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July 29, 1993
NRC-93-0078

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

- References:
- 1) Fermi 2
NRC Docket No. 50-341
NRC License No. NPF-43
 - 2) Detroit Edison letter to NRC, NRC-93-0062,
dated May 24, 1993

Subject: Proposed Technical Specification Change (License Amendment) - Implementation of Revised 10CFR20

Pursuant to 10CFR50.90, Detroit Edison Company hereby proposes to amend Operating License NPF-43 for the Fermi 2 plant by incorporating the enclosed changes into the Plant Technical Specifications. The proposed change supports Fermi 2 compliance with the new requirements of 10CFR20. Fermi 2 is currently scheduled to fully implement the requirements of the new 10CFR20 on October 1, 1993. Therefore, Detroit Edison requests that the license amendment be approved prior to October 1, 1993, but not be required to be implemented until that date.

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,

D. R. Gipson

Enclosure

- cc: T. G. Colburn
W. J. Kropp
J. B. Martin
M. P. Phillips
Supervisor, Electric Operators, Michigan
Public Service Commission - J. R. Padgett

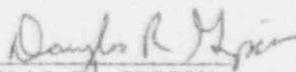
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I, DOUGLAS R. GIPSON, do hereby affirm that the foregoing statements are based on facts and circumstances which are true and accurate to the best of my knowledge and belief.


DOUGLAS R. GIPSON
Senior Vice President

On this 29th day of July, 1993, before me personally appeared Douglas R. Gipson, being first duly sworn and says that he executed the foregoing as his free act and deed.


Notary Public

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

INTRODUCTION

On May 21, 1991, the Nuclear Regulatory Commission (NRC) issued a revision to its standards for protection against ionizing radiation, 10CFR Part 20. The purpose of the revision to 10CFR20 was to modify the NRC's radiation protection standards to reflect developments in the principles and scientific knowledge underlying radiation protection and to reflect changes in the basic philosophy of radiation protection. In addition, the revision addresses International Radiation Protection Standards in order to achieve a better level of uniformity with the requirements of other nations.

The revised Part 20 became effective on June 20, 1991; however, in accordance with more recent provisions, licensees may defer implementation of the revised rule until January 1, 1994. The new requirements are currently scheduled to be implemented at Fermi 2 on October 1, 1993. This proposal involves changes to Fermi 2 Technical Specifications to reflect implementation of the revised Part 20 at Fermi 2.

EVALUATION

The following changes to the Fermi 2 Technical Specifications are being proposed:

1. Definitions 1.21, Member(s) of the Public, and 1.45, Unrestricted Area, are being revised to conform to the definitions of these terms as provided in section 20.1003.

These changes are administrative in nature to incorporate the corresponding new 10 CFR Part 20 definitions.

2. Technical Specification 6.8.5.e is being revised to provide proper references to 10 CFR Part 20 as a result of the new section numbers. Specifically, Specifications 6.8.5.e.2 is being revised to reference Appendix B, Table 2, as opposed to the currently referenced Table II, and Specification 6.8.5.e.3 is being revised to reference 10 CFR 20.1302 as opposed to 10 CFR 20.106.

These changes are administrative in nature to incorporate the corresponding new 10 CFR Part 20 section numbers and table number.

3. Technical Specification 6.8.5.e.2 is being revised to read as follows:

"2. Limitations on the concentrations of radioactive material released in liquid effluents to UNRESTRICTED AREAS conforming to ten times the concentration values in 10 CFR Part 20.1001 - 20.2401, Appendix B, Table 2, Column 2;"

As stated in the Introduction to Appendix B of the revised 10 CFR Part 20, the liquid effluent concentration values given in Appendix B, Table 2, Column 2, are concentrations which, if inhaled or ingested continuously for one year, would produce a total effective dose equivalent of 50 millirem. The liquid effluent concentration values given in the old 10 CFR Part 20 are concentrations which, if continuously present, would produce a dose of 500 millirem in a year, and therefore the new effluent concentration values are more restrictive by a factor of 10. Therefore, modifying the new 10 CFR 20 concentration limits, by a factor of 10, to bring them on a par with old 10 CFR 20 concentration limits will not affect compliance with liquid effluent dose limits.

Regardless of which liquid effluent concentration values are used, this proposed change will not affect Fermi 2's compliance with section 20.1301 of the revised 10 CFR Part 20, Dose Limits for Individual Members of the Public, because Fermi 2 will continue to conform to the much more restrictive liquid effluent dose limits of 10 CFR Part 50 and 40 CFR Part 190. Also, since cumulative dose to the maximally exposed member of the public is evaluated prior to each batch liquid release, comparison of release concentration values to the Appendix B values is not necessary to ensure compliance with any dose limits.

Using release concentration limits on a par with old 10 CFR 20 limits has two advantages. It will allow ongoing operational flexibility with respect to concentration limits while maintaining quarterly and annual cumulative dose limits. This type of operational flexibility is discussed in 10 CFR Part 50.36a. Second, it will maintain the current range of liquid effluent monitor setpoints. It is impractical to base such setpoints on substantially lower concentration limits, given the sensitivity and background count rate levels of the installed monitors.

4. Technical Specification 6.8.5.e.7 is being revised to read as follows:

- "7. Limitations on the dose rate resulting from radioactive material released in gaseous effluents from the site to areas at or beyond the SITE BOUNDARY shall be limited to the following:
- a. For noble gases: less than or equal to 500 mrem/yr to the total body and less than or equal to 3000 mrem/yr to the skin, and
 - b. For Iodine-131, for Iodine-133, for tritium, and for all radionuclides in particulate form with half-lives greater than 8 days: less than or equal to 1500 mrem/yr to any organ;"

As with liquid effluents, Fermi 2 will ensure compliance with section 20.1301 of the revised 10 CFR Part 20, "Radiation Dose limits for Individual Members of the Public, by conforming to the very restrictive effluent dose limits of 10 CFR Part 50 and 40 CFR Part 190. Fermi 2 does not rely on 10 CFR Part 20 Appendix B concentration values to ensure compliance with instantaneous gaseous release limits. Instead, Fermi 2 relies on the dose rate limits shown above as instantaneous site boundary limits and as the basis for gaseous effluent monitor setpoints. These limits are found in NUREG-0133, which recommends them to ensure compliance with the gaseous effluent specifications of the old 10 CFR Part 20.

Since regulatory compliance is ensured by presently used methods, there is no need to require comparison of gaseous effluent release concentrations with the Appendix B, Table 2 limits of the revised 10 CFR Part 20. This is especially true since the revised limits are based on 50 mrem/year, versus a basis of 500 mrem/year of the old 10 CFR Part 20. Requiring such comparison could limit operational flexibility, as discussed in 10 CFR Part 50.36a, and could result in impractical setpoint values, given the sensitivity and background count rate levels of installed gaseous effluent monitors.

5. Technical Specification 6.9.1.5.a is being revised to indicate that the annual tabulation of individuals receiving greater than 100 mrem/yr includes only those individuals for whom monitoring was required.

This TS requires a report to be submitted annually which includes a tabulation of individuals receiving exposures greater than 100 mrem/yr and their associated person-rem exposure according to work and job functions. Since the revised 10 CFR 20 only

requires monitoring for certain individuals as defined in 10 CFR 20.1502, TS 6.9.1.5.a is being revised to clearly identify the individuals who are tabulated in the annual report. This change will not alter any of the requirements or responsibilities for protection of the public and employees against radiation hazards.

This is an administrative change which provides clarification and consistency among all reporting requirements.

6. Note "*" of Technical Specification 6.9.1.5.a is being revised to reference Section 20.2206 vice Section 20.407.

This change is administrative in nature to incorporate the corresponding new 10 CFR Part 20 section number.

7. Technical Specification 6.10.2.f is being deleted and moved to 6.10.3.o. The remaining items in Specification 6.10.2 are being relettered as appropriate.

This change ensures records of radioactive shipments are retained for the duration of the Operating License, in accordance with 10 CFR 20.2108(b).

8. Technical Specification 6.10.3.c is being revised to provide clarification consistent with the requirements in the revised 10 CFR Part 20.

Specifically, the revision requires retention of dose records only for those individuals for whom monitoring is required as opposed to all individuals who enter radiation control areas.

9. Technical Specification 6.12.1 is being revised to reference paragraph 20.1601 vice Section 20.203(c)(2).

This change is administrative in nature to incorporate the corresponding new 10 CFR Part 20 section number.

In the associated footnote * and in Technical Specification 6.12.1.c the term "health physics" is being changed to "radiation protection" to reflect Fermi 2 organizational groups.

Similar changes were proposed in the Reference 2 TS change proposal. In this proposal, the title Radiation Protection Technician is being changed to Radiation Protection Supervisor to reflect the approving level of authority for Radiation Work Permits. The Reference 2 changes are reflected in the attached TS changes.

10. Technical Specification 6.12.2 is being revised to provide wording and measurement distances consistent with the definition of high radiation area in 20.1003 and to identify the maximum dose associated with a high radiation area.

The revised 10 CFR Part 20 provides a new definition of a high radiation area which provides controls for areas accessible to individuals based on a radiation level measurement made at 30 cm. The proposed changes address the rule's revised wording and the note "*" of TS 6.12.2 is being revised to read, "*Measurements made at 30 cm from sources of radioactivity."

The replacement of "a major portion of the body" with "an individual" conforms to the revised 10 CFR Part 20, which states the high radiation area dose limit in terms of deep-dose equivalent which applies to external whole body exposure.

The revised 10 CFR Part 20 also requires that additional controls be in place to prevent unauthorized or inadvertent access to very high radiation areas. Very high radiation areas are those areas where radiation levels are 500 rads or more in one hour at one meter from a radiation source. The TS has been revised to acknowledge the new upper limit (<500 rads) on the determination of a high radiation area. This will ensure that the measures which are in place for controlling access to high radiation areas are not used for very high radiation areas which require additional controls.

11. Technical Specification 6.14.2.a.2 is being revised to reference 10 CFR 20.1302 vice 10 CFR 20.106.

This change is administrative in nature to incorporate the corresponding new 10 CFR Part 20 section number.

12. The Bases section for Technical Specification 3/4.11.1.4 is being revised to reference Appendix B, Table 2, vice Table II.

This change is administrative in nature to incorporate the corresponding new 10 CFR Part 20 table number.

SIGNIFICANT HAZARDS CONSIDERATION

In accordance with 10CFR50.92, Detroit Edison has made a determination that the proposed amendment involves no significant hazards considerations. To make this determination, Detroit Edison must establish that operation 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) involve a significant reduction in a margin of safety.

The proposed change to revise 10CFR20 references to recognize the new section numbers, definitions to ensure consistency with 10CFR20, and administrative controls for record keeping to maintain compliance with the new Part 20, does not:

- 1) Involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed changes do not impact the operation or design of any plant structures, systems or components. As a result, this proposed change cannot increase the probability or the consequences of any accident previously evaluated.

- 2) Create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed changes do not affect the plant design or operation. As a result, this proposed change cannot create the possibility of a new or different kind of accident from any accident previously evaluated.

- 3) Involve a significant reduction in a margin of safety.

The proposed changes do not affect the plant design or operation. The changes will not increase the amounts or change the types of effluents that may be released offsite, nor do they significantly increase individual or cumulative occupational radiation exposures. These changes only ensure compliance with revised 10CFR20. With respect to the change in the measurement distance for high radiation areas, this is a conservative change which requires measurements to be made at a closer distance to the source of radiation. These changes do not alter any of the requirements or responsibilities for protection of the public and employees against radiation hazards. As a result, these changes cannot reduce a margin of safety.

The proposed change to the liquid and gaseous release rate requirements does not:

- 1) Involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed revisions will not result in a significant change to the types or amounts of effluents released nor will there be an increase in individual or cumulative radiation exposures. In addition, these changes do not impact the operation or design of any plant structures, systems or components. Therefore, it can be concluded that the proposed changes do not involve an increase in the probability or consequences of an accident previously evaluated.

- 2) Create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed changes do not affect the plant design or operation nor do they result in a change to the configuration of any equipment. There will be no significant change in types or increase in the amount of effluents released off-site. As a result, this proposed change cannot create the possibility of a new or different kind of accident from any previously evaluated.

- 3) Involve a significant reduction in a margin of safety.

The proposed revisions do not involve any significant change in the types or increase in the amount of effluents released off-site. The proposed changes do not involve any actual change in the methodology used in the control of radioactive wastes or radiological environmental monitoring. For liquid effluents, the basis of the new limits is 10 times 50 mrem per year, which is the same as the previous basis of 500 mrem/year. For gaseous effluents, the proposed change will incorporate into the Technical Specifications the currently used compliance criteria. The methodology that will be used in the control of radioactive effluents and calculation of effluent monitor setpoints will result in the same effluent release rate as the current methodology now being used. Therefore, these changes do not involve a significant reduction in a margin of safety.

Based on the above, Detroit Edison has determined 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. The net effect of the changes to liquid and gaseous effluent specifications is to maintain effluent controls at current levels. Also, although the proposed changes relate to 10 CFR Part 20, Fermi 2 will continue to use the much more restrictive limits of 10 CFR Part 50 and 40 CFR Part 190 to evaluate compliance with the radiation dose limits to members of the public found in the revised 10 CFR Part 20. Therefore, the proposed changes meet the criteria of 10 CFR 50 Part 51.22(c)(9) for a categorical exclusion from an environmental analysis or 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.