

**Detroit
Edison**

Harry Tauber
Group Vice President

2000 Second Avenue
Detroit, Michigan 48226
(313) 237-8000

April 15, 1983
EF2 - 62,262

Director of Nuclear Reactor Regulation
Attention: Mr. B.J. Youngblood, Chief
Licensing Branch No. 1
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Youngblood:

Reference: Enrico Fermi Atomic Power Plant, Unit 2
NRC Docket No. 50-341

Subject: Response to Supplement 1 of NUREG-0737,
"Requirements for Emergency Response
Capability (Generic Letter 82-33)" dated
December 17, 1982

In January 1983, Detroit Edison received NRC Generic Letter 82-33. As a participating member of the Nuclear Utility Task Action Committee on Emergency Response Capabilities (NUTAC ERC), which includes over forty utilities and is administratively supported by INPO, the NUTAC guidance has been useful in developing the integrated approach described in this letter.

I. CURRENT STATUS

Due to the construction and licensing status at the time the TMI requirements were issued, Detroit Edison addressed these requirements in the FSAR or in separate letters to the NRC. Items which have been reviewed and approved by the NRC are addressed in the Safety Evaluation Report (SER), NUREG-0798, issued by the NRC. In a few cases, this early effort by Detroit Edison has resulted in some differences between Fermi 2 systems and the final guidance issued by the NRC. Detroit Edison is relying on the NRC's stated commitment to take into consideration during the review process, work performed in a good-faith effort to anticipate final requirements which provide acceptable alternatives to those requirements.

The following paragraphs describe the current status of the major items addressed in Generic Letter 82-33.

8304180408 830415
PDR ADOCK 05000341
F PDR

*A003
Add: W. Paulson*

Mr. B.J. Youngblood
April 15, 1983
EF2 - 62,262
Page 2

I.A. Safety Parameter Display System (SPDS)

The Fermi 2 SPDS is in the final stages of hardware and software implementation. The SPDS design and purchase specification were written and a vendor selected in late 1981. The implementation of SPDS has included procurement of hardware, software programming, display system design, documentation review, and operator training.

The Fermi 2 SPDS includes information and displays that are plant specific. The Fermi 2 SPDS was developed through participation in the BWR Owners' Group (BWROG) Control Room Improvement Committee activities and cognizance of NRC guidance documents. The BWROG programs included the specification of critical safety functions, generation and operator review of the dynamic Graphic Display System (GDS) and, ultimately, a simulator evaluation of the GDS on the Perry simulator.

The conceptual design for the SPDS and Emergency Response Information System (ERIS) is provided in Appendix H, Sections H.I.D.2 and H.III.A.1.2 of the Fermi 2 FSAR. The Fermi 2 response for upgraded emergency support facilities was provided in May 1982.

I.B. Control Room Design Review (CRDR)

The Fermi 2 Control Room has been designed using human factors engineering principles. An initial Control Room design review was conducted by an independent group of the BWROG, using review guidelines developed by the BWR Owners' Group, and approved by the NRC staff. The results of this review were transmitted to the NRC in a letter from Detroit Edison to Mr. H.R. Denton, EF2-52,884 dated April 13, 1981.

An NRC survey was conducted April 27 - May 1, 1981; the results of this survey are presented in Appendix D of the Fermi 2 Safety Evaluation Report (SER), NUREG-0798. Category No. 1 and No. 2 items identified in Appendix D will be done prior to fuel load per the commitment to the NRC contained in Detroit Edison letter EF2-53,112 of June 4, 1981.

Mr. B.J. Youngblood
April 15, 1983
EF2 - 62,262
Page 3

The Category No. 3 Items identified in Appendix D of the SER are being addressed as a part of the remaining program described in this letter.

I.C. Regulatory Guide 1.97 - Post-Accident Monitoring (PAM) Instrumentation

Post-accident monitoring instrumentation was included as part of the basic design concept of Fermi 2. These designs are described in Section 7.5 of the Fermi 2 FSAR. The PAM instrumentation was reviewed by the NRC and a summary of the findings was reported in Section 7.5.2 of the SER.

I.D. Emergency Operating Procedures (EOP)

The development of the Fermi 2 plant-specific Emergency Operating Procedures has been in progress since February 1981. The procedure development has paralleled the development of the BWR Owners' Group Emergency Procedure Guidelines.

During Emergency Procedure Guideline development, selected NTOL plants were required to demonstrate their Emergency Operating Procedure adequacy on BWR simulators. The Fermi 2 Emergency Operating Procedures were demonstrated to the NRC in July 1981 on the Browns Ferry simulator. Present at the demonstration were Human Factors Engineering personnel from Battelle Pacific Northwest Laboratories (NRC consultants) who provided significant human factors input to the format and sequencing of the Fermi 2 EOPs. At that time it was also demonstrated that individuals who had no power plant operating experience were able to use the Fermi 2 EOPs and guide the control panel operators through several emergency conditions.

Subsequent to the Fermi 2 Emergency Operating Procedure demonstration, the NRC determined that the procedures were adequate, as indicated in the SER, NUREG-0798, Supplement No. 1.

Since the July 1981 procedure demonstration, the Fermi 2 Emergency Operating Procedures have undergone several upgrade revisions as a result of the following:

Mr. B.J. Youngblood
April 15, 1983
EF2 - 62,262
Page 4

- o Emergency Procedure Guideline revisions
- o Improved human factors guidance provided through INPO-82-017, "Emergency Operating Procedures Writing Guidelines"
- o NUREG-0899, "Guidelines for the Preparation of Emergency Operating Procedures"
- o Comments provided by NSSS vendor (GE)
- o Recommendations made by the licensed operators in training.

In February 1983, the Fermi 2 EOPs, revised to incorporate Revision 3 of the EPG, were sent to GE for the NSSS vendor review.

I.E. Emergency Response Facilities (ERF)

The Emergency Response Facilities (TSC, OSC, and EOF) are complete. Descriptions of these facilities are documented in the FSAR, Appendix H, Section H.III.A.1.2.

The TSC and EOF are provided with the communications, equipment, and documentation for their operation. Sufficient working area is provided for both Detroit Edison and NRC personnel. The two facilities are equipped for manual data acquisition, collection, and display. From these facilities the Emergency Response personnel can evaluate plant status, conditions in the containment, and the radiological release and meteorological data necessary to develop protective actions. This capability was demonstrated by a successful, full-scale emergency exercise conducted February 1-2, 1982. A favorable review of the exercise is contained in NRC Region III Inspection Report No. 50-341/82-02 (DEPOS) dated March 3, 1982.

II. FERMI 2 PROGRAM FOR REMAINING WORK

Detroit Edison has developed an Integrated Implementation Plan for Fermi 2 (Figure 1). In developing this plan, the items discussed in Section I of this letter formed the baseline for establishing remaining work.

II.A. Safety Parameter Display System (SPDS)

The remaining program for implementation of the Fermi 2 SPDS requires completion of the following:

- o Installation and testing
- o SPDS procedures and training
- o Integration with the Control Room, Emergency Operating Procedures, and operator training

The Fermi 2 SPDS is scheduled to be operational, i.e., installed and operator-trained, in September 1984. The SPDS will be an input to the Integration of Elements for Control Room Emergency Response Capability (Integration Program).

The safety analysis for the SPDS parameters and displays will be provided.

II.B. Control Room Design Review (CRDR) Program Plan

The CRDR is an element of the Integration Program. The first step towards performing a CRDR requires preparation of a program plan. The CRDR program plan will address differences between the earlier Fermi 2 Control Room reviews and subsequent NRC guidelines and will update prior assessments of Control Room layout, the Control Room environment, the usefulness of audible and visual alarms, the readability of displays, and information recording and recall capabilities. The walk throughs that were previously conducted to develop the BWR Owners' Group Emergency Procedure Guidelines and the Fermi 2 Emergency Operating Procedures will be the basis for the CRDR program.

The Control Room Survey may identify Human Engineering Deficiencies (HED) which will be evaluated with other items identified as elements in the Integration Program; however, because human factors were a major consideration both in the original design of the Control Room and in the previous reviews, it is anticipated that no deficiencies will be identified.

II.C. Post-Accident Monitoring (PAM) Instrumentation

A review of the current Fermi 2 post-accident monitoring design is being performed in conjunction with the final implementation of the NUREG-0737 post-accident instrumentation modifications. The current design, which addresses the NUREG items, will be installed and fully operational for fuel load. It is expected that only minor instrumentation changes or additions will be required to achieve compliance with the intent of RG 1.97.

II.D. Emergency Operating Procedures

Fermi 2 EOPs will be incorporated in the Integration Program. The Fermi 2 EOPs will form the basis for the CRDR Program as stated in Section II.B.

II.E. Integration of Elements for Control Room
Emergency Response Capability (Integration Program)

The Integration Program will be based upon the EOPs and will demonstrate the Control Room emergency response capability. The components which make up the emergency response capability include the operator, EOPs, Control Room, and training. The desired result of the Integration Program is a demonstration of the capability to mitigate the consequences of emergency conditions. Detroit Edison plans to perform the Integration Program when the SPDS, EOPs, CRDR and RG 1.97 elements have been completed. A determination will be made with respect to correction of identified deficiencies. This may be in the form of a revision to the EOPs, a modification to the Control Room, or a change in the training program. It will be Detroit Edison's general approach to modify procedures and the training program, and minimize hardware modifications, to implement the changes necessary to correct the deficiencies identified.

II.F Emergency Response Facilities

The TSC and EOF will be fully functional when the computer-based Emergency Response Information System (ERIS) is operational and emergency response personnel are trained in its use. Through the use of CRTs and terminals, ERIS provides each facility with the capability of rapid data acquisition, evaluation, and display of inplant conditions, as well as real-time radiological release and meteorological data necessary to develop protective actions.

Mr. B.J. Youngblood
April 15, 1983
EF2 - 62,262
Page 7

III. SCHEDULE

Based on the current schedule, Detroit Edison projects that the items described in Section II.A through II.E can be completed by the startup after first refueling. Since some of the elements which could affect this program may not be controllable by Detroit Edison, there is a possibility that this date may change. With the current knowledge and understanding, Detroit Edison does believe that the first refueling date is achievable and will vigorously work to meet that date. Detroit Edison commits to sending the NRC a letter by April 15, 1985, either confirming the schedule or providing revised dates and reasons for change.

After the Integration Program has been completed and the appropriate procedures, training program, or designs revised, the EOPs, training program, and modifications will be implemented as required. It is currently projected that this process will be completed by startup after the second refueling. This date obviously has many variables which cannot be controlled by Detroit Edison. Detroit Edison commits to providing a letter to the NRC by December 31, 1985 confirming this date.

In addition to the schedule discussed above, Detroit Edison expects to submit the information requested in NUREG-0737, Supplement 1, for NRC review in accordance with the following schedule:

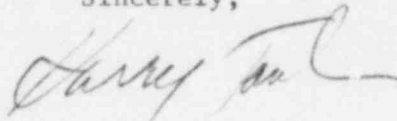
<u>Submittal</u>	<u>Schedule</u>
SPDS Safety Analysis	March 1984
CRDR Program Plan	July 1984
RG 1.97 Report	June 1985
CRDR Summary Report	September 1985

Mr. B.J. Youngblood
April 15, 1983
EF2 - 62,262
Page 8

Detroit Edison concurs with the NRC's position that schedules for accomplishing the remaining emergency response enhancements are to be integrated with other high priority regulatory work and plant improvements. Based on the progress in developing the emergency response facilities and the successful accomplishment of a full-scale exercise, Detroit Edison is confident that sufficient response capability will exist during the time required to complete the entire emergency response program.

Detroit Edison will work with its NRC Project Manager in negotiation of a mutually acceptable schedule. If you have any questions, please contact Mr. Larry E. Schuerman, (313) 586-4207.

Sincerely,

A handwritten signature in dark ink, appearing to read "Larry E. Schuerman", with a stylized flourish at the end.

cc: Mr. B. Little
Mr. M.D. Lynch

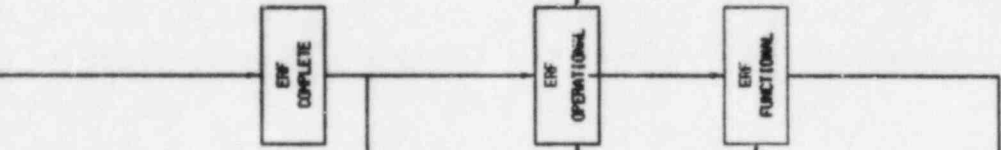
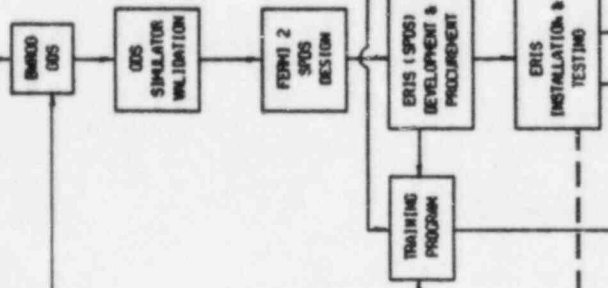
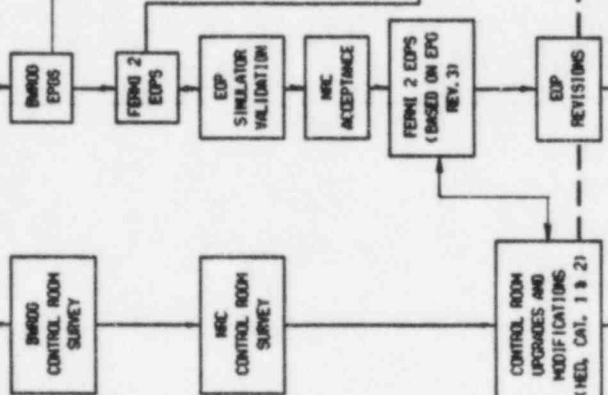
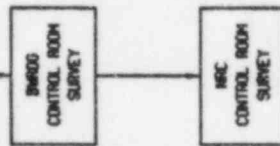
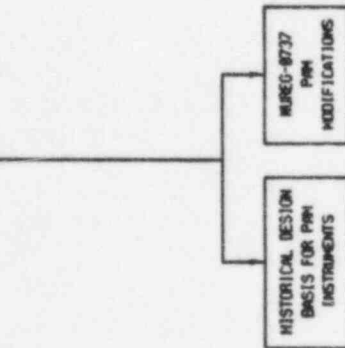
RG 1.97

CROR

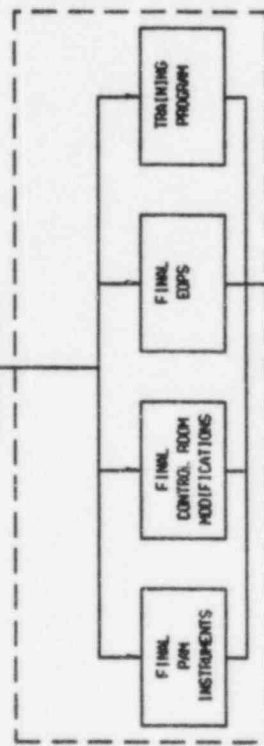
EOPS

SPDS

ERF



PROGRAM PLAN



START UP AFTER FIRST REFUELING

START UP AFTER SECOND REFUELING

REPRESENTS SECTION 1
EF2-62, 262

REPRESENTS SECTION 11
EF2-62, 262

LEGEND

- BWRD - BUILDING WATER REACTOR OWNERS GROUP
- CROR - CONTROL ROOM DESIGN REVIEW
- DOOR - DETAILED CONTROL ROOM DESIGN REVIEW
- OOS - GRAPHIC DISPLAY SYSTEM
- EDF - EMERGENCY OPERATIONS FACILITY
- EOP - EMERGENCY RESPONSE PROCEDURE
- ERF - EMERGENCY RESPONSE FACILITIES
- ERIS - EMERGENCY RESPONSE INFORMATION SYSTEM
- MED - NUCLEAR ENGINEERING DEFICIENCIES
- OSC - OPERATIONAL SUPPORT CENTER
- PPM - POST ACCIDENT MONITORING
- SPDS - SAFETY PARAMETER DISPLAY SYSTEM
- TSC - TECHNICAL SUPPORT CENTER