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Detroit Edison
A DTE Energy Company

10 CFR 50.90

July 12, 2007
NRC-07-0036

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington D C 20555-0001

Reference: Fermi 2
NRC Docket No. 50-341
NRC License No. NPF-43

Subject: Proposed License Amendment to Delete the Note Associated with the Performance of Channel Calibration for Primary Containment High Range Radiation Monitor in Technical Specification 3.3.3.1 Surveillance Requirement

Pursuant to 10 CFR 50.90, Detroit Edison hereby proposes to amend the Fermi 2 Plant Operating License, Appendix A, Technical Specifications (TS) to revise Surveillance Requirement (SR) 3.3.3.1.2 in TS 3.3.3.1, "Post Accident Monitoring (PAM) Instrumentation." Specifically, this proposed amendment would delete the note which excludes radiation detectors from calibration requirements.

Attachment 1 provides an evaluation of the proposed license amendment, including an analysis of significant hazards consideration using the standards of 10 CFR 50.92. Detroit Edison has concluded that the change proposed in this submittal does not result in a significant hazards consideration. Attachment 2 provides a marked up page of the existing TS to show the proposed change. Attachment 3 provides a clean version of the affected TS page with the proposed change incorporated. Attachment 4 provides a copy of a marked up TS Bases page affected by this change. Attachment 4 is provided for information only.

Detroit Edison has reviewed the proposed change against the criteria of 10 CFR 51.22 and has concluded that it meets the criteria provided in 10 CFR 51.22(c)(9) for a categorical exclusion from the requirements for an Environmental Impact Statement or an Environmental Assessment.

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Detroit Edison requests NRC approval of this proposed license amendment by June 30, 2008, with an implementation period of within 60 days following NRC approval.

The following commitment is being made in this letter:

> Calibration of the Primary Containment High Range Radiation Monitor detectors using low range radiation source will be performed during the Twelfth Refueling Outage scheduled to start on September 29, 2007.

In accordance with 10 CFR 50.91, a copy of this application, with attachments, is being provided to the designated Michigan State Official.

Should you have any questions or require additional information, please contact Mr. Ronald W. Gaston of my staff at (734) 586-5197.

Sincerely,

Joseph H. Plona

Attachments:
1. Evaluation of the proposed license amendment.
2. Marked-up Technical Specification page.
3. Clean Technical Specification page.
4. Marked-up Technical Specification Bases page (for information only).

cc: NRC Project Manager
NRC Resident Office
Reactor Projects Chief, Branch 4, Region III
Regional Administrator, Region III
Supervisor, Electric Operators,
Michigan Public Service Commission

I, Joseph H. Plona, do hereby affirm that the foregoing statements are based on facts and circumstances which are true and accurate to the best of my knowledge and belief.

Joseph H. Plona
Site Vice President - Nuclear Generation

On this 12th day of July, 2007 before me personally appeared Joseph H. Plona, being first duly sworn and says that he executed the foregoing as his free act and deed.

STACY OAKES
NOTARY PUBLIC, STATE OF MI
COUNTY OF MONROE
MY COMMISSION EXPIRES Jul 23, 2012
ACTING IN COUNTY OF MONROE

Notary Public

ATTACHMENT 1
TO NRC-07-0036

FERMI 2 NRC DOCKET NO. 50-341
OPERATING LICENSE NO. NPF-43

REQUEST TO DELETE NOTE ASSOCIATED WITH PRIMARY CONTAINMENT HIGH RANGE RADIATION MONITOR CHANNEL CALIBRATION IN TECHNICAL SPECIFICATION 3.3.3.1

EVALUATION OF THE PROPOSED LICENSE AMENDMENT

Evaluation of the Proposed License Amendment

Subject: Revision to delete Note associated with Primary Containment High Range Radiation Monitor Channel Calibration in Technical Specification 3.3.3.1 Surveillance Requirement

TABLE OF CONTENTS

1.0 Description

Detroit Edison is requesting NRC approval of this proposed revision to the Fermi 2 Technical Specification (TS) Number 3.3.3.1, "Post Accident Monitoring (PAM) Instrumentation." The proposed amendment would delete the note associated with the performance of Primary Containment High Range Radiation Monitor Channel Calibration in Surveillance Requirement (SR) 3.3.3.1.2.

2.0 Proposed Change

The current Fermi 2 TS Number 3.3.3.1, "PAM Instrumentation," includes the following SR:

SR 3.3.3.1.2, "Perform CHANNEL CALIBRATION" with an associated NOTE that states, "Radiation detectors are excluded."

The proposed revision would delete the NOTE in SR 3.3.3.1.2 excluding the radiation detectors from channel calibration.

SR 3.3.3.1.2 applies to each function of the PAM Instrumentation listed in Table 3.3.3.1-1, "Post Accident Monitoring Instrumentation." However, the NOTE excluding the radiation detectors only affects the Primary Containment High Range Radiation Monitor. Therefore, the proposed revision does not affect channel calibration requirement for the other PAM Instrumentation functions listed in Table 3.3.3.1-1.

3.0 Background

3.1 Post Accident Monitoring (PAM) Instrumentation

TS 3.3.3.1, "PAM Instrumentation," requires PAM instrumentation for each function in Table 3.3.3.1-1 to be operable. The primary purpose of the PAM instrumentation is to display plant variables that provide information required by the control room operators during accident situations. This information provides the necessary support for the operator to take the manual actions for which no automatic control is provided and that are required for safety systems to accomplish their safety functions for Design Basis Events. The instruments that monitor these variables are designated as Type A, Category I, and non-Type A, Category I, in accordance with Regulatory Guide 1.97 (Reference 1).

The operability of the accident monitoring instrumentation ensures that there is sufficient information available on selected plant parameters to monitor and assess plant status and

behavior following an accident. This capability is consistent with the recommendations of Reference 1.

The SR for performing channel calibration of PAM instrumentation is based on the recommendations of Regulatory Guide 1.97 (Reference 1).

3.2 Primary Containment High Range Radiation Monitor

The two Primary Containment High Range Radiation Monitors are redundant monitors installed to meet the requirements of NUREG-0578, NUREG-0737, and Regulatory Guide 1.97, Revision 2.

The Primary Containment High Range Radiation Monitor is provided to monitor the potential for significant radiation releases and to provide release assessment for use by operators in determining the need to invoke site emergency plans. The instrumentation provided for this function consists of redundant sensors, monitors and indicators. A common recorder in the control room continuously records signals from both channels. The redundant indicators in the relay room and the common recorder in the control room are the primary indication used by the operator during an accident.

Ensuring the operability of the PAM, including the Primary Containment High Range Radiation Monitor, enables the control room operating staff to determine whether systems important to safety are performing their intended functions; determine the potential for causing a gross breach of the barriers to radioactivity release; determine whether a gross breach has occurred; and initiate action necessary to protect the public and estimate the magnitude of any impending threat.

3.3 Improved Technical Specification (ITS) Conversion

In the Fermi 2 Technical Specification (TS), Fermi 2 TS Amendment 125, TS Table 4.3.7.5-1, "Accident Monitoring Instrumentation Surveillance Requirements," specified that Containment High Range Radiation Monitor channel calibration shall consist of an electronic calibration of the channel, not including the detector, for range decades above 10 R/hr and a one point calibration check of the detector below 10 R/hr with an installed or portable gamma source.

In September 1999, during implementation of Improved Technical Specification (ITS), Fermi 2 TS Amendment 134, the nomenclature of Containment High Range Radiation Monitor was revised to "Primary Containment High Range Radiation Monitor," and a NOTE that states, "Radiation detectors are excluded," was added to SR 3.3.3.1.2. Furthermore, detail of channel calibration requirement for the Containment High Range Radiation Monitor was removed from Fermi 2 Technical Specifications and relocated to plant procedures. The justification for this relocation during ITS implementation stated, "Regulatory control of changes to this requirement (e.g., Technical Specification amendment or 10 CFR 50.59) is not necessary to provide adequate protection of the public health and safety since the relocation of procedural detail from the

Technical Specifications does not change any requirement, including the requirement for Channel Calibrations, which continue to be required by the Technical Specifications."

The current Fermi 2 TS Number 3.3.3.1, "PAM Instrumentation," specifically, SR 3.3.3.1.2 excludes radiation detectors from channel calibration for each PAM Instrumentation function in Table 3.3.3.1-1. The exclusion of radiation detectors is applicable only to the Primary Containment High Range Radiation Monitor function. Fermi 2 plant surveillance procedures, 64.120.040, "Containment Area High Range Radiation Monitor Division 1 Calibration," and 64.120.041, "Containment Area High Range Radiation Monitor Division 2 Calibration," prescribe the method for performing the radiological calibration of the Primary Containment High Range Radiation Monitor Division 1 and 2, respectively.

Implementation of ITS conversion of Fermi 2 TS relocated the specific channel calibration requirement for the Primary Containment High Range Radiation Monitor to surveillance procedures 64.120.040 and 64.120.041. However, revision to surveillance procedures 64.120.040 and 64.120.041 in October 2001 erroneously deleted the requirement for the Primary Containment High Range Radiation Monitor calibration to be performed with a traceable, known source of radioactivity. Since that time, the 18-month calibration was performed by an electronic calibration of the instrument with only a qualitative radioactive verification of detector response.

3.4 NRC Inspection Finding

On March 21, 2007, a corrective action document was initiated to document an NRC identified concern of a potential deviation from a regulatory guidance requirement. The finding stated that the calibration of Primary Containment High Range Radiation Monitor may not conform to NUREG-0737, which requires a single point in-situ calibration that exposes the detectors to a known source of radiation in the range of 1 R/hr to 10 R/hr.

An evaluation of completed Primary Containment High Range Radiation Monitor 18-month surveillances identified that the last low range portable radiation source calibration in accordance with NUREG-0737, Table II.F.1-3, "Containment High-Range Radiation Monitor," requirements was completed in April 2000. Since then, five complete electronic calibrations were performed successfully on each Primary Containment High Range Radiation Monitor channel. The last electronic calibration was completed in March 2006. Based on the Primary Containment High Range Radiation Monitors adequate response to ambient radiation levels with the plant at power during performance of electronic calibrations, the monitors remain operable.

Primary Containment Area High Range Radiation Monitor surveillance procedures 64.120.040 and 64.120.041 have been revised to restore the low range radiation source calibration check per NUREG-0737 requirements. The next Primary Containment High Range Radiation Monitor calibration using low range portable radiation source will be performed during the Twelfth Refueling Outage (RFO 12) scheduled to start on September 29, 2007, since it requires the plant to be in a shutdown condition.

4.0 Technical Analysis

The Fermi 2 Primary Containment High Range Radiation Monitors are redundant monitors installed to meet the requirements of NUREG-0578, NUREG-0737, and Regulatory Guide 1.97, Revision 2. The Primary Containment High Range Radiation Monitor is provided to monitor the potential for significant radiation releases and to provide release assessment for use by operators in determining the need to invoke site emergency plans. The instrumentation provided for this function consists of redundant sensors, monitors and indicators. A common recorder in the control room continuously records signals from both channels. The redundant indicators in the relay room and the common recorder in the control room are the primary indication used by the operator during an accident.

The radiation detector is a General Atomic Model RD-23 detector which uses a gamma-ray ionization chamber with an internal U-234 source. An increasing rate of gamma rays increases the rate of ionization with proportional increases in the signal current output. The detector has a nominal range from 10^0 to 10^8 R/hr. The U-234 source serves as a means for self-check.

TS 3.3.3.1, "PAM Instrumentation," include a Surveillance Requirement to perform PAM instrumentation channel calibration as a complete check of the instrument loop, including the sensor. The calibration verifies the channel responds to the measured parameter with the necessary range and accuracy. The current calibration requirement for the Primary Containment High Range Radiation Monitor was established during conversion to ITS, Fermi 2 TS Amendment 134, which excludes radiation detectors from calibration check.

Based on a recent evaluation of Primary Containment High Range Radiation Monitor calibrations, it has been determined that the note excluding radiation detectors from the current channel calibration of Containment High Range Radiation Monitor in SR 3.3.3.1.2 is incorrect. Resolution of this condition is being addressed in the Fermi 2 corrective action program.

As previously described, the last low range radiation source calibration check performed for the Primary Containment High Range Radiation Monitor was completed in April 2000. Since surveillance procedures 64.120.040 and 64.120.041 were revised in October 2001 and the requirement for in-situ calibration of the detectors for at least one decade below 10 R/hr by means of calibrated radiation source was erroneously deleted, five complete electronic calibrations were performed successfully on each Primary Containment High Range Radiation Monitor channel.

Recorded Primary Containment High Range Radiation Monitor readings at power have been stable. The at power monitor readings recorded for each channel since April 2000 have been in the range of 7 to 11 R/hr. A recent at power reading was also near 7 R/hr, and during refueling outages, monitor background has been observed to be near 2 R/hr. During the last low range portable radiation source calibration performed in April 2000, the response for meter, recorder, and Emergency Response Information System (ERIS) point were well within the allowed 20

percent tolerance from the radioactive source decay corrected dose rate for both channels. The meter and recorder responses, which determine whether the surveillance acceptance criteria are met, showed a maximum deviation of 14 percent from the expected readings.

Therefore, based on the Primary Containment High Range Radiation Monitors adequate response to ambient radiation levels during performance of electronic calibrations, and results from the last low range portable radiation source calibration check in April 2000, it is determined that the monitors remain operable.

This License Amendment request proposes to delete the note excluding radiation detectors from the channel calibration requirement in SR 3.3.3.1.2. Information is being added to TS Bases SR 3.3.3.1.2 to describe monitor calibration and the single point calibration requirement for the detectors.

5.0 Regulatory Safety Analysis

5.1 No Significant Hazards Consideration

In accordance with 10 CFR 50.92, Detroit Edison has made a determination that the proposed amendment involves no significant hazards consideration. The proposed change to delete the note excluding radiation detectors from the channel calibration requirement in Technical Specification (TS) 3.3.3.1 Surveillance Requirement (SR) 3.3.3.1.2 does not involve a significant hazards consideration for the following reasons:

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

   Primary Containment Radiation Monitors are part of the post accident monitoring instrumentation. Deleting the note excluding radiation detectors from the channel calibration requirement in TS 3.3.3.1 surveillance requirement does not adversely affect any of the parameters in the accident analyses. Changing the calibration requirement does not affect the probability of evaluated accidents. Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

   Deleting the note excluding radiation detectors from channel calibration requirement in TS 3.3.3.1 surveillance requirement supports the design and qualification of the primary containment high range radiation monitor per NUREG-0737, Table II.F.1-3 requirements. The change in the primary containment high range radiation monitor calibration ensures the capability and reliability of the monitor during and following an accident. These monitors

provide only indication. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

   This proposed license amendment involves a change in the channel calibration surveillance of primary containment high range radiation monitor in TS 3.3.3.1. The surveillance frequency is unchanged. The change in primary containment high range radiation monitor channel calibration adds requirements for detector calibration to TS 3.3.3.1. Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, Detroit Edison has determined that the proposed license amendment does not involve a significant hazards consideration.

5.2 Applicable Regulatory Requirements

Regulatory Guide 1.97, Revision 2 (Reference 1), "Instrumentation for Light Water Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," states, in part, "...indications of plant variables that provide information on operation of plant safety systems and other systems important to safety are required by the control room operating personnel during an accident to (1) furnish data regarding the operation of plant systems in order that the operator can make appropriate decisions as to their use and (2) provide information regarding the release of radioactive materials to follow for early indication of the need to initiate action necessary to protect the public and for an estimate of the magnitude of any impending threat."

NUREG-0737, "Clarification of TMI Action Plan Requirements," states, in part, "In containment radiation-level monitors with a maximum range of 10^8 rad/hr shall be installed. A minimum of two such monitors that are physically separated shall be provided. Monitors shall be developed and qualified to function in an accident environment."

This proposed TS change does not affect the Fermi 2 compliance with these regulatory requirements as discussed in the Fermi 2 Updated Final Safety Analysis Report (UFSAR).

6.0 Environmental Considerations

Detroit Edison has reviewed the proposed change against the criteria of 10 CFR 51.22 for environmental considerations. The proposed change does not involve a significant hazards consideration, nor does it significantly change the types or significantly increase the amounts of effluents that may be released offsite. The proposed change does not significantly increase individual or cumulative occupational radiation exposures. Based on the foregoing, Detroit Edison concludes that the proposed change meets the criteria provided in 10 CFR 51.22(c)(9) for

a categorical exclusion from the requirements for an Environmental Impact Statement or an Environmental Assessment.

7.0 References:

1) U. S. Nuclear Regulatory Commission Regulatory Guide 1.97, "Instrumentation for Light Water Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," Rev. 2, December 1980.

2) NUREG-0737, "Clarification of TMI Action Plan Requirements," November 1980.

3) NUREG-0578, "TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations," July 1979.

ATTACHMENT 2
TO NRC-07-0036

FERMI 2 NRC DOCKET NO. 50-341
OPERATING LICENSE NO. NPF-43

REQUEST TO DELETE NOTE ASSOCIATED WITH PRIMARY CONTAINMENT HIGH RANGE RADIATION MONITOR CHANNEL CALIBRATION IN TECHNICAL SPECIFICATION 3.3.3.1

MARKED-UP TECHNICAL SPECIFICATION PAGE

Affected Page:
3.3-26

SURVEILLANCE REQUIREMENTS

NOTE
These SRs apply to each Function in Table 3.3.3.1-1.

	SURVEILLANCE	FREQUENCY
SR 3.3.3.1.1	Perform CHANNEL CHECK.	31 days
SR 3.3.3.1.2	NOTE Radiation detectors are excluded	
	Perform CHANNEL CALIBRATION.	18 months

ATTACHMENT 3
TO NRC-07-0036

FERMI 2 NRC DOCKET NO. 50-341
OPERATING LICENSE NO. NPF-43

REQUEST TO DELETE NOTE ASSOCIATED WITH PRIMARY CONTAINMENT HIGH RANGE RADIATION MONITOR CHANNEL CALIBRATION IN TECHINAL SPECIFICATION 3.3.3.1

CLEAN TECHNICAL SPECIFICATION PAGE

New Page:
3.3-26

SURVEILLANCE REQUIREMENTS

---NOTE---
These SRs apply to each Function in Table 3.3.3.1-1.

SURVEILLANCE		FREQUENCY
SR 3.3.3.1.1	Perform CHANNEL CHECK.	31 days
SR 3.3.3.1.2	Perform CHANNEL CALIBRATION.	18 months

ATTACHMENT 4
TO NRC-07-0036

FERMI 2 NRC DOCKET NO. 50-341
OPERATING LICENSE NO. NPF-43

REQUEST TO DELETE NOTE ASSOCIATED WITH PRIMARY CONTAINMENT HIGH RANGE RADIATION MONITOR CHANNEL CALIBRATION IN TECHNICAL SPECIFICATION 3.3.3.1

MARKED-UP TECHNICAL SPECIFICATION BASES PAGE
(For Information Only)

Affected page:
B 3.3.3.1-11

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.3.1.2

CHANNEL CALIBRATION is a complete check of the instrument loop, including the sensor. The test verifies the channel responds to measured parameter with the necessary range and accuracy.

The 18 month Frequency for all channels is based on operating experience and consistency with the typical industry refueling cycles.

SR 3.3.3.1.2 is modified by a Note stating that radiation detectors are excluded from calibration requirements.

REFERENCES

1. Regulatory Guide 1.97, "Instrumentation for Light Water Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," Rev. 2, December 1980.

2. Detroit Edison Letter NRC-89-0148, "Additional Clarification to Fermi 2 Compliance to Regulatory Guide 1.97, Revision 2," dated June 19, 1989.

3. Detroit Edison Letter NRC-89-201, "Regulatory Guide 1.97 Revision 2 Design Review," dated September 12, 1989.

INSERT :

The CHANNEL CALIBRATION for Primary Containment High Range Radiation Monitor shall consist of an electronic calibration of the channel, not including the detector, for range decades above 10 R/hr and a one point calibration check of the detector below 10 R/hr with an installed or portable gamma source.