

February 27, 1986

Docket No. 50-16

Mr. Wayne H. Jens, Vice President
Nuclear Operations
Detroit Edison Company
6400 North Dixie Highway
Newport, Michigan 48166

Dear Mr. Jens:

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION

Reference: Enrico Fermi Atomic Power Plant, Unit No. 1

By application dated May 17, 1985 you requested a 40-year extension of the "Possession Only" license (License No. DPR-9) for Fermi Unit No. 1. The extension would allow Fermi No. 1 to be maintained in its present safe storage (SAFSTOR) status until March 2025 at which time you plan to remove the residual radioactivity and request that License No. DPR-9 be terminated.

During our review of your application we determined that we need the information presented in Enclosure No. 1 to complete our evaluation. Your response is needed by March 31, 1986 for us to maintain our schedule.

The reporting and/or recordkeeping requirements contained in this letter affect fewer than ten respondents; therefore, OMB clearance is not required.

Sincerely,

Original signed by
Herbert N. Berkow, Director
Standardization & Special
Projects Directorate
Division of PWR Licensing-B

Enclosures:

1. Request for Additional Information
2. Letters dated April 21, 1982 and March 17, 1981 from NRC to Stanford University

DISTRIBUTION:

~~Docket File~~
NRC PDR
Local PDR
DCS
NSIC
PNoonan
PErickson
OLynch
HBerkow
SSPD Reading

[Signature]
DPWRL-B:SSPD
PNoonan:ac
02/26/86

[Signature]
DPWRL-B:SSPD
PErickson
02/24/86

[Signature]
DPWRL-B:SSPD
OLynch
02/19/86

[Signature]
DPWRL-B:SSPD
HBerkow
02/27/86

8603110062 860227
PDR ADOCK 03000016
P PDR



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

February 27, 1986

Docket No. 50-16

Mr. Wayne H. Jens, Vice President
Nuclear Operations
Detroit Edison Company
6400 North Dixie Highway
Newport, Michigan 48166

Dear Mr. Jens:

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION

Reference: Enrico Fermi Atomic Power Plant, Unit No. 1

By application dated May 17, 1985 you requested a 40-year extension of the "Possession Only" license (License No. DPR-9) for Fermi Unit No. 1. The extension would allow Fermi No. 1 to be maintained in its present safe storage (SAFSTOR) status until March 2025 at which time you plan to remove the residual radioactivity and request that License No. DPR-9 be terminated.

During our review of your application we determined that we need the information presented in Enclosure No. 1 to complete our evaluation. Your response is needed by March 31, 1986 for us to maintain our schedule.

The reporting and/or recordkeeping requirements contained in this letter affect fewer than ten respondents; therefore, OMB clearance is not required.

Sincerely,

A handwritten signature in cursive script that reads "Herbert N. Berkow".

Herbert N. Berkow, Director
Standardization & Special
Projects Directorate
Division of PWR Licensing-B

Enclosures:

1. Request for Additional Information
2. Letters dated April 21, 1982 and
March 17, 1981 from NRC to Stanford
University

Request for Additional Information
Fermi 1 Amendment Request
For Extension of "Possession Only" License
Docket No. 50-16

1 - ALARA MEASURES

Discuss specific measures which will be utilized during the forty additional years to maintain radiation exposures and releases of radioactive materials to unrestricted areas as low as reasonably achievable (ALARA). Discuss, also, the potential for a release of radioactivity during the safe storage period, and estimate the potential exposure to the public through various radiological pathways during this period.

2 - DOSE ASSESSMENT

- a) Provide a table showing Fermi Unit 1 personnel exposure experience for the years 1973 thru 1985 showing the man-rem exposure by facility structure (i.e., reactor building, etc.), regardless of how these exposures were obtained (e.g., decontamination, repair, etc.) or by whom (e.g., by plant personnel, plant maintenance personnel, contractor/vendor personnel, etc).
- b) Provide a similar table of anticipated exposures for the years 1985 to 2025 from expected decontamination, decommissioning, additional maintenance and repair operations.

3 - PROCEDURES

Describe the methods and procedures for personnel monitoring (external and internal), including methods of recording, reporting, and analyzing results. Describe the program for internal radiation exposure assessment (whole-body counting and bioassay), including the bases for selecting personnel who will be in the program, the frequency of their whole-body count and bioassay, and any nonroutine bioassay that will be performed.

Describe the methods and procedures for evaluating and controlling potential airborne radioactivity concentrations. Discuss any requirements for special air sampling and the issuance, selection, use, and maintenance of respiratory protective devices, including training programs and respiratory protective equipment fitting programs.

Methods of handling and storage of sealed and unsealed byproduct, source and special nuclear material should be described.

4. - Attachments 1 and 2 of your application are difficult to review and to cross-reference because of the lack of page numbers and proper formatting with sub-section numbers. A revised application with modified attachments should be submitted to correct these deficiencies.

5 - INVENTORY OF RADIONUCLIDES

Your submittal indicates that the only radionuclide now present at Fermi 1 is cobalt-60 which has a 5.2 year half-life. Your submittal states that the cobalt-58, iron-59 and chromium-51 present earlier are now essentially decayed.

We agree that cobalt-58, iron-59 and chromium-51 are absent because of their short half-lives (71 days or less). We have found, however, the presence of other radionuclides in most reactor decommissioning situations.

Europium-152 is generally present in concrete shielding structures around reactor vessels. Since europium-152 has a 13.4 year half-life it might still be present at Fermi 1. Cesium-137, with a 30 year half-life, is often found as a contaminant on surfaces and in reactor systems. Also, nickel-63, with a 100 year half-life would likely be present in the Fermi 1 reactor vessel and vessel components.

- a) We, therefore, request that you provide a more complete inventory of the residual radionuclides which have half-lives equal to or greater than that of cobalt-60. Include inventory estimates of cobalt-60, europium-152, cesium-137, nickel-63, niobium-94 and nickel-59, in particular, and discuss the potential health and safety impact of these radionuclides at Fermi 1 on the removal of residual radioactivity at the end of the additional 40-year storage period.
- b) Provide graphs of direct radiation exposure vs. time (zero to 40 years) as it may impact on workers involved in dismantling.
- c) Identify the benefits that result from the proposed additional 40-year delay in removal of residual radioactivity with respect to: the methods that would be used in removing radioactivity; reduction in the total man-rem exposure to workers; and reduction in the volume of radioactive waste produced during decommissioning.

6 - ENCLOSURE NO. 2 (Letters from the NRC to Stanford University) states our present criteria for release of a facility to unrestricted access.

- a) Provide an evaluation of the predicted radiation levels after the additional 40 years in buildings, rooms and structures, relative to the Enclosure No. 2 criteria.
- b) Estimate the additional interval of time that would be required for all buildings, rooms and structures to meet the release criteria presented in Enclosure No. 2 without removal of equipment or structures.