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

Docket Nos. 50-16
50-341

AMENDMENT TO INDEMNITY AGREEMENT NO. B-20
AMENDMENT NO. 26

Effective March 20, 1985 , Indemnity Agreement No. B-20, between The Detroit Edison Company, Wolverine Power Supply Cooperative, Inc. and the Atomic Energy Commission, dated March 26, 1962, as amended, is hereby further amended as follows:

Item 2a. of the Attachment to the indemnity agreement is deleted in its entirety and the following substituted therefor:

Item 2 - Amount of financial protection

a. $ 1,000,000 (From 12:01 a.m., January 25, 1961, to 12:00 midnight, July 10, 1963 inclusive)

$ 1,500,000 (From 12:01 a.m., July 11, 1963, to 12:00 midnight, December 16, 1965 inclusive)

$ 3,500,000 (From 12:01 a.m., December 17, 1965, to 12:00 midnight, March 21, 1966 inclusive)

$12,100,000 (From 12:01, March 22, 1966, to 12:00 midnight, July 5, 1966 inclusive)

$18,000,000 (From 12:01 a.m., July 6, 1966, to 12:00 midnight, August 6, 1967 inclusive)

$22,200,000 (From 12:01 a.m., August 7, 1967, to 12:00 midnight, October 8, 1970 inclusive)

$29,600,000 (From 12:01 a.m., October 9, 1970, to 12:00 midnight, October 15, 1970 inclusive)

$44,400,000 (From 12:01 a.m., October 16, 1970, to 12:00 midnight, December 31, 1972 inclusive)

$1,000,000 (From 12:01 a.m., January 1, 1973, to 12:00 midnight, March 19, 1985

$160,000,000* (From 12:01 a.m., March 20, 1985)

Item 3 of the Attachment to the indemnity agreement is deleted in its entirety and the following substituted therefor:

Item 3 - License number or numbers

SNM-426 (From 12:01 a.m., January 25, 1961, to 12:00 midnight, July 10, 1963 inclusive)

DPR-9 (From 12:01 a.m., July 11, 1963)

SNM-1915 (From 12:01 a.m., May 31, 1983, to 12:00 midnight inclusive)

NPF-33 (From 12:01 a.m., March 20, 1985)

Item 5 of the Attachment to the indemnity agreement is amended by adding the following:

Nuclear Energy Liability Policy (Facility Form) No. MF-120, issued by Mutual Atomic Energy Liability Underwriters.

FOR THE UNITED STATES NUCLEAR REGULATORY COMMISSION

Jerome Saltzman, Assistant Director
State and Licensee Relations
Office of State Programs

Accepted _____, 1985

By _____
THE DETROIT EDISON COMPANY

Accepted _____ 1985

By _____
WOLVERINE POWER SUPPLY COOPERATIVE

* and, as of August 1, 1977, the amount available as secondary financial protection.

ENCLOSURE 4

ASSESSMENT OF THE EFFECT OF LICENSE DURATION ON MATTERS DISCUSSED IN THE FINAL ENVIRONMENTAL STATEMENT FOR THE FERMI-2 FACILITY (DATED AUGUST 1981)

INTRODUCTION

The Final Environmental Statement (FES) for the operation of the Fermi-2 facility was published in August 1981. At that time it was staff practice to issue operating licenses for a period of 40 years from the date of the construction permit. For Fermi-2, the CP was issued in September 1972; thus, about 27 years of operating life would be available.

In its letter dated August 31, 1983, the Detroit Edison Company requested that the operating license for Fermi-2 have a duration of 40 years from the date of issuance. Additional justification was provided by letter dated February 1, 1985.

DISCUSSION

The staff has reviewed the Fermi-2 FES to determine which aspects considered in the FES are affected by the duration of the operating license. In general, the FES assesses various impacts associated with operation of the facility in terms of annual impacts and balances these against the anticipated annual energy production benefits. Thus, the overall assessment and conclusions would not be dependent on a specific operating life. There are, however, two areas in which a specific operating life was assumed:

1. Radiological assessments are based on a 15-year plant midlife.

2. Uranium fuel cycle impacts are based on one initial core load and annual refuelings.

These were assessed to determine whether the use of a 40-year operating period rather than a 30-year operating period would significantly affect our assessment concerning these areas.

EVALUATION:

The staff's appraisal of the significance of the use of 40 years of operation rather than 30 as it affects these three areas is presented in the following discussions:

1. Radiological Assessments - The NRC staff calculates dose commitments to the human population residing around nuclear power reactors to assess the impact on people from radioactive material released from these reactors. The annual dose commitment is calculated to be the dose which would be received over a 50-year period following the intake of radioactivity for 1 year under the conditions which would exist 15 years after the plant began operation.

   The 15-year period is chosen as representing the midpoint of plant operation and factors into the dose models by allowing for buildup of long-life radionuclides in the soil. It affects the estimated doses only for radionuclides ingested by humans which have half-lives greater than a few years. For a plant licensed for 40 years, increasing the buildup period from 15 to 20 years would increase the dose from long life radionuclides via the ingestion pathways by 33 percent at most. It would have much less effect on doses from shorter-life radionuclides. Tables 4.6 and 4.7 in the Fermi-2 FES indicate that the estimated doses via the ingestion pathways are less than the regulatory design objectives. For example, the ingestion dose to the thyroid is 7.0 mrem/yr compared to an Appendix I design objective of 15 mrem/yr. Thus, even with an increase of as much as 33 percent in these pathways, the estimated doses would still remain within the Appendix I guidelines.

2. Uranium Fuel Cycle Impacts - The impacts of the uranium fuel cycle are based on 30 years of operation of a model light water reactor (LWR). The fuel requirements for the model LWR were assumed to be one initial core load and 29 annual refuelings representing about one-third new fuel for each reload. The annual fuel requirement for the model LWR averaged out over a 40-year operating life (1 initial core and 39 refuelings of about 1/3 core) would be reduced slightly as compared to the annual fuel requirement averaged for a 30-year operating life.

   The net result would be about a 1.5 percent reduction in the annual fuel requirement for the model LWR. This small reduction in fuel requirements would not lead to significant changes in the impacts of the uranium fuel cycle. Accordingly, the staff does not believe that any changes to Table A in Appendix C (S-3) of the Fermi-2 FES, are necessary for a 40-year operation of the Fermi-2 facility. This conclusion is based on our assessment that the values in Table A become more conservative when a 40-year period of operation is considered.

CONCLUSION

The staff has reviewed the Fermi-2 FES and determined that only two of the areas related to its NEPA analysis discussed in this statement were tied directly to a 30-year operating life. We have concluded, based on the reasons discussed in the sections above, that the impacts associated with a 40-year operating license duration are not significantly different from those associated with a 30-year license duration and are not significantly different from those impacts assessed in the Fermi-2 FES.