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

April 14, 2017

Mr. Paul Fessler
Senior Vice President and
Chief Nuclear Officer
DTE Electric Company
Fermi 2 - 210 NOC
6400 North Dixie Highway
Newport, MI 48166

SUBJECT: FERMI 2 – ISSUANCE OF AMENDMENT TO REVISE HIGH PRESSURE COOLANT INJECTION SYSTEM AND REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION TECHNICAL SPECIFICATIONS (CAC NO. MF9330)

Dear Mr. Fessler:

The U.S. Nuclear Regulatory Commission (the Commission) has issued the enclosed Amendment No. 206 to Renewed Facility Operating License No. NPF-43 for the Fermi 2 plant. The amendment is in response to your application dated February 23, 2017, as supplemented by letter dated March 30, 2017 (Agencywide Documents Access and Management System Accession Nos. ML17055A365 and ML17089A829, respectively). The amendment revises the technical specification requirements for the high pressure coolant injection system and reactor core isolation cooling system actuation instrumentation.

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

Sincerely,

Kimberly Green for

Sujata Goetz, Project Manager
Plant Licensing Branch III
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-341

Enclosures:
1. Amendment No. 206 to NPF-43
2. Safety Evaluation

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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. 206
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 (DTE or the licensee) dated February 23, 2017, as supplemented by letter dated March 30, 2017, 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:

   Technical Specifications and Environmental Protection Plan

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 206, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into this 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 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

for

David J. Wrona, Chief
Plant Licensing Branch III
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

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

Date of Issuance: April 14, 2017

FERMI 2

ATTACHMENT TO LICENSE AMENDMENT NO. 206

RENEWED FACILITY OPERATING LICENSE NO. NPF-43

DOCKET NO. 50-341

Replace the following page of the Renewed Facility Operating License with the revised page. The revised page is identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE	INSERT
4	4

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
3.3-43	3.3-43
3.3-49	3.3-49

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 206, 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 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, $2^{(e)}$, $3^{(e)}$	$1^{(c)}$	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 3.3.5.2-1 (page 1 of 1)
Reactor Core Isolation Cooling System Instrumentation

FUNCTION	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Reactor Vessel Water Level - Low Low, Level 2	4	B	SR 3.3.5.2.1 SR 3.3.5.2.2 SR 3.3.5.2.3 SR 3.3.5.2.4 SR 3.3.5.2.5	≥ 103.8 inches
2. Reactor Vessel Water Level - High, Level 8	2	C	SR 3.3.5.2.1 SR 3.3.5.2.2 SR 3.3.5.2.3 SR 3.3.5.2.4 SR 3.3.5.2.5	≤ 219 inches
3. Condensate Storage Tank Level - Low	2	D	SR 3.3.5.2.1 SR 3.3.5.2.2 SR 3.3.5.2.3 SR 3.3.5.2.4 SR 3.3.5.2.5	≥ 0 inches
4. Manual Initiation[a]	1 per valve	C	SR 3.3.5.2.6	NA

(a) The injection function of Manual Initiation is not required to be OPERABLE with reactor steam dome pressure less than 550 psig.

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 206 TO RENEWED

FACILITY OPERATING LICENSE NO. NPF-43

DTE ELECTRIC COMPANY

FERMI 2

DOCKET NO. 50-341

1.0 INTRODUCTION

By application dated February 23, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17055A365), as supplemented by letter dated March 30, 2017 (ADAMS Accession No. ML17089A829), DTE Electric Company (the licensee) requested changes to the Technical Specifications (TSs) for Fermi 2.

The proposed amendment would revise TSs for emergency core cooling system (ECCS) instrumentation and reactor core isolation cooling (RCIC) system instrumentation by adding footnotes indicating that the injection functions for high pressure coolant injection (HPCI) and manual initiation for HPCI and RCIC are not required to be operable under low reactor pressure conditions.

The February 23, 2017, license amendment request (LAR) proposed that reactor steam dome pressure be less than 600 pounds per square inch gauge (psig) in the revised TSs. In a request for additional information (RAI), dated March 28, 2017 (ADAMS Accession No. ML17087A457), the U.S. Nuclear Regulatory Commission (NRC or the Commission) staff asked the licensee to provide a basis for the 600 psig limit and calculations and/or test results and applicable accident analyses. In its March 30, 2017, RAI response, the licensee stated that the plant-specific calculation for Fermi 2 indicated that the Level 8 trip signal is present at a pressure of approximately 550 psig and that to ensure consistency with the plant-specific analysis and plant operating data, the licensee revised the proposed TS changes to include the lower value.

The supplemental letter dated March 30, 2017, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the NRC staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on March 13, 2017 (82 FR 13512).

2.0 REGULATORY EVALUATION

The NRC staff used the following requirements and guidance documents in evaluating the LAR:

a. Section 182a of the Atomic Energy Act, as amended (the "Act"), requires applicants for nuclear power plant operating licenses to incorporate TSs as part of the license. Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.36, "Technical specifications," established regulatory requirements related to the contents of TSs. Specifically, 10 CFR 50.36(c)(2)(i) requires that TSs include limiting conditions for operation (LCOs). LCOs are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When LCOs are not met, the licensee must shut down the facility or follow the remedial action permitted by the TSs.

b. The guidance for NRC staff review of TSs is in NUREG-0800, "Standard Review Plan," Chapter 16.0, "Technical Specifications," Revision 3, March 2010 (ADAMS Accession No. ML100351425).

c. Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR Part 50, Criterion 13, "Instrumentation and control" (GDC 13), states that instrumentation shall be provided to monitor variables and systems over their anticipated ranges for normal operation, for anticipated operational occurrences, and for accident conditions, as appropriate, to assure adequate safety, including those variables and systems that can affect the fission process, the integrity of the reactor core, the reactor coolant pressure boundary, and the containment and its associated systems. Appropriate controls shall be provided to maintain these variables and systems within prescribed operating ranges.

3.0 TECHNICAL EVALUATION

The Fermi 2 HPCI and RCIC systems provide safety functions to mitigate postulated accidents. As such, operational requirements have been established for HPCI and RCIC in the Fermi 2 TSs in accordance with the requirements of 10 CFR 50.36. The NRC staff's evaluation determined the acceptability of not requiring HPCI and RCIC systems to be operable with reactor steam dome pressure below 550 psig (i.e., low pressure conditions). In addition, because the HPCI and RCIC systems may be actuated by both level and pressure signals, the consequences of off-calibration of the actuation instrumentation is evaluated to demonstrate that the consequences of wide range reactor vessel water level off-calibration do not lead to a more severe reactor condition when low pressure conditions are considered.

3.1. High Pressure Coolant Injection System Description

The purpose of the HPCI system is to ensure the reactor core is adequately cooled to limit fuel clad temperature in the event of a small break loss-of-coolant accident (LOCA) in the nuclear system pressure boundary that does not result in a rapid depressurization of the reactor vessel. The HPCI system permits the reactor to be shut down while maintaining sufficient reactor vessel water inventory until the reactor vessel pressure is reduced to the pressure at which low pressure coolant injection (LPCI) operation or core spray system (CSS) operation can maintain core cooling.

The HPCI system consists of a steam turbine assembly driving a constant flow pump assembly and system piping, valves, controls, and instrumentation. The turbine steam supply piping located downstream of two in-series primary containment isolation valves supplies steam to the turbine via in-series motor-operated valve, hydraulically-operated stop valve, and hydraulically-operated governor valve. Additional design details of the HPCI system are contained in Updated Final Safety Analysis Report (UFSAR) Section 6.3, "Emergency Core Cooling Systems."

The licensee stated in its February 23, 2017, LAR that if a LOCA occurs, the reactor scrams upon receipt of a low-low (Level 2) water level signal at +110.8 inches from the top of active fuel or a high drywell pressure signal. The HPCI system starts when the water level reaches a preselected height above the core or if high pressure exists in the primary containment. The HPCI system automatically stops when a high water level or Level 8 (+214 inches of water level measured from top of the active fuel) is signaled in the reactor vessel. To prevent potential turbine damage due to flooding the reactor vessel above the main steam lines, the HPCI and RCIC systems are prevented from operating above the high reactor vessel water level (Level 8) setting in all actuation modes. Once actuated, the HPCI high reactor vessel water level trip will inhibit automatic (or manual) system actuation until indicated water level drops below the Level 8 setting and the high reactor vessel water level trip is manually reset, or the trip signal is automatically reset when indicated reactor vessel water level reaches the Level 2 actuation setting.

3.2 Reactor Core Isolation Cooling System Description

The purpose of the RCIC system is to provide makeup water to the reactor vessel following reactor isolation in order to prevent the release of radioactive materials to the environment as a result of inadequate reactor core cooling. The RCIC system consists of a steam driven turbine-pump and associated valves and piping capable of delivering makeup water to the reactor vessel. The system can be operated automatically or manually and is credited in the Fermi 2 safety analysis for a design-basis control rod drop accident. Similar to the HPCI system, RCIC consists of a steam driven turbine-pump unit and associated valves and piping capable of delivering makeup water to the reactor vessel.

Following any reactor shutdown, steam generation continues due to heat produced by the radioactive decay of fission products. The steam normally flows to the main condenser through the turbine bypass or, if the condenser is isolated, through the relief valves to the suppression pool. The fluid removed from the reactor vessel can be entirely made up by the feedwater pumps or partially made up from the control rod drive system, which is supplied by the control rod drive feed pumps. If makeup water is required to supplement these primary sources of water, the RCIC turbine-pump unit either starts automatically upon receipt of a reactor vessel Level 2 signal or is started by the operator from the control room by remote manual controls.

RCIC is designed with a makeup capacity sufficient to prevent the reactor vessel water level from decreasing to the level where the core would be uncovered without the use of core standby cooling systems. The pump suction is normally lined up to the condensate storage tank. The backup supply of cooling water for the RCIC is the suppression pool. The RCIC system automatically stops when a high water level (+214 inches of water level or Level 8) in the reactor vessel is signaled at normal operating temperatures and pressures.

3.3 HPCI and RCIC Function Low Pressure Condition

The boiling-water reactor (BWR)-4 design consists of an emergency core cooling high pressure pumping system that delivers its flow to reactor vessel annulus. The Fermi 2 UFSAR, Chapter 6, "Engineered Safety Features," and Chapter 15, "Accident Analysis," state that the function of the HPCI and RCIC systems are to provide makeup coolant at high reactor pressure conditions to prevent the core from being uncovered when the reactor vessel water level is low. In its February 23, 2017, LAR, the licensee stated that the functional pressure range at Fermi 2 for the HPCI and RCIC overlap the operational range of the low pressure systems, which include the CSS and LPCI, as well as the safety and relief valve overpressure setpoints. The NRC staff reviewed the Fermi 2 UFSAR, Chapter 1, "Introduction and General Description of Plant"; Chapter 5, "Reactor Coolant System and Connected Systems"; and Chapter 6, "Engineered Safety Systems," and confirmed that while the HPCI and RCIC systems are primarily designed to operate at normal pressures, they are also capable of functioning near the low end of their operating pressure range (<150 psig). Specifically, RCIC functions to mitigate coolant losses from decay heat and HPCI functions for small leaks or vessel line breaks. Although HPCI and RCIC are capable of operating in the low pressure range, their function is not relied upon due to the availability of the low-pressure systems LPCI and CSS.

3.4 Consequences of Off-Calibration of the Wide Range Level Instrumentation at Low Pressures

Maintaining an acceptable water level in the reactor vessel ensures that coolant is available to dissipate core heat. To ensure complete and accurate coverage of reactor vessel level, separate gages monitor different ranges of reactor vessel water level. The gages are at the vessel pressure and reference leg temperature in which the HPIC and RCIC are used. As changes in temperature affect the density of water, deviation from the calibrated condition could affect instrument accuracy. Off-calibration is a term used to describe the mismatch in reading that occurs between the gauge reading and the actual level in reactor vessel due to differences in water density at various pressures. In low pressure conditions, the gauges in the HPCI tend to read water levels as being higher than they actually are because the instruments are calibrated at normal operating dome pressure at rated operating conditions. The consequences of off-calibration of the wide-range level instrumentation at low pressure conditions due to water density differences is evaluated below.

A LOCA analysis was performed using SAFER and GESTR-LOCA models (ADAMS Accession No. ML102230242, (non-public because it contains proprietary information)) as referenced in Fermi 2 UFSAR, Sections 1.2.1.2.2.3 "Accidents," 6.2.1.2, "System Design" and Table 6.2-1, "Containment Parameters."

The licensee stated in the LAR that the HPCI system is most effective for small breaks. If HPCI is disabled, assuming large single failure, the vessel depressurizes faster, and low pressure systems are initiated. Therefore, the mitigation capability of HPCI and instruments off-calibration impact on level measurement is minimal and acceptable. In addition, off-calibration of the wide range level instrumentation and the delay of HPCI injection are of no consequence.

For the case where the HPCI system is credited in the LOCA analysis, the consequences of off-calibration of the wide range level instrumentation at low pressure are not significant because the mass of water that provides the core cooling is unaffected by the density differences, and therefore, the core cooling analysis results would not be significantly affected.

To evaluate the licensee analysis for loss of feedwater flow at normal operating conditions following a reactor scram, the NRC staff reviewed the Fermi 2 UFSAR, Chapter 1, "Introduction and General Description of Plant"; Chapter 2, "Site Characteristics"; Chapter 3, "Design of Structures, Components, Equipment and Systems"; Chapter 5, "Reactor Coolant System and Connected Systems"; Chapter 6, "Engineered Safety Features"; and Chapter 7, "Instrumentation and Controls." The NRC staff confirmed that the mitigation by the RCIC and HPCI systems is demonstrated to be effective in preventing the core from being uncovered and actuation of the Automatic Depressurization System. Since there is no wide range off-calibration condition at rated pressure, the low pressure wide range level off-calibration is not of concern for the short-term. However, for long-term mitigation following a LOCA event, as the vessel is depressurized, the RCIC and HPCI systems maintain the level consistent with the wide range level indication. For this case, the impact of instrument off-calibration on level measurement is minimal and is acceptable because at operating pressures, off-calibration conditions are not of concern.

Low reactor vessel water level (Fermi 2 UFSAR, Chapters 6 and 15) from an assumed loss of normal makeup flow or water inventory loss during startup (Mode 2) or hot shutdown (Mode 3) in low pressure conditions initiates HPCI and RCIC systems on Level 2, just as it would for LOCA conditions.

General Electric BWR/4 Standard Technical Specifications, Revision 4.0 (ADAMS Accession No. ML12104A193), on page B 3.3.5.1A-15, item 3.a. "Reactor Vessel Water Level – Low Low, Level 2," states that the reactor vessel water Level 2 is high enough that even with complete loss of feedwater flow and assuming HPCI fail, the RCIC system will be sufficient to initiate low pressure ECCS at reactor vessel water level at Low-Low-Low (Level 1), at + 31.8 inches from top of the active fuel. This indicates that the core remains covered during the entire course of the transient with RCIC providing low pressure inventory makeup, even with failure of the HPCI system. Therefore, for this case, the impact of instrument off-calibration on level measurement is minimal and is acceptable.

Based on its review of the Fermi 2 UFSAR, the NRC staff concludes that the consequences of wide range reactor vessel water level off-calibration do not lead to a more severe reactor condition when low pressure conditions are considered. This meets the intent of GDC 13, which requires that instruments monitor systems over their anticipated ranges for normal operation, anticipated operations, and accident conditions to assure adequate safety. Therefore, the NRC staff concludes that Fermi 2 continues to have appropriate control to monitor reactor water content that can be used to cool the core as required.

3.5 Licensee's Proposed Technical Specification Changes

In its February 23, 2017, LAR, as supplemented by letter dated March 30, 2017, the licensee proposed that the injection functions of "Drywell Pressure – High" and "Manual Initiation" for HPCI and RCIC not be required to be operable with reactor steam dome pressure below 550 psig.

The requested TS changes are as follows:

a. Fermi 2 TS 3.3.5.1, "Emergency Core Cooling System (ECCS) Instrumentation," specifies, in part, that the ECCS instrumentation channels shown in Table 3.3.5.1-1 shall be operable with the Applicability as shown in Table 3.3.5.1-1.

The proposed change would delete footnote (d), which applies to Modes 2 and 3 for functions "3.b Drywell Pressure–High" and "3.f Manual Initiation" from Table 3.3.5.1-1, "Emergency Core Cooling System Instrumentation," and states:

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

and instead insert footnote (e), which states:

(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.

b. Fermi 2 TS 3.3.5.2, "Reactor Core Isolation Cooling (RCIC) System Instrumentation," states, in part, that the RCIC instrumentation "Applicability" is in Mode 1 (power operation) and Modes 2 and 3 with reactor steam dome pressure > 150 psig. Based on the requirements in TS 3.3.5.2, the licensee proposed changes to Table 3.3.5.2-1, "Reactor Core Isolation Cooling System Instrumentation."

The proposed change adds a footnote (a) to function 4, "Manual Initiation," in Table 3.3.5.2-1, to modify the applicability. Footnote (a) states:

(a) The injection function of Manual Initiation is not required to be OPERABLE with reactor steam dome pressure less than 550 psig.

The NRC staff reviewed the proposed changes for continued compliance with 10 CFR 50.36 and for consistency with conventional terminology and the format embodied in the TSs. The proposed changes modify plant conditions for which the LCO would apply.

The NRC staff concluded that 10 CFR 50.36(c)(2)(i) requirements continue to be met because the proposed changes are consistent with the safety analysis in the UFSAR, as operability of these functions is not needed to mitigate a LOCA or transient in low pressure conditions. The staff also reviewed the technical discussion of the proposed changes provided in the LAR to determine whether the reasoning was logical, complete, and clearly written, as described in NUREG-0800, Chapter 16.0, "Technical Specifications," Section III.2.a. The NRC staff determined that the technical discussion of the proposed changes is consistent with NUREG-0800 guidance.

3.6 NRC Staff Conclusion

The NRC staff concludes that the licensee's analysis result of a 550 psig limit supports the reactor vessel pressure range where the HPCI and RCIC systems are not required to be operable under low reactor pressure conditions (i.e., less than 550 psig) in reactor Modes 2 and 3. This NRC staff conclusion is based on its evaluation of the licensee's LOCA analysis, as well as on 10 CFR 50.36(c)(2) and 10 CFR Part 50, Appendix A, GDC 13, requirements. Specifically, the TSs, as revised, continue to include "the lowest functional capability or performance levels of equipment required for safe operation of the facility" and appropriate controls to maintain the HPCI and RCIC variables and systems and the reactor core within prescribed operating ranges.

Therefore, the NRC staff finds that the proposed changes to Fermi 2 TS Tables 3.3.5.1 and 3.3.5.2 indicating that the injection functions of "Drywell Pressure – High" for HPCI only and "Manual Initiation" for HPCI and RCIC are not required to be operable under low reactor pressure conditions (i.e., less than 550 psig); are consistent with the Fermi 2 plant design licensing basis; comply with GDC 13 and 10 CFR 50.36, and are acceptable.

4.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION

The NRC's regulation in 10 CFR 50.92(c) states that the NRC may make a final determination, under the procedures in 10 CFR 50.91, that a license amendment involves no significant hazards consideration if operation of the facility, in accordance with the amendment, would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

An evaluation of the issue of no significant hazards consideration is presented below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No.

   The proposed changes involve the addition of clarifying footnotes to the HPCI and RCIC actuation instrumentation TS to reflect the as-built plant design and operability requirements of HPCI and RCIC instrumentation as described in the Fermi 2 UFSAR.

   HPCI is an initiator of the increase in reactor coolant inventory accident in UFSAR (Reference 7.1) Section 15.5.1. However, the accident assumes inadvertent manual startup of HPCI. The change being requested in this amendment is administrative in nature and does not make any changes to the HPCI system or procedures that would increase the probability for inadvertent manual startup of HPCI. RCIC is not an initiator of any accident previously evaluated. As a result, the probability of any accident previously evaluated is not increased. In addition, the manual initiation of HPCI and RCIC are not credited to mitigate the consequences of design basis accidents or transients within the current Fermi 2 design and licensing basis and automatic actuation of the HPCI system on the high drywell pressure signal is not required for the HPCI to perform its system safety functions in mitigating the consequences of a LOCA initiating at low reactor pressure.

   Therefore, the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

   Response: No.

The proposed changes do not alter the protection system design, create new failure modes, or change any modes of operation. The proposed changes do not involve a physical alteration of the plant, and no new or different kind of equipment will be installed. Consequently, there are no new initiators that could result in a new or different kind of accident.

Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

The proposed changes have no adverse effect on plant operation. The plant response to the design basis accidents does not change. The proposed changes do not adversely affect existing plant safety margins or the reliability of the equipment assumed to operate in the safety analyses. There is no change being made to safety analysis assumptions, safety limits or limiting safety system settings that would adversely affect plant safety as a result of the proposed changes.

Therefore, the proposed changes do not involve a significant reduction in a margin of safety.

Based on the above evaluation, the NRC staff concludes that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff has made a final determination that no significant hazards consideration is involved for the proposed amendment and that the amendment should be issued as allowed by the criteria contained in 10 CFR 50.91.

5.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Michigan State official was notified on March 13, 2017, of the proposed issuance of the amendment. The State official had no comments.

6.0 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. The NRC 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 (82 FR 13871). 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.

7.0 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 Contributors: M. Hamm
F. Forsaty
G. Singh

Date of Issuance: April 14, 2017

SUBJECT: FERMI 2 – ISSUANCE OF AMENDMENT TO REVISE HIGH PRESSURE COOLANT INJECTION SYSTEM AND REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION TECHNICAL SPECIFICATIONS (CAC NO. MF9330) DATED APRIL 14, 2017

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ADAMS Accession No.: ML17076A027

OFFICE	NRR/DORL/LPL3/PM	NRR/DORL/LPL3/LA	NRR/DSS/SRXB	NRR/DSS/STSB
NAME	SGoetz	SRohrer (LRonewicz for)	EOesterle	AKlein
DATE	03/20/2017	03/14/2017	04/06/2017	03/16/2017
OFFICE	NRR/DE/EICB	OGC - NLO w/Note	NRR/DORL/LPL3/BC	NRR/DORL/LPL3/PM
NAME	MWaters	MYoung	DWrona (RKuntz for)	SGoetz (KGreen for)
DATE	04/06/2017	04/11/2017	04/13/2017	04/14/2017

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