

October 4, 1990

Docket No. 50-341

Mr. William S. Orser
Senior Vice President - Nuclear
Operations
Detroit Edison Company
6400 North Dixie Highway
Newport, Michigan 48166

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Dear Mr. Orser:

SUBJECT: AMENDMENT NO. 59 TO FACILITY OPERATING LICENSE NO. NPF-43:
(TAC NO. 72054)

The Commission has issued the enclosed Amendment No. 59 to Facility Operating License No. NPF-43 for the Fermi-2 facility. This amendment consists of changes to the Plant Technical Specifications in response to your letter dated December 22, 1988, as supplemented May 31, 1989.

The amendment adds Section 3/4.3.11 to the Technical Specifications (TS) with Limiting Condition For Operation and Surveillance Requirements for the Alternative Shutdown System, installed to mitigate the effect of a fire in the control room complex.

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,

|s|

John F. Stang, Project Manager
Project Directorate III-1
Division of Reactor Projects - III,
IV, V & Special Projects
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 59 to NPF-43
2. Safety Evaluation

cc w/enclosures:

See next page

*See previous concurrence

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

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Mr. William S. Orser
Senior Vice President - Nuclear
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6400 North Dixie Highway
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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,

A handwritten signature in cursive script, reading "John F. Stang", is positioned above the typed name.

John F. Stang, Project Manager
Project Directorate III-1
Division of Reactor Projects - III,
IV, V & Special Projects
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 59 to NPF-43
2. Safety Evaluation

cc w/enclosures:
See next page

Mr. William Orser
Detroit Edison Company

Fermi-2 Facility

cc:

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

DETROIT EDISON COMPANY

DOCKET NO. 50-341

FERMI-2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 59
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 December 22, 1988, as supplemented May 31, 1989, 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:

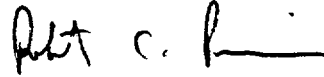
Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 59, 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.

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PDR ADOCK 05000341
P PDC

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Robert C. Pierson, Director
Project Directorate III-1
Division of Reactor Projects - III,
IV, V & Special Projects
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: October 4, 1990

ATTACHMENT TO LICENSE AMENDMENT NO. 59

FACILITY OPERATING LICENSE NO. NPF-43

DOCKET NO. 50-341

Replace the following pages of the Appendix "A" Technical Specifications with the attached pages. The revised pages are identified by Amendment number and contain a vertical line indicating the area of change. The corresponding overleaf pages are also provided to maintain document completeness.

REMOVE

v
viii
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xxiv
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-
-
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3/4 7-3
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*B 3/4 3-5
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3/4 7-41
3/4 7-42
3/4 7-43
*B 3/4 3-5
B 3/4 3-6
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*Overleaf page provided to maintain document completeness. No changes contained in these pages.

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<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>CHANNEL CALIBRATION</u>	<u>OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED</u>
a. Reactor Vessel High Water Level - Level 8	S	M	R	1

INSTRUMENTATION

3/4.3.11 APPENDIX R ALTERNATIVE SHUTDOWN INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.11 The alternative shutdown system instrumentation channels shown in Table 3.3.11-1 shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3

ACTION:

With the number of OPERABLE alternative shutdown monitoring instrumentation channels less than required, take the ACTION required by Table 3.3.11-1. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.11.1 Each alternative shutdown instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3.11.1-1.

TABLE 3.3.11-1

APPENDIX R ALTERNATIVE SHUTDOWN INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>ACTION</u>
1. CTG 11 Unit 1-Volts	1	131
2. CTG 11 Unit 1-Frequency	1	131
3. CTG 11 Unit 1-Watts	1	131
4. CTG 11 Unit 1-Vars	1	131
5. Condensate Storage Tank Level	1	132
6. Standby Feedwater Flow	1	132
7. Reactor Water Level	1	133
8. Reactor Pressure	1	133
9. Torus Water Temperature	1	133
10. Torus Water Level	1	133
11. Primary Containment Temperature	1	133

ACTION STATEMENTS

ACTION 131 - Declare CTG 11 Unit 1 inoperable and take the ACTION required by Specification 3.7.11.

ACTION 132 - Declare the SBFW system inoperable and take the ACTION required by Specification 3.7.11.

ACTION 133 - Restore the inoperable channel to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

TABLE 4.3.11.1-1

APPENDIX R ALTERNATIVE SHUTDOWN INSTRUMENTATION

SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>
1. CTG 11 Unit 1-Volts	M	R
2. CTG 11 Unit 1-Frequency	M	R
3. CTG 11 Unit 1-Watts	M	R
4. CTG 11 Unit 1-Vars	M	R
5. Condensate Storage Tank Level	M	R
6. Standby Feedwater Flow	M	R
7. Reactor Water Level	M	R
8. Reactor Pressure	M	R
9. Torus Water Temperature	M	R
10. Torus Water Level	M	R
11. Primary Containment Temperature	M	R

PLANT SYSTEMS

EMERGENCY EQUIPMENT COOLING WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.1.2 Two independent emergency equipment cooling water (EECW) system subsystems shall be OPERABLE with each subsystem comprised of:

- a. One OPERABLE EECW pump, and
- b. An OPERABLE flow path capable of removing heat from the associated safety-related equipment.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3, 4, and 5.

ACTION:

With an emergency equipment cooling water system subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours and declare the associated safety-related equipment inoperable and take the ACTION required by Specifications 3.4.9.1, 3.4.9.2, 3.5.1, 3.5.2, 3.6.2.2, 3.6.2.3, 3.7.11, 3.9.11.1, and 3.9.11.2, as applicable

SURVEILLANCE REQUIREMENTS

4.7.1.2 The emergency equipment cooling water system shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) servicing safety-related equipment that is not locked, sealed, or otherwise secured in position, is in its correct position.
- b. At least once per 18 months during shutdown, by verifying that each automatic valve servicing nonsafety-related equipment actuates to its isolation position and the associated EECW pump automatically starts on an automatic actuation test signal.

PLANT SYSTEMS

EMERGENCY EQUIPMENT COOLING WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.1.3 Two independent emergency equipment service water (EESW) system subsystems shall be OPERABLE with each subsystem comprised of:

- a. One OPERABLE emergency equipment service water pump, and
- b. An OPERABLE flow path capable of taking suction from the associated ultimate heat sink and transferring the water through the associated EECW heat exchanger.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3, 4, and 5.

ACTION:

With an emergency equipment service water system subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours, and declare the associated safety-related equipment inoperable and take the ACTION required by Specifications 3.4.9.1, 3.4.9.2, 3.5.1, 3.5.2, 3.6.2.2, 3.6.2.3, 3.7.11, 3.9.11.1, and 3.9.11.2, as applicable

SURVEILLANCE REQUIREMENTS

4.7.1.3 The emergency equipment service water system shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) servicing safety-related equipment that is not locked, sealed, or otherwise secured in position, is in its correct position.
- b. At least once per 18 months during shutdown, by verifying the EESW pump automatically starts upon receipt of an actuation test signal.

PLANT SYSTEMS

3/4.7.11 APPENDIX R ALTERNATIVE SHUTDOWN AUXILIARY SYSTEMS

LIMITING CONDITION FOR OPERATION

- 3.7.11 The Appendix R Alternative Shutdown auxiliary systems shall be OPERABLE as described below:
- A Standby Feedwater (SBFW) System consisting of two OPERABLE SBFW pumps and an OPERABLE flow path from the condensate storage tank to the reactor vessel.
 - An OPERABLE CTG 11 Unit 1 and power train capable of supplying power to the Peaker Bus.
 - Two OPERABLE Drywell Cooling Units (Units 1 and 2) consisting of a fan and cooling coil capable of being supplied with cooling water from the EECW system.
 - The OPERABLE Appendix R Alternative Shutdown control circuits listed in UFSAR Table 9A.6.9-1.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3

ACTION:

- For the SBFW system:
 - With one SBFW pump inoperable, within 7 days and at least once per 31 days thereafter, perform Surveillance Requirement 4.7.11.1.b, using the OPERABLE SBFW pump. The OPERABLE SBFW pump need not be tested more frequently than once per 31 days. Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
 - With the SBFW system otherwise inoperable, restore the system to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- With an inoperable CTG 11 Unit 1:
 - Verify within 1 hour, the 120 KV bus is available by performing Surveillance Requirement 4.8.1.1.1, and
 - Within 7 days, restore the CTG 11 Unit 1 to OPERABLE status or provide an alternative source of power to the Alternative Shutdown bus.

Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the next 24 hours.

PLANT SYSTEMS

3/4.7.11 APPENDIX R ALTERNATIVE SHUTDOWN AUXILIARY SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (continued)

- c. For the Drywell Cooling System:
 - 1. With one drywell cooling unit inoperable, within 7 days and at least once per 31 days thereafter, perform Surveillance Requirement 4.7.11.3 using the OPERABLE Drywell Cooling Unit. The OPERABLE Drywell Cooling Unit need not be tested more frequently than once per 31 days. Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
 - 2. With both drywell cooling units inoperable, restore at least one drywell cooling unit to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- d. With one or more required alternative shutdown system control circuits inoperable, restore the inoperable circuits to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- e. The provisions of Specification 3.0.4 are not applicable.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS

4.7.11.1 The SBFW system shall be demonstrated OPERABLE:

- a. At least once every 31 days by:
 1. Verifying by venting at the high point vents that the system piping from the pump discharge to the system isolation valves is filled with water, and
 2. Verifying that each valve (manual, power-operated or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.
- b. At least once every 92 days on a STAGGERED TEST BASIS by verifying that each SBFW pump develops a flow of ≥ 600 gpm in a test flow path with a system head corresponding to the reactor vessel operating pressure including injection line losses.

4.7.11.2 CTG 11 Unit 1 shall be demonstrated OPERABLE by starting and supplying load of at least 10 MW to the Peaker Bus at least once every 31 days.

4.7.11.3 Drywell Cooling Units 1 and 2 shall be verified OPERABLE at least once every 92 days on a STAGGERED TEST BASIS by operating the unit for 72 hours with the fan in "HIGH" speed.

4.7.11.4 Each required alternative shutdown system control circuit shall be demonstrated OPERABLE by verifying its capability to perform its intended function(s) at least once per 18 months.

INSTRUMENTATION

BASES

MONITORING INSTRUMENTATION (Continued)

3/4.3.7.8 CHLORINE DETECTION SYSTEMS

The OPERABILITY of the chlorine and detection system ensures that an accidental chlorine release will be detected promptly and the necessary protective actions will be automatically initiated to provide protection for control room personnel. Upon detection of a high concentration of chlorine, the control room emergency ventilation system will automatically be placed in the chlorine mode of operation to provide the required protection. The detection system required by this specification is consistent with the recommendations of Regulatory Guide 1.95 "Protection of Nuclear Power Plant Control Room Operators against an Accidental Chlorine Release", Revision 1, January, 1977.

3/4.3.7.9 FIRE DETECTION INSTRUMENTATION

OPERABILITY of the detection instrumentation ensures that both adequate warning capability is available for prompt detection of fires and that fire suppression systems, that are actuated by fire detectors, will discharge extinguishing agent in a timely manner. Prompt detection and suppression of fires will reduce the potential for damage to safety-related equipment and is an integral element in the overall facility fire protection program.

Fire detectors that are used to actuate fire suppression systems represent a more critically important component of plant's fire protection program than detectors that are installed solely for early fire warning and notification. Consequently, the minimum number of OPERABLE fire detectors must be greater.

The loss of detection capability for fire suppression systems, actuated fire detectors, represents a significant degradation of protection for any area. As a result, the establishment of a fire watch patrol must be initiated at an earlier stage than would be warranted for the loss of detectors that provide only early fire warning. The establishment of frequent fire patrols in the affected areas is required to provide detection capability until the inoperable instrumentation is restored to OPERABILITY.

3/4.3.7.10 LOOSE-PART DETECTION SYSTEM

The OPERABILITY of the loose-part detection system ensures that sufficient capability is available to detect loose metallic parts in the primary system and avoid or mitigate damage to primary system components. The allowable out-of-service times and surveillance requirements are consistent with the recommendations of Regulatory Guide 1.133, "Loose-Part Detection Program for the Primary System of Light-Water-Cooled Reactors," May 1981.

3/4.3.7.11 RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

The radioactive liquid effluent monitoring instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in liquid effluents during actual or potential releases of liquid effluents. The alarm/trip setpoints for these instruments shall be calculated and adjusted in accordance with the methodology the procedures in the ODCM to ensure that the

INSTRUMENTATION

BASES

MONITORING INSTRUMENTATION (Continued)

3/4.3.7.11 RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION (Continued)

alarm/trip will occur prior to exceeding the limits of 10 CFR Part 20. The OPERABILITY and use of this instrumentation is consistent with the requirements of General Design Criteria 60, 63, and 64 of Appendix A to 10 CFR Part 50.

3/4.3.7.12 RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

The radioactive gaseous effluent monitoring instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in gaseous effluents during actual or potential releases of gaseous effluents. The alarm/trip setpoints for these instruments shall be calculated and adjusted in accordance with the methodology and parameters in the ODCM utilizing the system design flow rates as specified in the ODCM. This conservative method is used because the Fermi 2 design does not include flow rate measurement devices. This will ensure the alarm/trip will occur prior to exceeding the limits of 10 CFR Part 20. This instrumentation also includes provisions for monitoring and controlling the concentrations of potentially explosive gas mixtures in the main condenser offgas treatment system. The OPERABILITY and use of this instrumentation is consistent with the requirements of General Design Criteria 60, 63, and 64 of Appendix A to 10 CFR Part 50.

3/4.3.8 TURBINE OVERSPEED PROTECTION SYSTEM

This specification is provided to ensure that the turbine overspeed protection system instrumentation and the turbine speed control valves are OPERABLE and will protect the turbine from excessive overspeed. Protection from turbine excessive overspeed is not required to protect safety-related components, equipment, or structures. However, it is included in order to improve overall plant reliability.

3/4.3.9 FEEDWATER/MAIN TURBINE TRIP SYSTEM ACTUATION INSTRUMENTATION

The feedwater/main turbine trip system actuation instrumentation is provided to initiate action of the feedwater system/main turbine trip system in the event of a high reactor vessel water level due to failure of the feedwater controller under maximum demand.

3/4.3.11 APPENDIX R ALTERNATIVE SHUTDOWN INSTRUMENTATION

The OPERABILITY of the alternative shutdown system ensures that a fire will not preclude achieving safe shutdown. The alternative shutdown system instrumentation is independent of areas where a fire could damage systems normally used to shutdown the reactor. Thus, the system capability is consistent with General Design Criterion 3 and Appendix R to 10 CFR 50.

PLANT SYSTEMS

BASES

3/4.7.9 MAIN TURBINE BYPASS SYSTEM AND MOISTURE SEPARATOR REHEATER

The main turbine bypass system is an active bypass system designed to open the bypass valves in the event of a turbine trip to decrease the severity of the pressure transient. Each valve is sized to pass a nominal 13 percent reactor steam flow in the full-open position for a controlled total bypass of approximately 26 percent reactor steam flow. The main turbine bypass system is required to be OPERABLE consistent with the assumptions of the Feedwater Controller Failure analysis.

The primary purpose of the moisture separator reheater is to improve cycle efficiency by using primary system steam to heat the high pressure turbine exhaust before it enters the low-pressure turbines. In doing so, it also provides a passive steam bypass flow of about 10 percent that mitigates the early effects of over-pressure transients. The moisture separator reheater is required to be OPERABLE consistent with the assumptions of the Main Turbine Trip with Turbine Bypass Failure analysis and the Feedwater Controller Failure analysis.

The operation with one or both of the main turbine bypasses inoperable or the moisture separator reheater inoperable to perform preventive or corrective maintenance above 25 percent RATED THERMAL POWER, requires, after one hour, the evaluation of the MCPR in accordance with Specification 3.2.3. If the MCPR is within the bounds established by Specification 3.2.3, power increases to or operation above 25 percent RATED THERMAL POWER is allowed.

3/4.7.11 APPENDIX R ALTERNATIVE SHUTDOWN AUXILIARY SYSTEMS

The systems identified in this section are those utilized for Appendix R Alternative shutdown but not included in other sections of the Technical Specifications. The ACTION statements assure that the auxiliary systems will be OPERABLE or that acceptable alternative means are established to achieve the same objective.

There are four independent Combustion Turbine-Generator units onsite. CTG 11 Unit 1 has a diesel engine starter and thus can be started independently from offsite power. CTG 11 Units 2, 3, and 4 have AC-motor starters and rely on a 480-volt AC feed. The phrase "alternative source of power", as used in Specification 3.7.11, ACTION b.2, is defined as a source of power that is not reliant on offsite power for starting (if required) or operating (if already running) and capable of supplying the required loads on the 4160-volt busses associated with the Alternative Shutdown System.

One of the two installed Standby Feedwater Pumps and one of the two listed Drywell Cooling Units are necessary for Appendix R Alternative shutdown. Therefore unlimited operation with one of the two components inoperable is justified provided increased surveillance is performed on the components which remain OPERABLE.

PLANT SYSTEMS

BASES

3/4.7.11 APPENDIX R ALTERNATIVE SHUTDOWN AUXILIARY SYSTEMS (continued)

The SBFW pump performs a function for Appendix R Alternative Shutdown analogous to RCIC for Remote Shutdown. As such the SBFW Surveillance Requirements are patterned after RCIC Surveillance Requirements, including the flow test capacity requirement. The specified flow value includes an allowance for normal instrument tolerance above the minimum flow required for adequate core cooling.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 59 TO FACILITY OPERATING LICENSE NO. NPF-43

DETROIT EDISON COMPANY

FERMI-2

DOCKET NO. 50-341

1.0 INTRODUCTION

By letter dated December 22, 1988, as supplemented May 31, 1989, the Detroit Edison Company (DECo or the licensee) requested amendment to the Technical Specifications (TSs) appended to Facility Operating License No. NPF-43 for Fermi-2. The proposed amendment will add new Sections to the TS with Limiting Conditions For Operation (LCO) and Surveillance Requirements (SR) for the Alternative Shutdown System. The Alternative Shutdown System has been installed to mitigate the effects of a fire in the control room.

2.0 EVALUATION

DECo has installed an Alternative Shutdown System to allow operators to safely shut down the reactor following a fire in the control room complex if normal shutdown capability becomes disabled.

The proposed TS will add new LCOs and SR for the dedicated instrumentation and controls as well as for several systems which are utilized in the alternative shutdown system but which are not presently listed in the TS. These systems include the Standby Feedwater (SBFW) System; the Combustion Turbine Generator (CTG) 11, Unit 1; and the Drywell Cooling Units.

The required instrumentation for the alternate shutdown system is identified in Supplement No. 5 to NUREG-0798, Safety Evaluation Report, related to the operation of Fermi-2. The proposed TS add a new Section 3/4.3.11 which includes the instrumentation to provide indications of the reactor water level, reactor pressure, standby feedwater flow, condensate storage tank level, torus water temperature, torus water level, and the primary containment temperature. The power for the dedicated shutdown system is provided by CTG 11. The instrumentation provided for CTG 11 provides indication of the output voltage, frequency and power level. Control circuits have been provided for black starting the CTG 11 from the Alternate Shutdown Panel. In addition, control circuits have been provided for controlling the SBFW system, residual heat removal (RHR) system "C", the RHR heat exchanger "A", Division I of the emergency equipment cooling water (EECW) system, and drywell coolers. The action statements in the proposed TS LCOs allow 7 days for any one instrumentation or control circuit to be out of service with the exception of the CTG instrumentation. After 7 days the proposed action statements require the

reactor to shut down. The 7 day allowable out-of-service time limits and the exclusion from the provisions of TS Section 3.0.4 are consistent with TS Section 3/4.3.7.4, Remote Shutdown System Instrumentation and Controls. The action statement for the CTG instrumentation requires, if one channel becomes inoperable, that the action required by the new proposed TSs for the CTG be taken. That action statement also allows a 7 day out of service time prior to shutting the reactor down or establishing an alternative power source.

The proposed TS for the instrumentation circuits require that each circuit has a channel check performed monthly and a channel calibration performed every refueling. The proposed TS requires each control circuit to be demonstrated operable by verifying its capability to perform its intended functions at least once per 18 months. These SR are consistent with similar TSs for other instrumentation systems which are safety-related or important to safety.

The proposed TSs include a new Section 3/4.7.11, Appendix R, Alternative Shutdown Auxiliary Systems, which incorporate LCOs and SRs for the SBFW system, CTG, Drywell Cooling Units, and Appendix R, Alternative Shutdown Control Circuits, which have been discussed above.

The proposed TSs implement a 7 day inoperability limit on the SBFW system, and the drywell cooling units, which is consistent with the Standard Technical Specification limits. The proposed TSs implement an inoperability limit of seven days for the CTG or allows the ability to provide an alternative power supply or the reactor is required to be shut down. These limits, which cover the time period when the CTG may be inoperable, are consistent with similar TSs for dedicated shutdown panels for fire protection. An alternative source of power is defined in the proposed bases for this section of the TSs as one which does not rely on offsite power for: (1) starting, if required; or (2) operating, if already running. It is also capable of supplying the required loads associated with the alternative shutdown system.

The proposed TS change requires the CTG to be demonstrated operable every 31 days. This is in conformance with the Standard Technical Specifications. The proposed TSs define operability of the CTG as the ability of the unit to develop at least 10 megawatts of power.

There are two SBFW pumps and two drywell coolers. Either SBFW pump can supply all the required cooling for achieving safe shutdown and either non-safety related drywell cooler is capable of providing adequate cooling to achieve safe shutdown. Accordingly, the licensee has proposed to demonstrate that each SBFW pump is operable every 92 days on a staggered test basis. The SR for the SBFW system are based upon the RCIC surveillance. The proposed TS defines operability of the SBFW pumps as the capability of being able to pump greater than or equal to 600 gallons per minute. If one SBFW pump becomes inoperable the proposed TS increases the flow test frequency to monthly to compensate for the loss of redundancy. Since one SBFW is adequate for the purpose of achieving safe shutdown, continued operation is not further limited. The Drywell Cooling units are like the SBFW pumps in that they are redundant in the ability to support alternative shutdown. Therefore, a similar surveillance requirement has

been proposed in the new TSs. Normally, the units will be checked quarterly on a staggered test basis and the frequency increased to monthly if redundancy is lost. The Drywell Coolers are verified operable in the proposed TS by requiring the units to operate with the fan speed in "HIGH" for 72 hours.

Cooling to each drywell cooling unit is provided by the Emergency Equipment Cooling Water (EECW) System. Therefore, TS Section 3.7.11 will be added to the listing of specifications which must be referred to for action requirements for an inoperable EECW system subsystem.

Based on the above evaluation the staff finds that the proposed TSs for the alternative shutdown system provides adequate LCOs and SRs to assure that the system can be relied upon at all times. The proposed TSs are consistent with similar TSs and the Standard TSs. Therefore, the staff finds the proposed changes to the TSs are acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change to 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 or a change to a surveillance requirement. 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this 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 this amendment.

4.0 CONCLUSION

We have 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, and (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: John Stang

Date: October 4, 1990