactor core, which are combined into cells for evaluation by the OPRM algorithms.

The OPRM Upscale Function is required to be OPERABLE when the plant is at $\geq$ 25% RTP, the region of power-flow operation where anticipated events could lead to thermal-hydraulic instability and related neutron flux oscillations. Within this region, the automatic trip is enabled when THERMAL POWER, as indicated by the APRM Simulated Thermal Power, is $\geq$ 28% RTP and recirculation drive flow is < 60% of rated flow, the operating region where actual thermal-hydraulic oscillations may occur. The lower bound, 25% RTP, is chosen to provide margin in the unlikely event of a power increase transient that could occur without operator action while the plant is operating below the 28% automatic OPRM Upscale trip enable point.

An OPRM Upscale trip function trip is issued from an APRM channel when the period based detection algorithm in that channel detects oscillatory changes in the neutron flux, indicated by the combined signals of the LPRM detectors in a cell, with the period confirmations and relative cell amplitude exceeding specified setpoints. One or more cells in a channel exceeding the trip conditions will result in a channel trip. An OPRM Upscale trip is also issued from the channel if either the growth rate or amplitude based algorithms detect growing oscillatory changes in the neutron flux for one or more cells in that channel.

BASES

APPLICABLE SAFETY ANALYSIS, LCO, and APPLICABILITY (continued)

Three of the four channels are required to be operable. Each channel is capable of detecting thermal-hydraulic instabilites by detecting the related neutron flux oscillations, and issuing a trip signal before the MCPR SL is exceeded. There is no allowable value for this function. The OPRM Upscale Trip Setpoint limits are calculated in accordance with methodologies outlined in Reference 16.

BASES

ACTIONS (continued)

A.1 and A.2

Because of the diversity of sensors available to provide trip signals and the redundancy of the RPS design, an allowable out of service time of 12 hours has been shown to be acceptable (Refs. 9, 13, and 17) to permit restoration of any inoperable channel to OPERABLE status. However, this out of service time is only acceptable provided the associated Function's inoperable channel is in one trip system and the Function still maintains RPS trip capability (refer to Required Actions B.1, B.2, and C.1 Bases). If the inoperable channel cannot be restored to OPERABLE status within the allowable out of service time, the channel or the associated trip system must be placed in the tripped condition per Required Actions A.1 and A.2. Placing the inoperable channel in trip (or the associated trip system in trip) would conservatively compensate for the inoperability, restore capability to accommodate a single failure, and allow operation to continue. Alternatively, if it is not desired to place the channel (or trip system) in trip (e.g., as in the case where placing the inoperable channel in trip would result in a full scram), Condition D must be entered and its Required Action taken.

As noted, Required Action A.2 is not applicable for APRM Functions 2.a, 2.b, 2.c, 2.d, and 2.f. Inoperability of one required APRM channel affects both trip systems; thus, Required Action A.1 must be satisfied. This is the only action (other than restoring OPERABILITY) that will restore capability to accommodate a single failure. Inoperability of more than one required APRM channel of the same trip function results in loss of trip capability and entry into Condition C, as well as entry into Condition A for each channel.

BASES

ACTIONS (continued)

Alternately, if it is not desired to place the inoperable channels (or one trip system) in trip (e.g., as in the case where placing the inoperable channel or associated trip system in trip would result in a scram), Condition D must be entered and its Required Action taken.

As noted, Condition B is not applicable for APRM Functions 2.a, 2.b, 2.c, 2.d, and 2.f. Inoperability of an APRM channel affects both trip systems and is not associated with a specific trip system, as are the APRM 2-out-of-4 voter and other non-APRM channels for which Condition B applies. For an inoperable APRM channel, Required Action A.1 must be satisfied, and is the only action (other than restoring OPERABILITY) that will restore capability to accommodate a single failure. Inoperability of a Function in more than one required APRM channel results in loss of trip capability for that function and entry into Condition C, as well as entry into Condition A for each channel. Because Conditions A and C provide Required Actions that are appropriate for the inoperability of APRM Functions 2.a, 2.b, 2.c, 2.d, and 2.f, and these Functions are not associated with specific trip systems as are the APRM 2-out-of-4 voter and other non-APRM channels, Condition B does not apply.

C.1

Required Action C.1 is intended to ensure that appropriate actions are taken if multiple, inoperable, untripped channels within the same trip system for the same Function result in the Function not maintaining RPS trip capability. A Function is considered to be maintaining RPS trip capability when sufficient channels are OPERABLE or in trip (or the associated trip system is in trip), such that both trip systems will generate a trip signal from the given Function on a valid signal. For the typical Function with one-out-of-two taken twice logic and the IRM and APRM Functions, this would require both trip systems to have one channel OPERABLE or in trip (or the associated trip system in trip). For Function 5 (Main Steam Isolation Valve–Closure), this would require both trip systems to have each channel associated with the MSIVs in three main steam lines (not necessarily the same main steam lines for both trip systems) OPERABLE or in trip (or the associated trip system in trip).

BASES

ACTIONS (continued)

For Function 8 (Turbine Stop Valve–Closure), this would require both trip systems to have three channels, each OPERABLE or in trip (or the associated trip system in trip).

The Completion Time is intended to allow the operator time to evaluate, and repair or place in trip any discovered inoperabilities that result in a loss of RPS trip OPERABILITY. The 1 hour Completion Time is acceptable because it minimizes risk while allowing time for restoration or tripping of channels.

D.1

Required Action D.1 directs entry into the appropriate Condition referenced in Table 3.3.1.1-1. The applicable Condition specified in the Table is Function and MODE or other specified condition dependent and may change as the Required Action of a previous Condition is completed. Each time an inoperable channel has not met any Required Action of Condition A, B, or C and the associated Completion Time has expired, Condition D will be entered for that channel and provides for transfer to the appropriate subsequent Condition.

E.1, F.1, G.1, H.1, H.2, and K.1

If the channel(s) is not restored to OPERABLE status or placed in trip (or the associated trip system placed in trip) within the allowed Completion Time, the plant must be placed in a MODE or other specified condition in which the LCO does not apply. Alternately, for Condition H, the MSLs may be isolated (Required Action H.1), and, if allowed (i.e., plant safety analysis and minimal steam flow in MODE 2 allows operation with the MSLs isolated), operation with the MSLs isolated may continue. Isolating the MSLs conservatively accomplishes the safety function of the inoperable channel. The allowed Completion Times are reasonable, based on operating experience, to reach the specified condition from full power conditions in an orderly manner and without challenging plant systems. In addition, the Completion Time of Required Actions E.1 and K.1 are consistent with the Completion Time provided in LCO 3.2.2, "MINIMUM CRITICAL POWER RATIO (MCPR)."

BASES

ACTIONS (continued)

I.1

If the channel(s) is not restored to OPERABLE status or placed in trip (or the associated trip system placed in trip) within the allowed Completion Time, the plant must be placed in a MODE or other specified condition in which the LCO does not apply. This is done by immediately initiating action to fully insert all insertable control rods in core cells containing one or more fuel assemblies. Control rods in core cells containing no fuel assemblies do not affect the reactivity of the core and are, therefore, not required to be inserted. Action must continue until all insertable control rods in core cells containing one or more fuel assemblies are fully inserted.

J.1

If OPRM Upscale trip capability is not maintained, Condition J exists. References 13 and 17 justified use of alternate methods to detect and suppress oscillations for a limited period of time. The alternate methods are procedurally established consistent with the guidelines identified in References 18 and 19 requiring manual operator action to scram the plant if certain predefined events occur. The 12 hour allowed action time is based on engineering judgment to allow orderly transition to the alternate methods while limiting the period of time during which no automatic or alternate detect and suppress trip capability is formally in place. Based on the small probability of an instability event occurring at all, the 12 hours is judged to be reasonable.

J.2

The alternate method to detect and suppress oscillations implemented in accordance with J.1 was evaluated (References 13 and 17) based on use up to 120 days only. The evaluation, based on engineering judgment, concluded that the likelihood of an instability event that could not be adequately handled by the alternate methods during this 120 day period was negligibly small. The 120 day period is intended to be an outside limit to allow for the case where design changes or extensive analysis might be required to understand or correct some unanticipated characteristic of the instability detection algorithms or equipment. This action is not intended and was not evaluated as a routine alternative to returning failed or inoperable equipment to

BASES

ACTIONS (continued)

OPERABLE status. Correction of routine equipment failure or inoperability is expected to normally be accomplished within the completion times allowed for Actions for Condition A.

A note is provided to indicate that LCO 3.0.4 is not applicable. The intent of that note is to allow plant startup while operating within the 120-day completion time for action J.2. The primary purpose of this exclusion is to allow an orderly completion of design and verification activities without undue impact on plant operation in the event of a required design change to the OPRM function as described in the paragraph above. It is not intended as an alternative to restoring inoperable equipment to OPERABLE status in a timely manner.

SURVEILLANCE REQUIREMENTS

As noted at the beginning of the SRs, the SRs for each RPS instrumentation Function are located in the SRs column of Table 3.3.1.1-1.

The Surveillances are modified by a Note to indicate that 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 associated Function maintains RPS trip capability. For the case of the APRM Functions 2.a, 2.b, 2.c, and 2.d, RPS trip capability is maintained with any two OPERABLE APRMs remaining. Upon completion of the Surveillance, or expiration of the 6 hour allowance, the channel must be returned to OPERABLE status or the applicable Condition entered and Required Actions taken. This Note is based on the reliability analysis (Ref. 9) assumption of the average time required to perform channel Surveillance. That analysis demonstrated that the 6 hour testing allowance does not significantly reduce the probability that the RPS will trip when necessary.

SR 3.3.1.1.1 and SR 3.3.1.1.2

Performance of the CHANNEL CHECK once every 12 hours or once every 24 hours ensures that a gross failure of instrumentation has not occurred. A CHANNEL CHECK is normally a comparison of the parameter indicated on one channel to a similar parameter on other channels. It is based on the assumption that instrument channels monitoring

BASES

SURVEILLANCE REQUIREMENTS (continued)

The Frequency of SR 3.3.1.1.11 is based upon a 184 day calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis. The Frequency of SR 3.3.1.1.14 is based upon ≥ 18 month calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

SR 3.3.1.1.12

A CHANNEL FUNCTIONAL TEST is performed on each required channel to ensure that the entire channel will perform the intended function. For the APRM Functions, this test supplements the automatic self-test functions that operate continuously in the APRM and voter channels. The APRM CHANNEL FUNCTIONAL TEST covers the APRM channels (including for Function 2.b only, the recirculation flow input function excluding the flow transmitter), the 2-out-of-4 voter channels, and the interface connections to the RPS trip systems from the voter channels. Any setpoint adjustment shall be consistent with the assumptions of the current plant specific setpoint methodology. The 184 day Frequency of SR 3.3.1.1.12 is based on the reliability analysis of References 13 and 17. (NOTE: The actual voting logic of the 2-out-of-4 voter channels is tested as part of SR 3.3.1.1.19.)

For Function 2.a, a Note that requires this SR to be performed within 12 hours of entering MODE 2 from MODE 1 is provided. Testing of the MODE 2 APRM Function cannot be performed in MODE 1 without utilizing jumpers or lifted leads. This Note allows entry into MODE 2 from MODE 1 if the associated Frequency is not met per SR 3.0.2.

SR 3.3.1.1.15 and SR 3.3.1.1.19

The LOGIC SYSTEM FUNCTIONAL TEST demonstrates the OPERABILITY of the required trip logic for a specific channel. The functional testing of control rods (LCO 3.1.3), and SDV vent and drain valves (LCO 3.1.8), overlaps this Surveillance to provide complete testing of the assumed safety function. For the 2-out-of-4 Voter Function, the LSFT includes simulating APRM and OPRM trip conditions at the APRM channel inputs to the 2-out-of-4 trip voter channel to check all combinations of two tripped inputs to the 2-out-of-4 trip voter logic in the voter channels.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.1.1.18

A CHANNEL CALIBRATION is a complete check of the instrument loop and the sensor. This test verifies that the channel responds to the measured parameter within the necessary range and accuracy. CHANNEL CALIBRATION leaves the channel adjusted to account for instrument drifts between successive calibrations consistent with the plant specific setpoint methodology. For the APRM Simulated Thermal Power - Upscale Function, this SR also includes calibrating the associated recirculation loop flow channel.

SR 3.3.1.1.18 is modified by a Note that states that neutron detectors are excluded from CHANNEL CALIBRATION because they are passive devices, with minimal drift, and because of the difficulty of simulating a meaningful signal. Changes in neutron detector sensitivity are compensated for by performing the 7 day calorimetric calibration (SR 3.3.1.1.3) and the 1000 MWD/T LPRM calibration against the TIPs (SR 3.3.1.1.8).

The Frequency of SR 3.3.1.1.18 is based upon 24 month calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

SR 3.3.1.1.20

This SR ensures that scrams initiated from the OPRM Upscale Function (Function 2.f) will not be inadvertently bypassed when THERMAL POWER, as indicated by the APRM Simulated Thermal Power, is $\geq$ 28% RTP and recirculation drive flow is < 60% rated flow. This normally involves confirming the bypass setpoints. The bypass setpoint values are considered to be nominal values as discussed in Reference 20, and have been adjusted for power uprate. The surveillance ensures that the OPRM Upscale Function is enabled (not bypassed) for the correct values of APRM Simulated Thermal Power and recirculation drive flow.

If any bypass setpoint is nonconservative (i.e., the OPRM Upscale Function is bypassed when APRM Simulated Thermal Power $\geq$ 28% and recirculation drive flow < 60% rated), then the affected channel is considered inoperable for the OPRM Upscale Function. Alternatively, the bypass setpoint may be adjusted to place the channel in a conservative condition (unbypassed). If placed in the unbypassed condition, this

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR is met and the channel is considered OPERABLE.

The Frequency of 24 months is based on engineering judgment and reliability of the components.

REFERENCES

1. UFSAR, Figure 7.2-2.

2. UFSAR, Section 15.4.1.2.

3. NEDO-23842, "Continuous Control Rod Withdrawal in the Startup Range," April 18, 1978.

4. UFSAR, Section 5.2.2.3.

5. UFSAR, Section 15.4.9.

6. UFSAR, Section 6.3.3.

7. UFSAR, Chapter 15.

8. P. Check (NRC) letter to G. Lainas (NRC), "BWR Scram Discharge System Safety Evaluation," December 1, 1980.

9. NEDO-30851-P-A , "Technical Specification Improvement Analyses for BWR Reactor Protection System," March 1988.

10. UFSAR, Table 7.2-4.

11. NEDC-31336, "Class III, October 1986, General Electric Instrument Setpoint Methodology."

12. NEDO-32291, "System Analyses for Elimination of Selected Response Time Testing Requirements," January 1994; and Fermi-2 SER for Amendment 111, dated April 18, 1997.

13. NEDC-32410P-A, "Nuclear Measurement Analysis and Control Power Range Neutron Monitor (NUMAC PRNM) Retrofit Plus Option III Stability Trip Function," October 1995.

BASES

REFERENCES (continued)

14. NEDO-31960-A, "BWR Owners' Group Long-Term Stability Solutions Licensing Methodology," November 1995.

15. NEDO-31960-A, Supplement 1, "BWR Owners' Group Long-Term Stability Solutions Licensing Methodology," November 1995.

16. NEDO-32465-A, "Reactor Stability Detect and Suppress Solutions Licensing Basis Methodology for Reload Applications," August 1996.

17. NEDC-32410P-A, Supplement 1, "Nuclear Measurement Analysis and Control Power Range Neutron Monitor (NUMAC PRNM) Retrofit Plus Option III Stability Trip Function," November 1997.

18. Letter, L. A. England (BWROG) to M. J. Virgilio, "BWR Owners' Group Guidelines for Stability Interim Corrective Action," June 6, 1994.

19. NRC Generic Letter 94-02, "Long-Term Solutions and Upgrade of Interim Operating Recommendations for Thermal Hydraulic Instabilities in Boiling Water Reactors," July 1994.

20. BWROG Letter 96113, Kevin P. Donovan (BWROG) to L. E. Phillips (NRC), "Guidelines for Stability Option III 'Enable Region' (TAC M92882)," dated September 17, 1996.

BASES

BACKGROUND (continued)

begins to boil, creating steam voids within the fuel channel that continue until the coolant exits the core. Because of reduced moderation, the steam voiding introduces negative reactivity that must be compensated for to maintain or to increase reactor power. The recirculation flow control system allows operators to increase recirculation flow and sweep some of the voids from the fuel channel, overcoming the negative reactivity void effect. Thus, the reason for having variable recirculation flow is to compensate for reactivity effects of boiling over a wide range of power generation without having to move control rods and disturb desirable flux patterns.

Each recirculation loop is manually started from the control room. The MG set provides regulation of individual recirculation loop drive flows. The flow in each loop is manually controlled within limits established by the recirculation speed control system.

BASES

APPLICABLE SAFETY ANALYSIS (continued)

core flow. The APLHGR and MCPR setpoints for single loop operation are specified in the COLR. The APRM Simulated Thermal Power - Upscale setpoint is in LCO 3.3.1.1, "Reactor Protection System (RPS) Instrumentation."

Recirculation loops operating satisfies Criterion 2 of 10 CFR 50.36(c)(2)(ii).

LCO

Two recirculation loops are required to be in operation with their flows matched within the limits specified in SR 3.4.1.1 to ensure that during a LOCA caused by a break of the piping of one recirculation loop the assumptions of the LOCA analysis are satisfied. With the limits specified in SR 3.4.1.1 not met, the recirculation loop with the lower flow must be considered not in operation. With only one recirculation loop in operation, modifications to the required APLHGR limits (LCO 3.2.1, "AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR)"), MCPR limits (LCO 3.2.2, "MINIMUM CRITICAL POWER RATIO (MCPR)"), APRM Simulated Thermal Power - Upscale setpoint (LCO 3.3.1.1) and limitation on THERMAL POWER may be applied to allow continued operation consistent with the assumptions of the safety analysis.

A Note is provided to allow 4 hours following the transition to single loop operation from two loop operation to establish the applicable limitations in accordance with the single loop analysis. The 4 hour period is sufficient to make the adjustment given the relatively small change required. This transition only results in applying the new single-loop allowable values to APRM OPERABILITY. Any ARPM

BASES

ACTIONS (continued)

This Required Action does not require tripping the recirculation pump in the lowest flow loop when the mismatch between total jet pump flows of the two loops is greater than the required limits. However, in cases where large flow mismatches occur, low flow or reverse flow can occur in the low flow loop jet pumps, causing vibration of the jet pumps. If zero or reverse flow is detected, the condition should be alleviated by changing pump speeds to re-establish forward flow or by tripping the pump.

B.1

With no recirculation loops in operation in MODE 1 or 2, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to MODE 3 within 12 hours. In this condition, the recirculation loops are not required to be operating because of the reduced severity of DBAs and minimal dependence on the recirculation loop coastdown characteristics. The allowed Completion Time of 12 hours is reasonable, based on operating experience, to reach MODE 3 from MODE 1 or 2 conditions in an orderly manner and without challenging plant systems.

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BASES

SURVEILLANCE REQUIREMENTS

SR 3.4.1.1

This SR ensures the recirculation loops are within the allowable limits for mismatch. At low core flow (i.e., < 70% of rated core flow), the MCPR requirements provide larger margins to the fuel cladding integrity Safety Limit such that the potential adverse effect of early boiling transition during a LOCA is reduced. A larger flow mismatch can therefore be allowed when core flow is < 70% of rated core flow. The recirculation loop jet pump flow, as used in this Surveillance, is the summation of the flows from all of the jet pumps associated with a single recirculation loop.

The mismatch is measured in terms of percent of rated core flow. If the flow mismatch exceeds the specified limits, the loop with the lower flow is considered "not in operation". The SR is not required when both loops are not in operation since the mismatch limits are meaningless during single loop or natural circulation operation. The Surveillance must be performed within 24 hours after both loops are in operation. The 24 hour Frequency is consistent with the Surveillance Frequency for jet pump OPERABILITY verification and has been shown by operating experience to be adequate to detect off normal jet pump loop flows in a timely manner.

BASES

REFERENCES

1. UFSAR, Section 6.3.3.

2. NEDE-23785-P-A, "SAFER/GESTR Models for the Evaluation of the Loss-of-Coolant Accident," Revision 1, October 1984.

3. MDE-56-0386, "Fermi 2 Single Loop Operation Analysis," Rev. 1, April 1987, and NEDC-32313-P, "Enrico Fermi Energy Center Unit 2 Single-Loop Operation," September 1994.

BASES

FIGURE B 3.4.1-1 HAS BEEN DELETED

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 139 FACILITY OPERATING LICENSE NO. NPF-43

DETROIT EDISON COMPANY

FERMI 2

DOCKET NO. 50-341

1.0 INTRODUCTION

By application dated July 30, 1999, as supplemented December 17, 1999, and March 1, 2000, the Detroit Edison Company (DECo or the licensee) requested changes to the Technical Specifications (TSs) for Fermi 2. The proposed changes would revise (1) TS 3.3.1.1, "Reactor Protection System (RPS) Instrumentation," to reflect the activation of the automatic upscale trip associated with the oscillation power range monitor (OPRM) and (2) TS 3.4.1, "Recirculation Loops Operating," to remove requirements related to the manual detection and suppression of core thermal-hydraulic instabilities because these actions are no longer necessary after the OPRM upscale function is activated. The OPRM upscale function in the average power range monitor (APRM) provides protection from exceeding the fuel minimum critical power ratio (MCPR) safety limit in the event of thermal-hydraulic power oscillations. The APRM is part of the power range neutron monitoring (PRNM) system.

The installation of the OPRM upscale function of the APRM and the implementation of the associated TS changes complete the implementation of DECo's response to Generic Letter (GL) 94-02, "Long-Term Solutions and Upgrade of Interim Operating Recommendations for Thermal-Hydraulic Instabilities in Boiling Water Reactors," dated July 11, 1994. The licensee is using the long-term solution designated as Option III in NEDO-31960-A, and NEDO-31960-A, Supplement 1, "BWR Owner's Group (BWROG) Long-Term Stability Solutions Licensing Methodology," dated November 1995.

The December 17, 1999, and March 1, 2000, letters provided clarifying information that was within the scope of the original *Federal Register* notice and did not change the staff's initial proposed no significant hazards consideration determination. Because the implementation date for this amendment is tied to the seventh refueling outage, rather than a fixed time period, the NRC requests that the licensee submit a letter informing the staff when this amendment is implemented.

2.0 EVALUATION

The licensee requested a change to the Fermi Unit 2 Facility Operating License in accordance with the 10 CFR 50.90. The revised TSs were proposed as follows:

2.1 TS 3.3.1.1 - RPS Instrumentation - Table 3.3.1.1-1

The licensee proposed to add new APRM Function 2.f, the OPRM upscale function, together with applicable specified conditions, required channels, conditions referenced, SRs, and allowable value to Table 3.3.1.1-1.

The licensee proposed placing the OPRM upscale trip function in Section 2 of Table 3.3.1.1-1 because the hardware used to implement the OPRM upscale function is housed in the same chassis as the APRM trip functions and the OPRM upscale trip is considered a sub-function of the APRM system. The OPRM upscale trip function is required only when the plant is operating at power ≥25 percent RTP.

The installation of the OPRM upscale function of the APRM and the implementation of the associated TS changes complete the implementation of DECo's response to GL 94-02. The licensee is using the long-term solution designated as Option III in NEDO-31960-A, and NEDO-31960-A, Supplement 1. The proposed changes to the table are the same as those generically approved by the staff in NEDC-32410P-A, Supplement 1, "Nuclear Measurement Analysis and Control Power Range Neutron Monitor (NUMAC PRNM) Retrofit Plus Option III Stability Trip Function," dated November 1997, with one exception. The Surveillance Requirement numbers and the Condition referenced from Required Action D.1 were adjusted to match the numbering in the Fermi 2 TSs. These changes are administrative in nature and are acceptable. Since the licensee adopted the staff-approved generic changes, the staff concludes that these changes are acceptable.

2.2 TS 3.3.1.1 - RPS Instrumentation - Actions

TS 3.3.1.1, Required Action A.2 and Condition B each have a note that excludes certain functions from the required action or condition. Condition A addresses one or more required channels inoperable. Required Action A.2 requires the licensee to place the associated trip system in trip if Required Action A.1 (to place the affected channel(s) in trip) is not taken. However, Required Action A.2 is not applicable for the new OPRM upscale function because the OPRM provides signals to both RPS trip systems. Condition B addresses one or more Functions with one or more required channels inoperable in both trip systems. Condition B is not applicable to the OPRM upscale function because loss of more than one of the required OPRM channels results in loss of OPRM scram capability and entry to Condition C. The licensee proposed to add Function 2.f to the notes for Required Action A.2 and Condition B. These changes were approved generically by the staff in NEDC-32410P-A, Supplement 1. The staff reviewed the proposed changes and concludes that because of the design of the OPRM upscale function, TS 3.3.1.1, Required Action A.2 and Condition B, are not applicable to this function. Therefore, it is appropriate to add this function to the exclusionary notes associated with Required Action A.2 and Condition B.

The licensee also proposed to add new Conditions J and K together with Required Actions and Completion Times to the Limiting Condition for Operation Actions table. The licensee provided

the explanation for the TS changes as follows: (1) the new OPRM upscale function is added for implementation of the approved BWROG long-term stability solution Option III, (2) Condition J allows an alternate method to detect and suppress thermal-hydraulic instability and Condition K requires the plant to reduce thermal power to <25 percent rated thermal power (RTP) within 4 hours if Condition J is not met. If one or more required channels of the OPRM upscale function become inoperable, the revised TSs provide required actions and completion times. If the completion times are not met, the licensee would enter Condition J. Required Action J.1 requires the licensee to establish an alternate means to detect and suppress thermal-hydraulic instability oscillations within 12 hours. In addition, Required Action J.2 requires the licensee to restore the required channels to an operable status within 120 days. These changes were approved generically by the staff in NEDC-32410P-A, Supplement 1. The staff has reviewed these proposed TS changes and finds them acceptable.

2.3 TS 3.3.1.1 - RPS Instrumentation - Surveillance Requirements (SRs)

The licensee proposed to add new SR 3.3.1.1.20 to the SR table. Fermi 2 plant-specific parameters defining the conditions under which the OPRM is verified to be enabled (≥28 percent simulated thermal power and <60 percent recirculation drive flow) and a 24-month frequency were proposed. The staff approved NEDC-32410P-A, Supplement 1, which required the OPRM upscale function to be operable at ≥30 percent simulated thermal power and <60 percent recirculation drive flow and included a nominal surveillance frequency of 18 months. In its July 30, 1999, submittal the licensee explained that the power level above which the OPRM upscale function is required to be operable was derived from the nominal 30 percent by scaling it to account for the uprated licensed power level for Fermi 2. This adjustment results in the OPRM upscale function being required at ≥28 percent simulated thermal power. The staff reviewed this change and concludes that it is acceptable. The licensee adopted the generically approved recirculation flow limit without change, which is acceptable to the staff. For the surveillance requirement, the licensee proposed a frequency of every 24 months. This frequency is consistent with that of the other, similar, APRM functions in the Fermi 2 TSs. Therefore, the staff concludes that this frequency is acceptable.

2.4 TS 3.4.1 - Recirculation Loops Operating - Limiting Condition for Operation (LCO)

The licensee proposed to delete the restrictions related to thermal-hydraulic stability regions, including an administrative change deleting the "a." and "b." designator for the remaining conditions.

The first sentence of the current LCO states that the reactor core shall not exhibit core thermal-hydraulic instability or operate in the "Scram" or "Exit" Regions. The staff has reviewed the proposed changes and finds them acceptable because these restrictions were added to the TS as part of Interim Corrective Actions (ICAs) while the BWROG worked with the NRC to develop a long-term resolution to stability concern. With the OPRM upscale function enabled, the long-term stability solution will be fully implemented and the ICAs will no longer be required.

The deletion of the "a." and "b." designator for the remaining conditions is acceptable because these changes are administrative.

2.5 TS 3.4.1 - Recirculation Loops Operating - Actions

The licensee proposed to delete Condition B, together with the associated Required Action and Completion Time in the Action table and relabel Condition C to Condition B. Existing Condition B addresses operating the core in the "Exit" Region and is associated with the ICAs. The licensee also proposed to delete the portions of Condition D related to the ICAs and consolidate the balance of Condition D, its Required Action, and Completion Time with current Condition C. This combines the actions for recirculation loops operating for both Modes 1 and 2 (previous Required Actions C.1 and D.1) under the new Condition B.

The staff has reviewed the changes and finds them acceptable because (1) previous Condition B and associated Action B.1 and the deleted portions of Condition D are exclusively related to stability ICAs that are no longer needed with the OPRM upscale function enabled, and (2) relabeling previous Condition C to Condition B and consolidating the action for no recirculation loops operating for both Modes 1 and 2 are administrative in nature.

2.6 TS 3.4.1 - Recirculation Loops Operating - Surveillance Requirements

The licensee proposed to delete SR 3.4.1.1, which is used when the reactor is operating in the "Stability Awareness" Region. As a result, SR 3.4.1.2 would be renumbered as SR 3.4.1.1.

The staff reviewed the proposed change and finds it acceptable because SR 3.4.1.1 is exclusively related to stability ICAs that are no longer needed with the OPRM upscale function enabled.

2.7 Bases Changes

Licensees make changes to their TS Bases sections without the need for prior NRC review or approval, provided the Bases change does not involve an unreviewed safety question. For Fermi 2, the Bases are controlled by TS 5.5.10, "Technical Specifications (TS) Bases Control Program." Nevertheless, the licensee has included in its submittal, for information, revised bases for TSs 3.3.1.1 and 3.4.1. The staff reviewed the Bases to ensure that they were consistent with the proposed TSs and with the safety bases provided in the licensee's application, including supplements. No problems were noted. The staff found that the Bases changes were consistent with NEDC-32401P-A and NEDC-32401P-A, Supplement 1.

2.8 Conclusions

The staff concludes that the proposed TS changes involving the implementation of the BWROG long-term stability solution, Option III, and provisions for enabling the OPRM upscale function in the APRM are acceptable because the proposed TS changes are in accordance with the NRC-approved methodology.

3.0 STATE CONSULTATION

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

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The staff has determined that the amendment involves 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 and there has been no public comment on such finding (64 *FR* 59800). 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 amendment.

5.0 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) 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: T. Huang

Date: March 31, 2000