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Nuclear  
Operations

February 24, 1992  
NRC-92-0C18

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) Federal Register, Volume 53, Number 39,  
p. 6040-6043, Federal Docket 88-4229,  
dated February 29, 1988
  - 3) Detroit Edison letter, NRC-91-0102, "Proposed  
License Amendment - Up-rated Power Operation," dated  
September 24, 1991

Subject: Burnup and Enrichment Levels of 10CFR51.52

The purpose of this letter is to respond to an NRC question with regard to Fermi 2 operation at up-rated power. Specifically, the question relates to whether Fermi 2 intends to exceed the 4% enrichment and 33,000 megawatt-days per metric ton (Mwd/Mtu) average level of fuel irradiation specified in 10CFR51.52(a). The maximum pellet enrichment currently loaded into the reactor does not exceed 4% by weight. However, maximum pellet enrichments higher than 4% but not exceeding 5% are planned for the third refueling outage (September 1992). Some fuel loaded during the first refueling outage is projected to exceed irradiation levels of 33,000 Mwd/Mtu in early 1994. The use of extended burnup fuel would have proceeded with or without the planned operation at up-rated power.

A review of 10CFR51.52 indicates that it is applicable to reactors with construction permit environmental reports submitted after February 4, 1975. The Fermi 2 construction permit environmental report was submitted in September 1970 and revised in September 1971, with the resultant final environmental statement issued by the U.S. Atomic Energy Commission in July 1972. Thus, the specific requirements of 10CFR50.51 are not applicable to Fermi 2.

Although the conditions prescribed in 10CFR51.52 do not apply to Fermi 2, it was determined appropriate to review the generic Environmental Assessment and Finding of No Significant Impact

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USNRC

February 24, 1992

NRC-92-0018

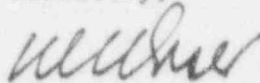
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presented in the February 29, 1988 Federal Register (Ref. 2) to determined its applicability to Fermi 2. The extended burnup fuel purchased for the third refueling outage was designed for operation within the constraints of this generic evaluation. That is, uranium-235 enrichments no greater than 5% and burnup levels not exceeding maximum rod average burnup levels of 60 GWd/MtU bound the design limits for the fuel purchased (note: 1000 MWd/MtU is equal to 1GWd/MtU). No changes are planned to the plant Technical Specifications on linear heat generation rate (actual limits are prescribed in the Core Operating Limits Report) or cooling water activity limits. Operating temperatures for the fuel rods also remain normal. Furthermore, there are no plans to exceed these limits for future fuel reloads unless a generic evaluation of the type provided in 53 FR 6040 has been first obtained.

Since the limits on fuel enrichment and exposure for the Fermi 2 reload fuel are bounded by the extended limits specified in the 53 FR 6040 generic evaluation, it has been determined that the conclusions provided by that evaluation are also applicable to Fermi 2. That is, the use of extended burnup fuel within the limits of the generic evaluation have no significant adverse radiological or non-radiological impacts and will not significantly affect the quality of the human environment. Thus, an environmental impact statement is not required for this action.

If there are any further questions on this matter, please contact Mr. Robert J. Salmon at (313) 586-4273.

Sincerely,



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