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Nuclear
Operations

April 30, 1992
NRC-92-0051

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. NPP-43
 - 2) NRC Generic Letter 88-20, "Individual Plant
Examinations for Severe Accident Vulnerabilities,"
dated November 23, 1988, and Supplement 1, dated
August 29, 1989.
 - 3) Detroit Edison Letter to NRC, "Fermi 2 Individual
Plant Examination Program for Severe Accident
Vulnerabilities," NRC-89-0213, dated
October 25, 1989.
 - 4) NRC Letter to Detroit Edison, "Review of
60-Day Response to Generic Letter 88-20, Individual
Plant Examinations (IPE) (TAC No. 74410)," dated
January 18, 1990.
 - 5) Detroit Edison letter to NRC, "Summary Progress
Report of First IPE Milestone," NRC-91-0013, dated
January 29, 1991.
 - 6) Detroit Edison letter to NRC, "Summary Progress
Report of Second IPE Milestone," NRC-91-0083,
dated July 9, 1991
 - 7) Detroit Edison letter to NRC, "Summary Progress
Report of Third IPE Milestone," NRC-91-0153, dated
November 27, 1991

Subject: Updated Schedule for Submittal of the IPE Report

The purpose of this letter is to provide the NRC staff with a revised schedule for submitting the Fermi 2 IPE Report. By Reference 3, Detroit Edison provided its response to NRC Generic Letter 88-20 (Reference 2). This response was found acceptable by the NRC in Reference 4. The NRC concluded that the Fermi 2 "IPE approach, methodology, and schedule are acceptable." Also, in the Reference 4

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letter, the NRC Project Manager requested of Detroit Edison that "if your schedule should change, please notify the NRC of the proposed change and the reason for the change." This letter identifies a change in schedule only for submittal of the final IPE report and the reasons for this change. The change will still result in a schedule consistent with that originally proposed by GL 88-20. As described below, insights regarding the treatment of plant specific features in the IPE models, as well as other factors, have impacted our schedule for submittal.

The revised schedule for submittal of the Fermi 2 IPE Report is September 1, 1992. As described below, this will allow sufficient time to make important adjustments to the IPE and evaluate insights to assure proper credit is given for current plant design features and operator actions.

The preliminary results from our IPE assessment, and the potential need to extend our schedule for submittal of the report, were discussed in some detail with the NRC/NRR Project Manager, Mr. Timothy Colburn, and other members of your staff on April 5, 1992 via a teleconference. This discussion apprised your staff of our current understanding of the IPE insights and characterized the significance of our present findings. This was consistent with our previous commitment in the Reference 4 letter to provide periodic brief summary progress reports of IPE milestones, as were submitted in References 5 through 7.

The numerical results from the IPE were discussed with your staff and should be considered preliminary in nature. However, it is important to note that the currently estimated total Core Damage Frequency for Fermi 2 is consistent with the results for similar vintage Boiling Water Reactors (BWRs) of the Fermi 2 design; i.e., a BWP 4, Mark I containment. Also, the initial results show that the functional accident class contributors to Core Damage Frequency are not unusual or atypical of other similarly designed nuclear facilities, e.g., loss of decay heat removal and loss of high pressure injection accident sequences leading to core damage are primary contributors. The relative contribution from the Station Blackout event sequence is very small for Fermi 2.

As the Level 1 model was being finalized and reviewed in some detail, it became apparent that events involving the loss of a single division of offsite power needed explicit evaluation. Historically, most PRAs have treated the loss of offsite power event as a single initiating event (i.e., a total loss of offsite power) in the calculation of its contribution to the total Core Damage Frequency (CDF). However, it seemed appropriate, considering the Fermi 2 design, also to consider the loss of Division 1 and the loss of Division 2 as separate initiating events. With this change the IPE results more accurately

account for the 120 kv and 345 kv offsite power feeds which supply separate switchyards for Division 1 and Division 2, respectively.

The preliminary impact on the estimated total CDF value of the above change in treatment of loss of offsite power events was not large. However, the results also indicated that the loss of one division of offsite power appeared to dominate the overall loss of offsite power contribution to the estimated CDF. Potential procedural enhancements and recovery actions to reduce this contribution to overall risk thus emerged as a significant insight gained from the IPE process.

The Fermi 2 electrical distribution system already includes significant flexibility in the design which would be useful in responding to a loss of a single division of AC power. Although operations personnel are well aware of these design capabilities, the initial evaluation was conservative in approach and took no credit for such recovery potential. However, it was determined through the IPE process, that additional procedural guidance and specific training on these events could significantly increase the probability that recovery actions would be successful in responding to such an emergency. It was therefore decided to proceed with an evaluation of these improvements in parallel with the development of a more realistic model and completion of the final report.

In addition to the IPE changes involving partial loss of offsite power, preliminary insights involving the significance of current maintenance practices are also being examined in greater detail. The present IPE model uses unavailability data collected early in the IPE/PRA effort, just prior to significant improvements in the Fermi 2 preventative maintenance program. An examination of the IPE results indicate that some calculated system unavailabilities may be skewed in an overly conservative manner due to the use of this older data. The proposed data update will make the PRA model more current and will more accurately reflect the enhanced programs and results being obtained at Fermi 2.

In summary, Detroit Edison has concluded that the changes discussed above, along with some other less significant refinements, should be made before the IPE report is finalized and submitted. We believe that making these changes now will result in a higher quality report which will be more useful for training and one that more accurately reflects the Fermi 2 design and accident response capabilities.

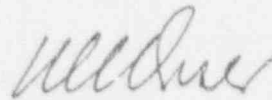
Our schedule request is in concert with the intent of Generic Letter 88-20 and the current industry approach to the IPE program. The Generic Letter expected that IPE results be submitted within 3 years (i.e., by September 1, 1992) from the date of the associated Federal Register Notice (published on September 1, 1989). Again, our updated schedule for submittal to the NRC of the Fermi 2 IPE Report is

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September 1, 1992. As in the past, we will keep you fully apprised of developments in this important evaluation.

If you have any questions, please contact Mr. Terry L. Riley, Supervisor, Nuclear Licensing, at (313) 586-1684. Detroit Edison would be happy to discuss these matters in more detail at your convenience if desired.

Sincerely,



cc: T. G. Colburn
A. B. Davis
M. P. Phillips
S. Stasek