

February 6, 2006

Mr. Donald K. Cobb  
Assistant Vice President - Nuclear Generation  
Detroit Edison Company  
6400 North Dixie Highway  
Newport, MI 48166

SUBJECT: FERMI 2 - ISSUANCE OF AMENDMENT RE: ALLOWED OUTAGE TIME  
EXTENSION FOR EMERGENCY DIESEL GENERATOR 12 FOR ONE  
SPECIFIC INCIDENT (TAC NO. MC9728)

Dear Mr. Cobb:

The Commission has issued the enclosed Amendment No. 171 to Facility Operating License No. NPF-43 for the Fermi 2 facility. The amendment consists of changes to the technical specifications (TS) in response to your application dated February 5, 2006, as supplemented by letter dated February 5, 2006.

The amendment revises TS 3.8.1, "AC Sources – Operating," to extend the allowed outage time for Emergency Diesel Generator 12 from seven days to 14 days for one specific incident.

A copy of our related Safety Evaluation is also enclosed. The Safety Evaluation describes the emergency circumstances under which the amendments were issued and the final determination of no significant hazards. The Notice of Issuance, addressing the final no significant hazards determination and opportunity for a hearing, associated with the emergency circumstances, will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,

/RA/

David H. Jaffe, Senior Project Manager  
Plant Licensing Branch III-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-341

Enclosures:

1. Amendment No. 171 to NPF-43
2. Safety Evaluation

cc w/encls: See next page

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OFFICE	LPL3-1/PM	LPL3-1/LA	DRA/APLB/BC (A)	NRR/EEEB/BC	OGC	LPL3-2/BC (A)
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DATE	2/5/06	2/5/06	2/5/06	2/5/06	2/5/06	2/5/06

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DETROIT EDISON COMPANY

DOCKET NO. 50-341

FERMI 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 171  
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 February 5, 2006, as supplemented by letter dated February 5, 2006, 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. 171, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The licensee 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 immediately.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Timothy J. Kobetz, Acting Chief  
Plant Licensing Branch III-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: February 6, 2006

ATTACHMENT TO LICENSE AMENDMENT NO. 171

FACILITY OPERATING LICENSE NO. NPF-43

DOCKET NO. 50-341

Replace the following page of the Appendix A Technical Specifications with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

REMOVE

INSERT

3.8-2

3.8-2

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 171 FACILITY OPERATING LICENSE NO. NPF-43

DETROIT EDISON COMPANY

FERMI 2

DOCKET NO. 50-341

## 1.0 INTRODUCTION

By letter dated February 5, 2006, as supplemented by letter dated February 5, 2006, the Detroit Edison Company (the licensee) requested changes to the technical specifications (TSs) for Fermi 2. The proposed changes would revise TS 3.8.1, "AC Sources – Operating," to extend the allowed outage time (AOT) for Emergency Diesel Generator (EDG) 12 from seven days to 14 days, for one specific incident.

Under the current requirements of TS 3.8.1, Condition A for one or both EDGs in one division inoperable, both EDGs must be restored to operable status within 7 days per Required Action A.6. If both EDGs cannot be restored to operable status within 7 days, the plant must be in Mode 4 (Cold Shutdown) per Required Action C.2, within 36 hours. The licensee has proposed that the following footnote be added to Required Action A.6:

The 7-day allowed outage time of Technical Specification 3.8.1 Condition "A", Required Action A.6, which was entered on January 30, 2006, at 0200 hours, may be extended one time by an additional 7 days to complete repair and testing of EDG 12.

## 2.0 REGULATORY EVALUATION

The regulatory requirements and guidance that the NRC staff applied in its review of the amendment include:

General Design Criterion (GDC) 17, "Electric power systems," of Appendix A, "General Design Criteria for Nuclear Power Plants," to Part 50 of Title 10 of the *Code of Federal Regulations* (10 CFR) requires, in part, that nuclear power plants have onsite and offsite electric power systems to permit the functioning of structures, systems, and components that are important to safety. The onsite system is required to have sufficient independence, redundancy, and testability to perform its safety function, assuming a single failure. The offsite power system is required to be supplied by two physically independent circuits that are designed and located so as to minimize, to the extent practical, the likelihood of their simultaneous failure under operating and postulated accident and environmental conditions. In addition, this criterion requires provisions to minimize the probability of losing electric power from the remaining electric power supplies as a result of loss of power from the unit, the offsite transmission network, or the onsite power supplies.

GDC-18, "Inspection and testing of electric power systems," requires that electric power systems that are important to safety must be designed to permit appropriate periodic inspection and testing.

Regulatory Guide (RG)1.93, "Availability of Electric Power Sources," provides guidance with respect to operating restrictions if the number of available alternate current (AC) sources is less than that required by the TS LCO. In particular, this guide prescribes a maximum AOT of 72 hours for an inoperable AC source.

RG 1.177, "An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications."

### 3.0 TECHNICAL EVALUATION

The NRC staff has reviewed the licensee's regulatory and technical analyses in support of its proposed license amendment, which are described in the licensee's submittal.

The licensee's submittal is risk-informed in that the licensee considered deterministic<sup>1</sup> and probabilistic<sup>2</sup> safety aspects. The NRC staff evaluated the deterministic and probabilistic assessments provided by the licensee.

#### 3.1 Deterministic Evaluation

##### 3.1.1 Conditions Leading to the Inoperability of EDG 12

On January 30, 2006, at 0200 hours, EDG 12 was declared inoperable for a scheduled safety system outage, entering the 7-day action statement of TS LCO 3.8.1, Condition A. During the outage, it was determined that a bearing and a piston needed to be replaced. Near the completion of the safety system outage, the following three unexpected conditions were experienced:

- On February 2, 2006, at 0949 hours, EDG 12 tripped on overvoltage during a startup for post-maintenance testing. This condition appeared to be resolved. On February 3, 2006, at 1046 hours, EDG 12 was started in auto voltage control; the output breaker was closed. The overvoltage trip condition did not recur.
- On February 3, 2006, at 1154 hours, EDG 12 output breaker failed to open upon completion of a post-maintenance test run.
- The EDG 12 output breaker that failed was a refurbished breaker that had been installed during the safety system outage. After failing to open, the breaker was

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<sup>1</sup> A deterministic analysis is an assessment of the availability of safety equipment necessary to ameliorate the consequences of design-basis accidents.

<sup>2</sup> A probabilistic analysis is an assessment of the probability that given accident sequences will lead to core damage and/or a large early release of radioactivity.

replaced with the original output breaker. An investigation determined that the refurbished breaker installed in position 12EB-EB3, during this EDG 12 outage, had physical tolerance differences from the originally installed breaker.

The overvoltage failure is not considered to be due to a common cause. The most probable cause for the overvoltage was relaxation of the spring clip that holds the fuse in the voltage regulator sensing circuit. This is supported by the subsequent finding of intermittent discontinuity at one fuse terminal and previous use of the fuse/spring clip as a tagging point for the EDG.

### 3.1.2 Evaluation of Extended EDG 12 AOT

The licensee will take the compensatory measures (Regulatory Commitments) described in Section 4.0 herein in order to minimize the small increase in risk during the additional 7-day period when EDG 12 is inoperable. The NRC staff has reviewed these compensatory measures and concludes that they will be effective in reducing the likelihood that the remaining onsite and offsite power sources will be challenged during the extended EDG 12 AOT.

At Fermi 2, the offsite or preferred power for the AC power system is supplied from the 120-kV and 345 transmission system through the stepdown transformer. Alternate power for the engineered safety feature (ESF) is available through tie breakers that can tie the ESF bus to the opposite system transformer, for maintenance only. The main and tie breakers are interlocked in such a way that in no case can the two offsite power source be tied together. Transfer to and from the maintenance tie source without interruption is possible, but the EDG of that particular bus must be used to make the transfer. Also available is the Combustion Turbine Generator (CTG) 11-1 which can be aligned to the 120-kV switchyard to act as the alternate AC source for a station blackout event and as a power source for the dedicated shutdown panel.

Switchyard buses are arranged and located to maintain electrical and physical independence between divisions of the safety systems. The two redundant ESF divisions include four 4.16 kV buses. These buses service all 4.16 kV safety loads, as well as provide a power bus for lower voltage subdivisions at 480 V AC and 120 V AC for ESF equipment. The two divisions have no interconnections.

Within a division, AC loads are divided into two groups, each supplied by the common system service transformer. An EDG is assigned to power each load group, when required. The EDGs are connected to a dedicated bus. In case of a loss of offsite power, a load shedding scheme initiates tripping all breakers on 4160 V and 480 V, except 4160 V/480 V transformer and ESF-motor control center feeders. After the onsite power source (EDG) reaches normal voltage and frequency, sequential loading follows. Once the EDG is supplying power to the bus, the bus load-shedding feature is automatically bypassed.

The availability of offsite power, coupled with the availability of the remaining three operable EDGs, continues to provide adequate assurance of the capability to provide power to the ESF buses under postulated accident conditions.

Based upon the above information, the NRC staff concludes that the remaining AC power sources are expected to be operable during the EDG 12 AOT extension.

### 3.1.3 Grid Reliability

The following statements from the December 2005 Fermi Grid Adequacy Study demonstrate stability of the grid near the Fermi plant site.

This study was performed by International Transmission Company (ITC) at the request of the licensee. The results show that the Fermi 2 generator and the rest of the system will remain stable for all conditions studied. Fermi and all generators in the study area show a well damped stable response to all faults simulated. Under the conditions studied, the voltage at the Fermi 120kV and 345kV buses, as well as the critical system service 4.16kV buses SS64 and SS65, will be sufficient to prevent the initiation of a trip by the degraded grid relays. Therefore, the grid is capable of supplying the necessary offsite power if the Fermi 2 unit trips off line thus preventing further challenge to the remaining, operable, EDGs.

### 3.1.4 Conclusions Regarding Deterministic Evaluation

The NRC staff has evaluated the proposed amendment request and concludes that extending the allowed outage time for additional 7 days, on a one time basis, to complete the repair of Fermi 2 EDG 12 is acceptable. The NRC staff's conclusion is based on the following:

1. Implementation of compensatory measures to ensure the availability of the remaining sources of AC power, and avoidance of high risk activity during the additional 7-day repair and test period, during the extended AOT during the additional 7 days of repair and test period.
2. The one-time nature of this EDG 12 AOT extension does not require further engineering evaluation of other long-term considerations (e.g., equipment reliability or operating experience).
3. The availability of a stable offsite grid to minimize challenges to the remaining sources of onsite AC power.
4. Adequacy of the remaining sources of onsite AC power in the unlikely event that offsite power is unavailable.

Based upon the above, the NRC staff concludes that the proposed extension of the EDG 12 AOT is acceptable from a deterministic standpoint.

## 3.2 Probabilistic Evaluation

### 3.2.1 Risk Assessment Evaluation

In evaluating the risk information submitted by the licensee, the NRC staff followed the three-tiered approach documented in RG 1.177.

Under the first tier, the NRC staff determines if the proposed change is consistent with the NRC's Safety Goal Policy Statement, as documented in RG 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the

Licensing Basis," for adequacy of plant protection from potential risk. Specifically, the first tier objective is to ensure that the plant risk does not increase unacceptably during the period the equipment is taken out of service.

The second tier addresses the need to preclude potentially high-risk plant configurations that could result if additional equipment not associated with the proposed change is taken out of service during the proposed 7-day additional AOT extension.

The third tier addresses the establishment of a configuration risk management program for identifying risk-significant configurations resulting from maintenance or other operational activities, and taking appropriate compensatory measures to avoid such configurations.

### 3.2.2 Basis and Quality of Risk Assessment

The licensee used its probabilistic risk assessment (PRA) model and appropriate conservative assumptions to assess the risk increase associated with operation at-power for a period of 7 additional days without an operable EDG 12. The licensee employed a plant-specific CAFTA/EOOS computer risk-quantification software, which employs a large fault tree/small event tree model, similar to the NRC's Standardized Plant Risk Analysis (SPAR) model. The licensee stated, in the supplement, that the assessment of a regional loss-of-offsite-power event, which occurred on August 14, 2003, using the plant-specific PRA model was consistent with the result of an analysis using the NRC's SPAR model.

All of the risk quantification was performed using EOOS with a truncation limit of 10E-10. The risk consideration included maintaining defense-in-depth and quantifying risk to determine the change in core damage frequency (CDF) and large early release frequency (LERF) as a result of the proposed 7-day AOT extension. Also, the licensee is maintaining the continuous on-line risk management program to control the performance of other risk-significant tasks during the extended AOT period with consideration of specific compensatory measures listed in the submittal to minimize risk. The dominant accident sequences contributing to the assessed risk increase include the occurrence of conditions due to the unavailability of and demand for the use of EDG 12.

The licensee evaluated the configuration risk without EDG 12, using a "zero maintenance" model, and a sensitivity study was performed for potential inclement weather during the proposed AOT extension resulting in a small contribution to the incremental conditional core damage probability (ICCDP). The parametric uncertainty analysis indicated that the Error Factor was approximately 3.0, and no credit was given for the combustion turbine generators (CTGs). CTG 11-1 was credited for the power source under Appendix R requirement, and DG 12 does not affect the potential fire-related issues.

The NRC staff evaluated the quality of the PRA models, major assumptions, and data used in the risk assessment, and found it acceptable for this application. This evaluation compared the applicable findings from the NRC staff's review of the licensee's PRA with the NRC's SPAR model, Version 3.2, employing NRC PRA quantification tool, SAPHIRE Version 7, and NRC Manual Chapter 0609, Appendix H for LERF, as well as findings from similar evaluations of similar plants.

### 3.2.3 Risk Impact of the Proposed Change (Tier 1)

An acceptable approach to risk-informed decisionmaking is to show that the proposed change to the design basis meets several key principles. One of these principles is to show that the proposed change results in a small, but acceptable, increase in risk in terms of CDF and LERF, and is consistent with the NRC's Safety Goal Policy Statement. Acceptance guidelines for meeting this principle are presented in RG 1.174. The licensee used its PRA model to calculate risk increases due to the AOT extension of 7 days, during which other associated EDGs are available. Both the ICCDP and the incremental conditional large early release probability (ICLERP) were assessed. These quantities are a measure of the increase in probability of core damage and large early release, respectively, during a single outage that would last for the entire duration allowed by the proposed change. The acceptance guideline for an extension of the TS AOT is provided in RG 1.177 as 5.0E-7 and 5.0E-8 for ICCDP and ICLERP, respectively. However, the RG 1.177 guideline is for permanent changes, and the NRC staff has considered additional credits for the proposed one-time extension within the bound of adequate protection under the guideline in RG 1.174. Based on the one-time extension of 7 days, the incremental changes are summarized in the following table.

		Baseline CDF	Incremental Change in CCDP	Baseline LERF	Incremental Change in ICLERP
Prior to AOT Extension		4.79E-06/yr	-	3.27E-07/yr	-
Increase because of 7-day AOT extension (Licensee Results)		-	1.4E-07	-	7.3E-09
New Baseline CDF		<b>4.93E-06/yr</b>	-	<b>3.34E-07/yr</b>	-
Increase because of 7-day AOT Extension	A. using NRC SPAR 3.2 Model	-	1.7E-07	-	1.7E-8
	B. Compensatory Measures*	-	Not credited	-	CTG 11 -1
Acceptance Guidelines**		-	5E-7	-	5E-8

\* Quantifiable compensatory measures provided by the licensee

\*\* Criteria for permanent change, flexibility considered for one-time changes.

Based on the NRC staff's analysis using the SPAR model, the configuration risk increase with EDG 12 out-of-service (failure-to-start and failure-to-run) is 1.7E-7 in ICCDP, well within the threshold value of 5.0E-07, the acceptance guideline in RG 1.177 for permanent changes. The LERF is calculated employing NRC Inspection Manual Chapter 0609, SDP Appendix H with the CDF-LERF conversion factor of 0.1. The Mark I containment does not impose high LERF concerns with no special outliers. This ratio (LERF-to-CDF) is larger than the licensee's results. This is conservative in determining the risk acceptability of the proposed one-time AOT extension. No additional risk will be added for waiving the TS 3.8.1 EDG 12 requirement.

During the proposed extension period, the total CDF and LERF have been increased due to the incremental changes in ICCDP and ICLERP, respectively, resulting from the one-time 7-day extension of the AOT under the TS 3.8.1. However, the licensee employed several conservative assumptions with separate compensatory measures during the maintenance activities to reduce the risk to the plant. The specifics of risk quantification (qualitative and quantitative) of the proposed compensatory measures are documented in the application. The risk increases under the proposed AOT extension are well within the acceptable range.

The NRC staff has developed risk insights, associated with conducting the repair to the EDG 12 during at-power operation, and qualitatively compared the risk with the total risk of performing the maintenance activities following transitional operation and shutdown without EDG 12. The NRC staff concludes that the shutdown and transitional risk is greater than at-power risk.

In conclusion, a one-time 7-day extension of TS Limiting Condition for Operation (LCO) 3.8.1 at power to perform appropriate maintenance work would be more desirable than to perform maintenance at hot shutdown.

### 3.2.4 Avoidance of High Risk Plant Configurations (Tier 2)

The licensee's PRA identifies and estimates major risk contributors of plant configurations, contributing event sequences, and associated cutsets. Potential major risk contributors include plant equipment failures, human errors and common cause failures. Insights from the risk assessment are used in identifying and monitoring the plant configurations or conditions that may lead to significant risk increases during the AOT extension. The NRC staff finds that the proposed precautions, as well as the proposed compensatory measures, identified in the licensee's submittal are adequate for preventing plant configurations or conditions that may increase risk significantly. In conclusion, there is reasonable assurance that high risk plant configurations will not occur during the proposed 7-day extension period.

### 3.2.5 Risk-Informed Configuration Risk Management (Tier 3)

The intent of risk-informed configuration risk management is to ensure that plant safety is maintained and monitored. A formal commitment to maintain a configuration risk management program is necessary on the part of a licensee prior to implementation of a risk-informed TS. This program can support the licensee's decisionmaking regarding the appropriate actions to control risk whenever a risk-informed TS LCO is entered. The NRC staff finds that the licensee has an adequate configuration management program.

### 3.2.6 Summary

The NRC staff has developed risk insights, associated with conducting the repair to EDG 12 during at-power operation, and qualitatively compared the risk with the total risk of performing the maintenance activities following transitional operation and shutdown without EDG 12. The NRC staff concludes that the shutdown and transitional risk is greater than at-power risk, and thus, the proposed one-time 7-day extension of the AOT with an inoperable EDG 12 is acceptable.

## 4.0 REGULATORY COMMITMENTS

The licensee has made the following commitments (as stated) concerning the 7 additional days of the EDG 12 AOT:

In accordance with MMR12, the site procedure for risk management, "Equipment Out of Service Risk Management," the plant is currently in a "LOW" risk status and is expected to remain in this category for the extended AOT period. The following equipment protections will be in effect until EDG 12 is restored to an Operable status:

1. Elective maintenance will not be performed on EDGs 11, 13, and 14 or CTG 11-1.
2. Elective maintenance will not be scheduled within the 120 kV and 345 kV switchyards that would challenge the offsite power connections or offsite power unavailability.
3. Elective maintenance will not be performed on the opposite train Emergency Core Cooling System (ECCS) equipment.
4. Elective maintenance will not be performed on equipment in the Standby Feedwater (SBFW) System.

While in the extended EDG 12 completion time period, overall plant risk will be managed by the existing Maintenance Rule (a)(4) program. This program evaluates increases in risk posed by potential combinations of equipment out-of-service and potential increases in initiating event frequency and requires that risk recommendations be implemented as appropriate for a given plant configuration.

Maintenance and testing during the allowed outage time extension will be rescheduled for Fermi 2 as warranted to minimize aggregate risk. This will specifically include:

5. Work performed on safety significant systems and their applicable support systems will be reviewed and rescheduled as necessary based upon routine and emergent Maintenance Rule 10CFR65 (a)(4) evaluations.
6. No work will be performed that could potentially jeopardize the availability of the remaining on site emergency power sources. This will be ensured by restricting and/or controlling access to this equipment via guidance provided in MOP05 (the site procedure for control of equipment).

The following actions will be taken to provide an increased assurance of grid stability:

7. No test or maintenance activities that could reduce switchyard reliability will be performed.

8. At four hour intervals, the projected grid voltage following postulated unit trip will be verified to indicate a stable grid. Assuring the grid conditions are expected to remain stable serves to reduce the grid as an initiator for loss of offsite power to the units.
9. Fermi 2 will contact the system dispatcher to ensure that no short-term activities adversely affecting grid stability are planned or have transpired.
10. Fermi 2 will confirm that the system dispatcher will notify the control room or Shift Manager in the event of severe weather, system degradation, or perturbations do occur so that an appropriate plant response can be determined.

Operations Briefings will be conducted on the use of CTG 11-1 and the utilization of CTG 11-2, CTG 11-3, or CTG 11-4 in conjunction with the auxiliary blackstart diesel to mitigate the consequences of a station blackout or loss of off-site power. These briefings will include review of the associated procedures.

The above compensatory measures have been entered as regulatory commitments in the licensee's Commitment Management System, which complies with Nuclear Energy Institute's Document 99-04, Revision 0, "Guidelines for Managing NRC Commitment Changes." The NRC staff has reviewed the compensatory measures and how they will be controlled and finds that the licensee's commitments provide adequate assurance that safe plant operation will not be affected by the extended AOT for EDG 12.

## 5.0 EMERGENCY CIRCUMSTANCES

The NRC's regulations at 10 CFR 50.91 contain provisions for issuance of an amendment where the Commission finds that an emergency situation exists in that failure to act in a timely way would result in shutdown of a nuclear power plant. In such a situation, the NRC may issue a license amendment involving no significant hazards consideration without prior notice and opportunity for a hearing or for public comment. In such a situation, the Commission will not publish a notice of proposed determination on no significant hazards consideration, but will publish a notice of issuance under 10 CFR § 2.106.

In this instance, an emergency situation exists in that the proposed amendments are needed to allow the licensee to preclude an unnecessary plant shutdown. In its February 5, 2006, application, the license stated:

The emergency situation resulted from several unforeseen problems that occurred during this maintenance outage that was originally scheduled to be completed in 91 hours. Although the problems associated with the bearing replacement, the piston replacement and the output breaker have been resolved and repairs completed, the time required to complete troubleshooting and post maintenance testing associated with these problems is a major contributor to the current emergency situation for which a license amendment is being requested.

The remaining problem involves the unexpected EDG 12 overvoltage condition which was experienced on February 2, 2006 and again on February 4th.

Troubleshooting, repair and retesting associated with this problem and the remaining post maintenance runs necessary to restore EDG 12 operability will likely exceed the seven days allowed by TS 3.8.1, Condition A and thus require that the unit be shutdown.

The Commission expects licensees to apply for license amendments in a timely fashion. In this situation, the NRC staff has determined that the licensee has explained, as set forth above, why this emergency situation occurred and why it could not avoid this situation. Based on the licensee's reasons set forth above, the NRC staff has determined that the licensee could not reasonably have foreseen the continued inoperability of the subject EDG, and could not file the application in advance of that event. Accordingly, the NRC staff has determined that the licensee made a timely application for the amendment, has not abused the emergency provisions of 10 CFR 50.91(a)(5), and did not itself create the emergency.

## 5.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The Commission's regulation at 10 CFR 50.92(c) states that the Commission may make a final determination that a license amendment involves no significant hazards consideration if operation of the facility in accordance with the proposed 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) result in a significant reduction in a margin of safety. 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. The NRC staff's final determination is presented below:

1. The proposed change does not involve a significant increase in the probability or the consequences of any accident previously evaluated.

The proposed change affects the Completion Time for TS LCO 3.8.1, Required Action A.6. The proposed change allows a one-time extension of the current Completion Time for the inoperable EDG 12 from seven days to 14 days.

The proposed change does not affect the design of the EDGs, the operational characteristics or function of the EDGs, the interfaces between the EDGs and other plant systems, or the reliability of the EDGs. Required Actions and their associated Completion Times are not considered initiating conditions for any accident previously evaluated, nor are the EDGs considered initiators of any previously evaluated accidents. The EDGs are provided to mitigate the consequences of previously evaluated accidents, including a loss of offsite power. The consequences of previously evaluated accidents will not be significantly affected by the extended EDG Completion Time because a sufficient number of onsite AC power sources will continue to remain available to perform the accident mitigation functions associated with the EDGs, as assumed in the accident analyses. Thus the consequences of accidents previously evaluated are not affected by the proposed change in Completion Time[.]

To fully evaluate the effect of the proposed EDG Completion Time extension, Probabilistic Risk Assessment (PRA) methods and a deterministic analysis were utilized. The results of the analysis show no significant increase in Core Damage Frequency

(CDF) or Large Early Release Frequency (LERF). Therefore, the proposed change does not involve a significant increase in the probability or the consequences of any accident previously evaluated.

2. The proposed change would not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed change does not involve a change in the design, configuration, or method of operation of the plant. The proposed change will not alter the manner in which equipment operation is initiated, nor will the functional demands on credited equipment be changed. The proposed change allows operation of the unit to continue while EDG 12 is repaired and retested. The proposed extension does not affect the interaction of EDG 12 with any system whose failure or malfunction can initiate an accident. As such, no new failure modes are being introduced. Therefore, this proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. The proposed change will not involve a significant reduction in the margin of safety.

The proposed change does not alter the plant design, nor does it affect the assumptions contained in the safety analyses. Specifically, there are no changes being made to the EDG design, including instrument setpoints. The proposed change has been evaluated both deterministically, and using risk-informed methods. Based upon these evaluations, margins of safety ascribed to EDG availability and to plant risk have been determined to be not significantly reduced. The evaluation has concluded the following with respect to the proposed change:

Applicable regulatory requirements will continue to be met, adequate defense-in-depth will be maintained, sufficient safety margins will be maintained, and any increases in CDF and LERF are small and consistent with the NRC Safety Goal Policy Statement (Federal Register, Vol.51, p. 30028 (51 FR 30028), August 4, 1986, as interpreted by NRC Regulatory Guides 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," and 1.177, "An Approach for Plant-Specific Risk-Informed Decision making: Technical Specifications"). Furthermore, increases in risk posed by potential combinations of equipment out of service during the proposed extended EDG Completion Time will be managed under a configuration risk management program consistent with 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," paragraph (a)(4), and as required by Technical Requirements Manual TR 5.1.2.

The availability of offsite power coupled with the availability of the other EDGs and the use of on-line risk assessment tools provide adequate compensation for the potential small incremental increase in plant risk associated with the extended EDG Completion Time. The proposed extended EDG Completion Time in conjunction with the availability of the other EDGs, continues to provide adequate assurance of the capability to provide power to the engineered safety features (ESF) buses. Therefore, implementation of the proposed change will not involve a significant reduction in the margin of safety.

## 6.0 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.

#### **7.0 ENVIRONMENTAL CONSIDERATION**

This amendment changes a requirement with respect to 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 effluent that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has made a final finding that the amendment involves no significant hazards consideration. 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.

#### **8.0 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.

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