



William S. Oreser
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Nuclear
Operations

March 27, 1992
NRC-92-0001

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

- References:
- 1) Ferri 2
NRC Docket No. 50-341
NRC License No. NPF-43
 - 2) General Electric BWR Owners' Group
Topical Report, NEDC-32013P,
"System Analyses for the Elimination of
Selected Response Time Testing Requirements,"
March 1992 (proprietary)

Subject: Proposed Technical Specification Change
(License Amendment) for Selected Response
Time Testing Requirements

Pursuant to 10CFR50.90, Detroit Edison Company hereby proposes to amend Operating License NPF-43 for the Ferri 2 plant by incorporating the enclosed changes into the Plant Technical Specifications. The proposed changes eliminate a number of response time testing requirements based on the Reference 2 BWR Owners' Group Topical Report which provides the technical justification for these removals. The Reference 2 Topical Report has been submitted for review under separate cover by the BWR Owners' Group. Additionally, it has been determined appropriate to add an instrumentation response time requirement to the Isolation Actuation System Response Time table for the Main Steam Line Flow-High signal. This new surveillance requirement has already been incorporated into the plant surveillance procedures.

This amendment eliminates unnecessary response time testing, thereby eliminating all inadvertent safety system actuation risk caused by installation and removal of temporary test jumpers used for response time testing. Out of service time for the instrumentation channels due to this unnecessary testing is also eliminated. Additionally, a significant reduction in I&C technician outage work scope will occur which will allow deployment of those resources to other more important activities. For these reasons, approval of these changes is requested prior to the plant's third refueling outage which is scheduled to

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begin in September, 1992. In order to allow for site document changes a 30 day implementation period is requested for this proposal.

Enclosure 1 provides a description and evaluation of the proposed changes.

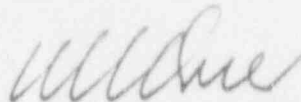
Enclosure 2 provides an analysis of the significant hazards consideration assessment using the standards in 10CFR50.92.

Enclosure 3 provides marked up pages of the existing Technical Specifications to show the proposed changes and a typed version of the affected Technical Specification pages with the proposed changes incorporated.

Detroit Edison has evaluated the proposed Technical Specifications against the criteria of 10CFR50.92 and determined that no significant hazards consideration is involved. The Fermi 2 Onsite Review Organization has approved and the Nuclear Safety Review Group has reviewed the proposed Technical Specifications and concurs with the enclosed determinations. In accordance with 10CFR50.91, Detroit Edison has provided a copy of this letter to the State of Michigan.

If you have any questions, please contact Mr. Glen D. Ohlemacher at (313) 586-4275.

Sincerely,



Enclosures

cc: T. G. Colburn
R. W. DeFayette
J. F. Starg
S. Stasek
Supervisor, Electric Operators, Michigan
Public Service Commission - J. R. Padgett

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I, WILLIAM S. ORSER, 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.

William S. Orser

WILLIAM S. ORSER
Senior Vice President

On this 27th day of March, 1992, before me personally appeared William S. Orser, being first duly sworn and says that he executed the foregoing as his free act and deed.

Rosalie A. Armetta
Notary Public

ROSALIE A. ARMETTA
NOTARY PUBLIC STATE OF MICHIGAN
MONROE COUNTY
MY COMMISSION EXP. NOV. 20, 1995

ENCLOSURE 1

DESCRIPTION AND EVALUATION
OF THE PROPOSED CHANGES

ENCLOSURE 1

FERMI 2
NRC DOCKET 50-341
OPERATING LICENSE NPF-43

REQUEST TO REVISE TECHNICAL SPECIFICATIONS:
RESPONSE TIME TESTING

BASIS FOR CHANGE REQUEST

BACKGROUND:

This proposed change is to eliminate from Technical Specifications selected response time testing requirements. Specifically, the response time testing requirements to be eliminated are for the 1) Reactor Protection System instrumentation, 2) Isolation System instrumentation, and 3) Emergency Core Cooling System instrumentation. An analysis has been performed demonstrating that response time testing is redundant to other periodic tests required by Technical Specifications, such as channel calibrations, channel checks, channel functional tests, and logic system functional tests, which provide adequate assurance that instrument response times are within acceptance limits in place of response time testing.

In addition to the deletions it has been determined that a 0.5 second response time testing requirement should be added for the Main Steam Line Flow-High isolation actuation instrumentation.

BASIS:

Regulatory Guide 1.118 (Revision 2) states:

"Response time testing of all safety related equipment, per se, is not required if, in lieu of response time testing, the response time of the safety equipment is verified by functional testing, calibration checks or other tests, or both. This is acceptable if it can be demonstrated that changes in response time beyond acceptable limits are accompanied by changes in performance characteristics which are detectable during routine tests."

An analysis has been performed by General Electric (GE) and the BWR Owners' Group which provides the basis for eliminating selected response time testing requirements (see Reference 1). The analysis was performed for two representative BWRs, one of which is Fermi 2. The applicability of this analysis to Fermi 2 has been verified by GE.

The analysis includes the identification of all potential failure modes of all components in the affected instrumentation loops which could potentially impact the instrument loop response time. In addition, plant operating experiences were reviewed to identify response time failures and how they were detected. The failure modes identified were then evaluated to determine if the effect on

response time would be detected by other testing requirements contained in Technical Specifications.

The results of the analysis demonstrate that response time testing is redundant to the other Technical Specification testing requirements (channel calibration, channel check, channel functional test, and logic system functional test). These other tests are sufficient to identify failure modes or significant degradation. Instrument response time and assure operation of the analyzed instrument loops within acceptance limits. Furthermore, there are no failure modes that can be detected by response time testing that cannot also be detected by other Technical Specification tests.

The Reference 1 evaluations demonstrate that response time testing can be eliminated for the following:

- 1) All Emergency Core Cooling System instrument loops;
- 2) All Isolation System actuation instrument loops except for main steam line isolation valves (MSIVs);
- 3) Sensors for selected Reactor Protection System actuation; and
- 4) Sensors for MSIV closure actuation.

EPRI Report NP-7243 (Reference 2) identified cases where response time testing did not detect the slow loss of instrument transmitter fill oil. However, Drift Analysis and other techniques are available to detect the resulting change in instrument performance. Detroit Edison has addressed slow loss of fill oil in response to NRC Bulletin 90-01 (Reference 3).

The addition of the main steam line flow isolation response time requirement of less than or equal to 0.5 seconds is necessary because that time is consistent with the assumptions used in the main steam line break accident analyses in the plant's Updated Final Safety Analysis Report (Ref. UFSAR Table 15.6.4-1). Response time testing of this 0.5 second requirement is also consistent with the standard technical specifications and industry practice for plants of similar vintage and elimination of the requirement has not been justified by the referenced BWR Owners' Group report. Accordingly, the requested 0.5 second instrumentation response time requirement to the Main Steam Isolation Valves (MSIVs) has already been added to the plant surveillance procedure requirements.

SIGNIFICANT HAZARDS CONSIDERATION

The significant hazards consideration assessment is presented in Enclosure 2 and concludes that the proposed amendment does not involve a significant hazards consideration.

ENVIRONMENTAL IMPACT

Detroit Edison has reviewed the proposed Technical Specification changes against the criteria of 10CFR51.22 for environmental considerations. The proposed change does not involve a significant hazards consideration, nor significantly change the types or significantly increase the amounts of effluents that may be released offsite, nor significantly increase individual or cumulative occupational radiation exposures. Based on the foregoing, Detroit Edison concludes that the proposed Technical Specifications do meet the criteria given in 10CFR51.22(c)(9) for a categorical exclusion from the requirements for an Environmental Impact Statement.

CONCLUSION

Based on the evaluation above: 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 proposed amendments will not be inimical to the common defense and security or to the health and safety of the public.

Reference:

1. NEDC-32913P, "System Analyses for the Elimination of Selected Response Time Testing Requirements", March 1992.
2. EPRI NP-7243, "Investigation of Response Time Testing Requirements", May 1991.
3. Detroit Edison Letter to NRC, NRC-90-0179, "Updated Response to NRC Bulletin NRC-01," dated January 18, 1991.

ENVIRONMENTAL IMPACT

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Based on the evaluation above: 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 proposed amendments will not be inimical to the common defense and security or to the health and safety of the public.

Reference:

1. NEDC-32013P, "System Analyses for the Elimination of Selected Response Time Testing Requirements", March 1992.
2. EPRI NP-7243, "Investigation of Response Time Testing Requirements", May 1991.
3. Detroit Edison Letter to NRC, NRC-90-0179, "Updated Response to NRC Bulletin 90-01," dated January 18, 1991.

ENCLOSURE 2

SIGNIFICANT HAZARDS CONSIDERATION ASSESSMENT

ENCLOSURE 2

FERMI 2
NRC DOCKET 50-341
OPERATING LICENSE NPF-43

REQUEST TO REVISE TECHNICAL SPECIFICATIONS:
RESPONSE TIME TESTING

10CFR50.92 EVALUATION

BASIS FOR SIGNIFICANT HAZARDS DETERMINATION:

The proposed Technical Specification changes described in Enclosure 1 do not involve a significant hazards consideration for the following reasons:

1. The changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

The purpose of the proposed Technical Specification changes is to eliminate response time testing requirements for selected instrument loops in the Reactor Protection System, Isolation System, and Emergency Core Cooling System. However, because of the continued application of other, redundant Technical Specification testing requirements such as channel calibrations, channel checks, channel functional tests, and logic system functional tests, and other techniques employed to detect the slow loss of oil in selected sensors, the response time of these systems will be maintained within the acceptance limits assumed in plant safety analyses and required for successful mitigation of an initiating event. The proposed Technical Specification changes do not affect the capability of the associated systems to perform their intended function within their required response time.

GE and the BWR Owners' Group have completed an evaluation (Reference 1) which demonstrates that response time testing is redundant to the other Technical Specification testing requirements and other techniques listed in the preceding paragraph. These other tests and/or techniques are sufficient to identify failure modes or degradations in instrument response time and assure operation of the associated systems within acceptance limits. There are no failure modes that can be detected by response time testing that cannot also be detected by the other Technical Specification tests.

The proposed more stringent requirements of less than 0.5 second instrumentation response time to MSIV actuation for the main steam line flow-high instrumentation is identical to the time used in the safety analyses and thus has no effect on the probability or consequences of accidents evaluated by those analyses.

2. The changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

As discussed above, the proposed Technical Specification changes do not affect the capability of the associated systems to perform their intended function within the acceptance limits assumed in plant safety analyses and required for successful mitigation of an initiating event. Other than the elimination of selected response time tests and the addition of the more stringent main steam line flow-high instrumentation response time acceptance criteria, there are no changes to plant equipment or procedures.

3. The changes do not involve a significant reduction in the margin of safety.

The current Technical Specification response times are based on the maximum allowable values assumed in the plant safety analyses. These analyses conservatively establish the margin of safety. As described above, the proposed Technical Specification changes do not affect the capability of the associated systems to perform their intended function within the allowed response time used as the basis for the plant safety analyses. Plant and system response to an initiating event will remain in compliance within the assumptions of the safety analyses, and therefore the margin of safety is not affected.

Although not explicitly evaluated, the proposed Technical Specification changes may increase the margin of safety, by:

- a) Reducing the amount of time that systems are out-of-service for the performance of response time testing;
- b) Eliminating inadvertent actuations of Engineered Safety Features caused by temporary circuit alterations installed and removed to accomplish response time testing; and
- c) Reducing wear-and-tear on instrumentation resulting from unnecessary (as demonstrated by Reference 1) additional testing.

Reference:

1. NEDC-32013P, "System Analyses for the Elimination of Selected Response Time Testing Requirements", March 1992.

ENCLOSURE 3

FERMI 2
NRC DOCKET 50-341
OPERATING LICENSE NFF-43

REQUEST TO REVISE TECHNICAL SPECIFICATIONS:
RESPONSE TIME TESTING

TECHNICAL SPECIFICATION CHANGES
AND
PAGE CHANGE INSTRUCTIONS

Attached are mark-ups of the existing Technical Specifications, indicating the proposed changes, and a typed version of the Technical Specifications incorporating the proposed changes. Provided below are instructions for incorporating these pages into the Technical Specifications.

Remove Page

3/4 3-6
3/4 3-18
3/4 3-19
3/4 3-29

Insert Page

3/4 3-6
3/4 3-18
3/4 3-19
3/4 3-29