

Walter J. McCarthy, Jr.  
Chairman of the Board

**Detroit  
Edison**

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Detroit, Michigan 48226  
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PRIORITY ROUTING	
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January 29, 1986  
VP-86-0008

FILE *103*

Mr. James G. Keppler  
Regional Administrator  
Region III  
U. S. Nuclear Regulatory Commission  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

Dear Mr. Keppler:

- Reference:
- 1) Fermi 2 NRC Docket No. 50-341  
NRC License No. NPF-43
  - 2) NRC to Detroit Edison Letter,  
"Requesting Information Pursuant to  
10CFR50.54(f)", December 24, 1985
  - 3) Detroit Edison to NRC Letter,  
"Reactor Operations Improvement  
Plan", VP-85-0198, October 10, 1985

Subject: Response to Request for Information Pursuant  
to 10CFR50.54(f)

This letter is submitted in response to the Nuclear  
Regulatory Commission's request for information pursuant  
to 10CFR50.54(f) which is cited as Reference 2 above.

Detroit Edison is committed to the highest standards for  
both managing and operating the Fermi 2 facility.  
Enhancement of management and management practices is  
essential to attain the operating and performance goals  
set for Fermi 2. We understand what needs to be done to  
improve regulatory and operational performance and are  
prepared to take the actions necessary to effect such  
improvements.

The following three sections address the issues  
identified in Reference 2 above:

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1. ADEQUACY OF MANAGEMENT, MANAGEMENT STRUCTURES AND SYSTEMS

Detroit Edison management needs to strengthen the sensitivity, discipline and responsiveness of the Nuclear Operations organization. In this regard, Nuclear Operations management is developing a Nuclear Operations Improvement Plan which addresses planning, accountability, attitude, communications, teamwork, follow-up and training in the entire organization. By developing a plan directed toward eliminating deficiencies in these areas, improvements can be expected in overall management, in the ability to recognize and respond to problems which could affect plant safety and in controls to assure improved regulatory, operating, engineering, maintenance and security performance. A plan is being developed and will be reviewed in detail by an Overview Committee prior to implementation. The plan will be initiated no later than May 1, 1986 and fully implemented by July 1, 1986. The role of the Overview Committee is more fully described below.

Management

Detroit Edison is evaluating the key management personnel at Fermi 2 to assess performance and effectiveness. A management change will be made on February 1, 1986 to accommodate the retirement of Wayne Jens, Vice-President, Nuclear Operations. Frank Agosti, Manager-Nuclear Operations will succeed Wayne Jens as Vice-President beginning on that date. Further, I recognize that additional strengthening of the Fermi 2 management is appropriate. Consequently, I am seeking additional officer candidates with nuclear operating experience from outside the Company to provide additional management which I feel is required to achieve the goal of operating excellence. These individuals will be charged with completing reviews of the existing Fermi 2 management and making such changes as deemed desirable. Mr. Agosti will report directly to me until the above officers have been selected.

I have directed the President and Chief Operating Officer of Detroit Edison, Charles M. Heidel, to assist me in monitoring the performance of the Nuclear Operations organization. The Nuclear Quality Assurance organization will report to Mr. Heidel. The President will also assure that any other corporate resources are

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provided which are necessary to support or audit the Nuclear Operations organization. This change in control will enhance the use of Quality Assurance as a management tool to improve regulatory and operating performance. In addition, three other Detroit Edison officers will provide independent overview of the Fermi 2 Engineering, Security and Administrative organizations. These three officers will report to the President in this matter.

Further, to assist in this effort, we formed the Fermi 2 Independent Overview Committee which is comprised of recognized nuclear industry consultants. This committee will provide Detroit Edison management with a critique of the present Fermi 2 management. The Overview Committee has already conducted interviews with management personnel from both the site and corporate organizations. A preliminary report has been presented by the Overview Committee to a committee of the Board of Directors, the Board Nuclear Review Committee. Attachment 1 explains the role and schedule of the Overview Committee. Detroit Edison will strongly consider the Committee's recommendations for management improvement.

#### Management Structure

The concept, structure and functions of the Nuclear Operations organization have been reviewed by independent management consultants and many of their recommendations are being implemented. In addition, the Company has been seeking other ways of improving and the following are some examples. Nuclear Operations is currently working with a professional organization and management consultant from the Detroit Edison Corporate Office to improve the interface between Nuclear Engineering and Nuclear Production. Nuclear Engineering and Nuclear Production are conducting joint sessions to clarify responsibilities, agree on work priorities and to improve communications.

In July, 1985, engineering for the Fermi plant was reorganized to consolidate engineering responsibilities in the Nuclear Operations organization under the leadership of an Assistant Manager. The present engineering organization has assumed full control of engineering and is augmented by a single architect/engineer with a dedicated staff on site. Since engineering problems have occurred during this

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transition period, the effectiveness of the present engineering organization and its procedures are being reviewed by management. The architect/engineer will review the procedures currently being used by the Nuclear Engineering organization to assure that proper control of the engineering process is maintained.

The office of the Manager-Nuclear Operations was temporarily moved to the plant office building near the Plant Manager. The purpose of this move was to permit the Manager to monitor day-to-day work to insure that the Engineering organization, the Regulation and Compliance organization and Nuclear Operations Service organizations are being responsive to the needs of the plant. This effort has reinforced the operating authority of the Plant Manager and focused all nuclear operations resources toward support of Nuclear Production. I intend to have Frank Agosti as Vice-President continue to occupy that office for an interim period.

The Fermi 2 Independent Overview Committee will continue to examine the management structure and personnel to identify further improvements which would enhance regulatory and operating performance. Each recommendation will be considered by management for implementation.

#### Management Systems and Practices

After the success of the Fall 85-01 Outage, it became evident that a similar planning and controls effort to plan, coordinate and follow-up is necessary not only for outage work but also for day-to-day work activities. Each organization will be evaluated to assess the planning, coordination and completion of its activities. Where improvement needs are identified, these will be included in the Nuclear Operations Improvement Plan.

An evaluation of Nuclear Security was conducted to identify areas for improvement in regulatory performance. As a result, Nuclear Operations management and Nuclear Security developed a Security Improvement Plan to address the inordinate number of security plan violations which occurred in the last quarter of 1985. The major elements of the Security Improvement Plan were presented to the NRC staff on January 17 and included aggressive immediate actions, long-term corrective

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actions, time frames for accomplishment and performance indicators. That Plan will be discussed with the NRC in a separate meeting. The Security Improvement Plan will incorporate recommendations from the Independent Overview Committee where appropriate.

An evaluation of plant maintenance activities showed two areas for improvement which would enhance regulatory and operating performance. These two areas are post-maintenance test requirements and techniques for removing and placing into service critical plant equipment. The work order process has been modified to more clearly state the post-maintenance requirements and additional documentation requirements that must be met before the shift operating authority can accept a component or system for service. These improved management controls have resulted in better control over work and documentation for all maintenance activities. The procedures by which instrument repair technicians remove and place equipment back into service have undergone significant revision. In addition, instrument repair technicians have taken additional training and on-the-job instruction regarding the proper techniques to be used. These efforts will reduce the chance of making errors and thereby reduce the impact maintenance activities might have on plant operations.

The need for continuous attention to management practices for improved regulatory performance is recognized. The Detroit Edison corporate organization and management development consultant has been directed to work with Fermi 2 management to focus attention on their management practices within Nuclear Operations. As part of this effort, a survey on organizational climate and management practices has been conducted. The results of this survey will provide data to guide both individual and group management practice improvements.

The sensitivity of the Company and Nuclear Operations, specifically, to potentially significant conditions has been substantially heightened as a result of the premature criticality incident. Nuclear Operations management recognizes the need to communicate certain events regardless of the reportability requirements. Recognizing that communication and response improvements between Detroit Edison and the NRC are as important as recognizing significant conditions, a Nuclear Operations Directive has been prepared which prescribes policy

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supporting a more effective dialogue between the two organizations. In addition, Detroit Edison has contracted with a consulting company to conduct a series of workshops with various management levels to improve their sensitivity to issues and responsiveness to the NRC. The consultants have already conducted interviews with site personnel as the first phase of developing the workshop. Subsequent phases of this workshop will involve the operating staff where reportability concerns and issues will be addressed to improve sensitivity.

To enhance awareness of, and thereby sensitivity to, nuclear activities on the part of corporate management and the entire Nuclear Operations organization, a professional communications unit has been active on-site since August 1, 1985. This unit produces three publications which provide information to the site and corporate organizations. These publications include the monthly Moderator, the Weekly Moderator and daily "Management Update" messages distributed using the site computer communications system to generate a bulletin board newsletter. In addition, banners and other posters have been displayed at the site entrance and exit to remind all personnel of their key role in attaining the regulatory and operating performance goals set for Fermi 2.

## 2. READINESS FOR RE-START AND POWER ESCALATION

Detroit Edison has concentrated on correcting errors that have been made in its operations and is committed to continue the Reactor Operations Improvement Plan. The Reactor Operations Improvement Plan was developed and implemented to improve operating performance of Fermi 2. That plan was directed at reducing the frequency of operational occurrences and technical specification violations. The positive trends which have been achieved since this program was implemented are expected to continue. The performance to date and indicators for the Reactor Operations Improvement Plan are shown in Attachment 2. Any startup decision will require verification that satisfactory trends are continuing.

The Independent Overview Committee will be reviewing readiness of personnel and equipment to support restart and subsequent modes of operation. The progress on, and resolution of, those system and equipment problems which are impediments to startup, or for which the progress or

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resolution is expected to result in better operating and regulatory performance are presented in Attachment 3.

The last startup at Fermi 2 on October 3, 1985 was successful and it is intended that similar steps and procedures be followed in preparation for the next startup. The operators who will be responsible for reactor startup will have recently conducted reactor startup evolutions on the simulator. Attachment 4 describes the actions the plant staff will take to prepare the plant for startup.

The actions that will occur after startup but prior to Test Condition 1 are covered in Attachment 5. The additional tests illustrate the retesting to verify performance before moving to the next Test Condition. The tests required at other power ascension conditions are delineated in the FSAR and the Startup Phase Test Program.

The six Test Conditions have been established as hold points to assess overall plant performance. Before startup and before proceeding to any subsequent Test Condition, approvals will be required from plant management and Corporate management after receiving a review and recommendation from the Independent Overview Committee.

Overall plant performance will be assessed utilizing the following:

- A. Reactor Operations Improvement Plan, to assess plant operations;
- B. Startup Test Phase results, to assess plant equipment performance;
- C. Independent Overview Committee, to assess overall performance.

The Overview Committee will make a recommendation to me and the Board Nuclear Review Committee regarding movement to the next Test Condition. My approval and review by the Board Nuclear Review Committee are required before the plant can proceed.

### 3. IMPROVED REGULATORY AND OPERATIONAL PERFORMANCE

The plans identified in this response represent Detroit Edison's commitment to improving the regulatory performance, operating performance and management

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performance at Fermi 2. These plans will be monitored to assure that the improvements have been effective. Should it become evident that these plans need modification to effect further regulatory or operating performance improvements, such changes will be made. As an example, any development needs or weaknesses in the radiological controls area will be addressed by the Radiological Improvement Plan. Changes may immediately occur from the commitment to consider each recommendation received from the Independent Overview Committee.

Detroit Edison established a program called SAFETEAM in 1983. This program was a first for the commercial nuclear power industry in that it provided a method by which anyone who is currently working or had worked on the Fermi project could anonymously have any of their concerns about the plant or its operation investigated. This program has been directed by the Detroit Edison Auditor and operated by Detroit Edison personnel. The program has worked well. However, it is our plan to provide additional independence from the Company by transferring direction of the program to another company. A Detroit Edison Company subsidiary, SYNDECO, is currently operating similar programs at four other nuclear power plant sites. It is our intent to contract with them to conduct this program at the Fermi site.

It is understood that nuclear plants with high availability, small numbers of both forced outages and personnel errors, few unplanned scrams, few recurring events, and low personnel radiation exposures are generally well-managed overall. Such plants are more reliable and can be expected to have higher margins of safety. Detroit Edison is committed to such attributes for Fermi 2 and has adopted certain Institute of Nuclear Power Operations (INPO) Performance Indicators as an aid in monitoring plant performance. Performance against these criteria has been tracked where applicable during the startup phase of operations. Additional indicators will be added to help identify areas needing corrective action as appropriate.

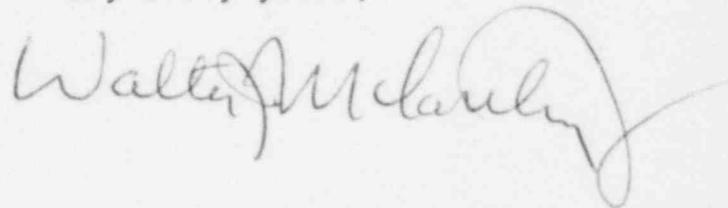
The equipment problems and personnel errors have been indicative of less-than-acceptable performance. We acknowledge that and we regret it. Although these problems and errors have not jeopardized the health and safety of the public, we nevertheless are committed to

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correct the trends which could lead to safety concerns if left uncorrected. Detroit Edison believes that with the continued success of the Reactor Operations Improvement Plan, the implementation of the Security Improvement Plan, and the actions taken as specified in Attachment 3 and Attachment 4, the plant will be ready to resume operation up to 5% power. Detroit Edison will meet with the NRC staff to discuss its overall performance and readiness to proceed above 5% power.

It is my intent to maintain oversight and review by the Independent Overview Committee, the Detroit Edison Board Nuclear Review Committee, and myself until we are satisfied that this plant with its new management, its plant operators, and its support staffs have demonstrated satisfactory performance as measured against other plants and INPO performance criteria. Fermi 2 will only be operated in a manner which ensures the public health and safety. For this reason, Detroit Edison believes that the Fermi 2 license does not need to be suspended, revoked or otherwise modified.

Very truly yours,



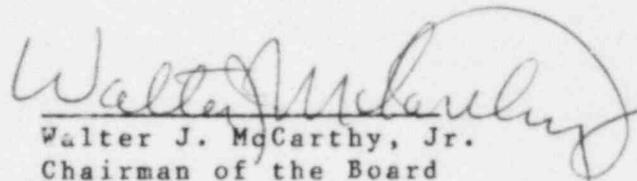
Attachments

cc: Mr. P. M. Byron  
Mr. M. David Lynch  
Mr. G. C. Wright  
USNRC Document Control Desk  
Washington, D. C. 20555

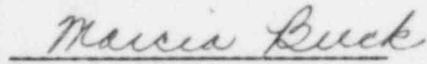
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OATH AND AFFIRMATION

To the best of my knowledge and belief the statements contained herein are true and correct. In some respects these statements are not based on my personal knowledge but upon information furnished by other Detroit Edison employes. Such information has been reviewed in accordance with Company practice and I believe it to be reliable.

  
Walter J. McCarthy, Jr.  
Chairman of the Board  
Detroit Edison

SUBSCRIBED and SWORN to  
before me this 29<sup>th</sup> day of  
January, 1986

  
Notary Public

MARCIA BUCK  
Notary Public, Washtenaw County, MI  
My Commission Expires Dec. 28, 1987

*Acting in Wayne  
County, Mi*

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## ATTACHMENT 1

### Fermi 2 Independent Overview Committee

Recognizing that an introspective self-examination is by its very nature a limited undertaking, Detroit Edison has sought an independent, unbiased review of its management, organization and improvement programs.

A group of recognized nuclear industry experts with a broad range of management and operating experience has been retained to operate as an Independent Overview Committee. This Overview Committee has an initial management assessment role and then a follow-up assessment and approval role for power ascension. The charter for this Overview is provided herein.

The committee has a specific charge from the Chief Executive Officer to report findings and make recommendations regarding the management of Fermi 2.

## CHARTER

### FERMI 2 INDEPENDENT OVERVIEW COMMITTEE

#### PURPOSE

The purpose of the Committee is to provide corporate management and the Board of Directors of Detroit Edison an overview evaluation of the operation of Fermi 2 and the performance of Nuclear Operations management. The Committee will provide advice concerning changes in management, management systems or structures and in the operation of Fermi 2 that will assure its safe operation.

#### MEMBERSHIP

Jack Calhoun, General Physics Corporation, Chairman  
Harry J. Green, Consultant  
Leo C. Lessor, Management Analysis Company  
Salomon Levy, S. Levy, Inc.  
Murray E. Miles, Basic Energy Technology Associates, Inc.  
James V. Neely, Nuclear Power Consultants, Inc.

#### REPORTING

The Committee will report its findings and recommendations to the Chief Executive Officer of Detroit Edison. The President of Detroit Edison will be available to participate in the deliberations of the committee when required. The Board Nuclear Review Committee will attend some of the meetings of the committee and will remain cognizant of its findings and recommendations.

#### COORDINATION OF THE COMMITTEE'S ACTIVITIES

The Assistant Manager, Regulation & Compliance, Nuclear Operations, Detroit Edison, or his designee, will coordinate and assist where necessary in the activities of the Committee. He will provide any reports, memoranda, and letters the Committee requires and will arrange for meetings, interviews, visits to the plant, trips, etc., required by the Committee. He will act as contract administrator for all contracts required to carry out the Committee's activities.

#### ANTICIPATED MEETING SCHEDULE

Week of January 6 - 11  
Week of January 27 - 31  
Week of February 24 - 28  
One day per month for the remainder of 1986

SCOPE

Management Evaluation Task

Prepare a report which identifies, evaluates, and analyzes any management, management structure, and system problems and root causes of these problems. This report should specifically address Item 1, Page 2, of the December 24, 1985, Nuclear Regulatory Commission letter from James G. Keppler to Wayne H. Jens.

Present the Overview Committee report to Detroit Edison senior management, and representatives of the Detroit Edison Board of Directors in a meeting to be held on February 7, 1986, or soon thereafter.

Review the Improvement Plan prepared by the Nuclear Operations management staff in response to the problems identified by the Overview Committee.

Monitor during 1986 the actions required in meeting the Nuclear Operations Improvement Plan and recommend modifications to the plan as appropriate.

Reactor Operations Review

Review the Reactor Operations Improvement Plan presented to the NRC in letters dated October 10, 1985, and November 27, 1985, and any future modifications to this plan. Address specifically our plans to restart the plant in February. Review the performance of the plant and organization during the restart of the plant after the Fall and Winter 1985 outage. Based on this review, recommend further action required for increasing reactor power beyond 5% to the next power plateau.

The committee will review and comment on Detroit Edison's response to the December 24, 1985, letter. Specifically, the committee should evaluate whether the plans presented in this letter adequately cover the necessary conditions that should be met prior to resuming operation. Since the management evaluation task may have uncovered management deficiencies that should be corrected prior to restart, we would like to have those pointed out to us in your response and comments to our draft letter.

The committee will review and provide any necessary advice concerning each test condition up to and including commercial operation, warranty test, and full power operation. This power escalation program will be submitted to the NRC in response to the December 24, 1985, letter.

ATTACHMENT 2

Reactor Operations Improvement Plan Status

The Reactor Operations Improvement Plan was submitted to the NRC on October 18, 1985. Included herein is a status report on the commitments contained in that letter. Sixty-one of the sixty-four commitments have been implemented. Monitoring information is also provided herein to demonstrate the effect the Plan has had on plant operations. The goals identified in this plan are ones which are indicative of a mature operating plant. Management expects positive trends to continue and will continue to monitor them. Any deviations away from the desired trend or goal will prompt management review and corrective action, as appropriate, to assure that progress toward the objectives of the Plan continues. It is anticipated that as the Fermi 2 operating experience increases, we will move even closer to these goals. It is important to note that these goals may require adjustment, either up or down, should management determine that the goals are too limiting or are otherwise not achieving the desired results. Progress on the Plan will be reviewed with the Independent Over Committee.

REACTOR OPERATIONS IMPROVEMENT PLAN

Commitment Status

<u>Action Item</u>	<u>*Status</u>
1. Current dated LCOs are displayed in hard copy.	Complete
2. The DOT system of flagging control board system and component abnormal conditions is being made more visible and meaningful in correlation with the outstanding work orders.	Incomplete (QSF issued)
3. a. Tagging and work orders are being modified to more clearly specify post-maintenance test requirements.	Complete
b. Indicate which documents require revision.	Complete
4. As a long-term action, administrative work procedures will be simplified or clarified to consistency.	Partially Comp. (Training Req'd.)
5. Item 5 Deleted.	N/A
6. Nuclear Operations personnel have been advised to consider the consequences of taking even the simplest actions.	Complete
7. Personnel have been advised that it is equally important that the error be communicated so that appropriate operating staff or management action can take place in a timely manner.	Complete
8. The reduction of open work items and increased control by the operating staff over open work items will reduce the number of unexpected operational occurrences and violations.	Complete
9. The Nuclear Training organization is developing and, when possible, modifying existing scenarios to exercise the requalification classes on routine plant startup and operation.	Complete
10. Emphasis is being placed on normal system line-up, operation and responses required.	Complete
11. The importance of logging activities on charts at shift turnover, system startup and transient initiation is stressed as is evaluation of plant conditions using the Sequence of Events Recorder.	Complete

\*NOTE: All "Completes" have been verified by Nuclear Quality Assurance

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|--|----------|
| 12. The Plant Manager or the Superintendent-Operations are meeting individually with each NSS, NASS and Shift Operating Advisor (SOA).   | Complete |
| 13. To improve the quality of Control Room operations logs, entries into the Nuclear Supervising Operator's (NSO) log are being made by the NASS as an interim measure.  | Complete |
| 14. The Operations Engineer or designee is reviewing the NSS and NSO logs at least daily, except weekends, to assure that they are being kept properly and that the proper entries are being recorded as the plant is being operated.                    | Complete |
| 15. Superintendent-Operations is reviewing the NSS and NSO logs on a periodic basis to provide feedback to the NSS and the Operations Engineer.  | Complete |
| 16. The NASS has been assigned to the Control Room proper as a permanent duty station on shift.  | Complete |
| 17. The NASS has been placed in charge at the controls area of the Control Room during planned reactivity manipulations, plant startups and shutdowns, multiple plant testing activities and outage periods when significant maintenance is in progress. | Complete |
| 18. The role of the Control Room NSO has been clarified to assist the NASS or NSS in directing plant activities.   | Complete |
| 19. The duty station of the SOA is now the Control Room.   | Complete |
| 20. SOAs have increased their involvement in activities in the Control Room.   | Complete |
| 21. Shift Technical Advisor (STA) monitors for hardware-related problems associated with Control Room equipment which may not otherwise be identified or tracked.  | Complete |
| 22. The STA is concerned with resolving Control Room problems like nuisance annunciators and alarms in addition to normal duties.  | Complete |
| 23. The Reactor Engineer has increased participation in reactor operations and is closely following, analyzing and reviewing significant reactor evolutions.   | Complete |
| 24. Operations Engineer has increased involvement in operations by following and reviewing performance of shift activities against established plans and checking the quality of Control Room logs.  | Complete |
| 25. The NSS has been given the authority to control work in the plant by setting priorities and work load.   | Complete |

- |   |   |
|---|---|
| 26. Item 25 is accomplished through interface with the plant Outage Management organization and through direct involvement in work planning meetings.   | Complete                                |
| 27. The Superintendent-Operations periodically and without notice has been observing shift operation activities.  | Complete                                |
| 28. The Superintendent-Operations gives feedback to the Nuclear Shift Supervisor (NSS) or Nuclear Assistant Shift Supervisor (NASS) and documents any observations.   | Complete                                |
| 29. The Superintendent-Operations observations include actual plant operations and the review of operations administrative activities such as shift turnover, log review and plant status system updates.                     | Complete                                |
| 30. The advisor to the Plant Manager is conducting more frequent, regular surveillances of Control Room operations.   | Complete                                |
| 31. The advisor observes the performance of the Control Room crew, reads the log kept by the Shift Operating Advisor (SOA), discusses any problems with the SOA reads the log kept by the Nuclear Supervising Operator (NSO). | Complete                                |
| 32. In addition, the advisor observes plant parameters and provides his observations to the Plant Manager.  | Complete                                |
| 33. Following turnover from the off-going NSS, the NSS conducts a briefing of shift operating personnel.  | Complete                                |
| 34. Supplemental training on the current requirements for control rod manipulations, including the reduced notch worth pull concept, has been conducted with all six shifts of plant operators.                               | Complete                                |
| 35. Training is emphasizing the important differences between the plant and the simulator during training.  | Complete                                |
| 36. The operations staff is providing on-shift training regarding significant plant and procedure changes.  | Complete                                |
| 37. An interim status chart has been implemented to track LCOs on equipment required by Technical Specifications which affect shift activities.   | Complete                                |
| 38. The work order, tagging and equipment status system has been modified to more clearly specify post-maintenance test requirements.   | Complete                                |
| 39. Human factors methods are being applied to the administrative procedures to make them more streamlined and more user oriented.  | Partially Complete.<br>(Training Req'd) |

40. LERs are being:
- a. Tracked. Complete
  - b. Trended so that symptoms of potential problems can be diagnosed early to prevent recurrence. Complete
41. Emerging trends and selected LERs are being evaluated utilizing proven, systematic problem-solving methods to identify causes and remedial as well as preventive corrective action. Complete
42. Corrective action taken is being:
- a. Tracked to Completion. Complete
  - b. evaluated for effectiveness. Complete
43. The corrective action process is being further enhanced by:
- a. Refinement of procedures associated with the process. Complete
  - b. Structured training for personnel involved in the evaluation and review phases of the process. Complete
44. Corrective Action Procedures have been issued for implementation. Complete
45. Corrective Action formal training for selected personnel is scheduled to begin the week of November 4th. Complete
46. Actions previously initiated by QA organization, will improve the timeliness and overall effectiveness of the corrective action process. Complete
47. a. In each one-on-one session between the Plant Manager or the Superintendent-Operations and the NSS, NASS, and SOA, employes are reminded of their responsibilities; delegated authority and accountabilities; of their expected job performances and of their relationship with other shift members. Complete
- b. Meetings with employes down to the group supervisor level were held during the week of September 17 to discuss the status of the plant, the status of NRC/DECo interactions and to remind each employe of his part in improving the performance of Fermi 2. Complete
48. The NSS is responsible for ensuring that the ability to provide proper direction is not compromised by an excess of work or testing. Complete

49. For this reason (Item 48), the NSS is controlling work in the Complete plant by determining priority and amounts of work for the shift.
50. Work in the plant is identified and scheduled on a Plan of the Day. Complete
51. Each working day, a planning meeting is held with the day shift NSS in attendance. Complete
52. The NSS provides input relative to anticipated plant operations over the next few days so that tasks can be identified and prioritized on the schedule accordingly. Complete
53. The NSS establishes work priority and provides direction as to the amount of work to be scheduled. Complete
54. The Plant Support Engineers review Engineering Evaluation Requests (EERs) and Engineering Design Packages (EDPs) to reduce plant changes to only those necessary for safe plant operation. Complete
55. The NSS conducts status meetings at 0600, 1800, and 0100 hours. Complete
56. These meetings (Item 55) are held with representatives from the various work groups to monitor progress on important items as well as to allow additions to the work schedule or review changes in course as directed by the NSS. Complete
57. Goals have been established for certain key operational activities. Complete
58. Detroit Edison has established objective monitoring criteria to determine the overall effectiveness of the Reactor Operations Improvement Plan. Complete
59. Detroit Edison organizational units have been assigned responsibility to track and trend performance with respect to each of these criteria. Complete
60. Management will be monitoring this performance so that adjustments can be made, if necessary. Complete
61. The Nuclear Quality Assurance organization of Nuclear Operations will provide independent verification of effective implementation of the program utilizing audits and/or surveillance methods. Complete
62. Results will be reported to Nuclear Production and Nuclear Operations Management. Complete

## Reactor Operations Improvement Program Indicators

### Goal A:

- o The goal is to minimize the number of open work orders.
- o The dotted line represents the expected while the solid line represents the actual results.
- o As of January 26, 1986 there were 173 open work orders.

### Goal B:

- o The goal is to minimize the number of field complete (F.C.) EDP's open for greater than 30 days not yet closed and signed off by the Plant Manager.
- o As of January 26, 1986 there were 41 open F.C. EDP's.

### Goal C:

- o The goal is to minimize the number of outstanding Control Room problem annunciators.
- o The dotted line represents the expected range. The solid line represents the actual results. A specific breakdown between engineering and broke/fix annunciators is also presented.
- o As of January 26, 1986 there were a total of 39 outstanding Control Room problem annunciators.

### Goal D:

- o The goal is to perform all surveillance procedures on time, including the grace period and to minimize the number requiring use of the grace period.
- o For the week ending January 26, 1986 there were 100% surveillances completed on time including the grace period and there was one (1) surveillance not completed within 24 hours of entering the grace period.

### Goal E:

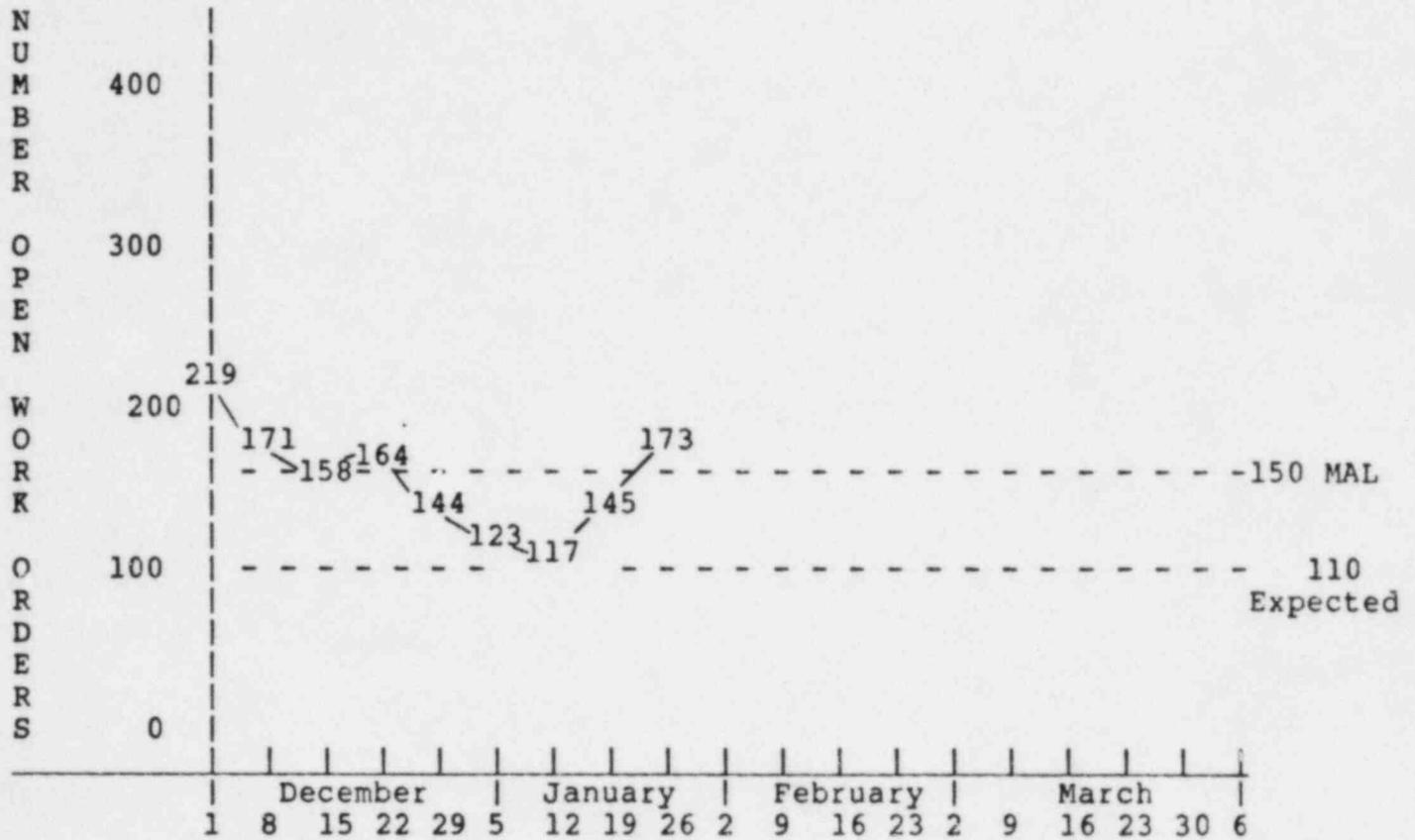
- o The goal is to minimize the number of outstanding, time-sensitive LCO's.
- o As of January 26, 1986 there were zero (0) outstanding, time-sensitive LCO's.

### Goal F:

- o The goal is to minimize the number of Reportable Operational Occurrences.
- o For the week ending January 26, 1986 there were zero (0) LER's.
- o The four week rolling average as of January 26, 1986 was 0.25.

GOAL A: Minimize number of open PN-21's (Work Orders)

Objectives:           TOTAL           - 150 Management Attention Level  
                           TOTAL           - 110 Expected

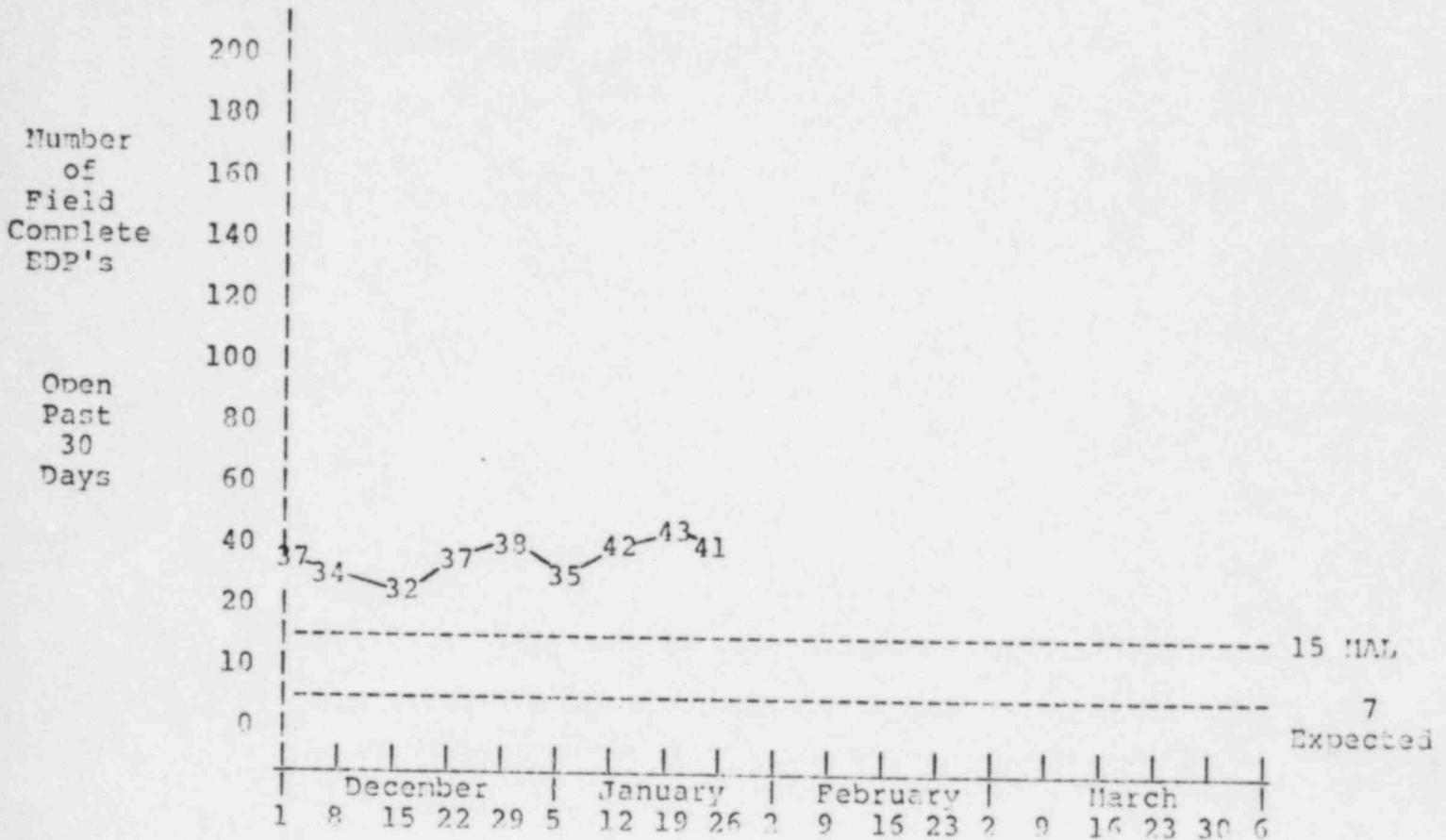


NOTE: Includes plant system related PN-21's (work orders) only. During an Outage greater than one week in duration, total numbers can be increased by a factor of 2.5.

Because the trend is above the Management Attention Level, an inquiry was prompted to identify the source for the increasing trend. The trend is above the Management Attention Level due to a controlled, deliberate increase in known work items to support reactor restart.

GOAL B: Minimize number of EDP's which remain open after work has been completed, i.e., field complete.

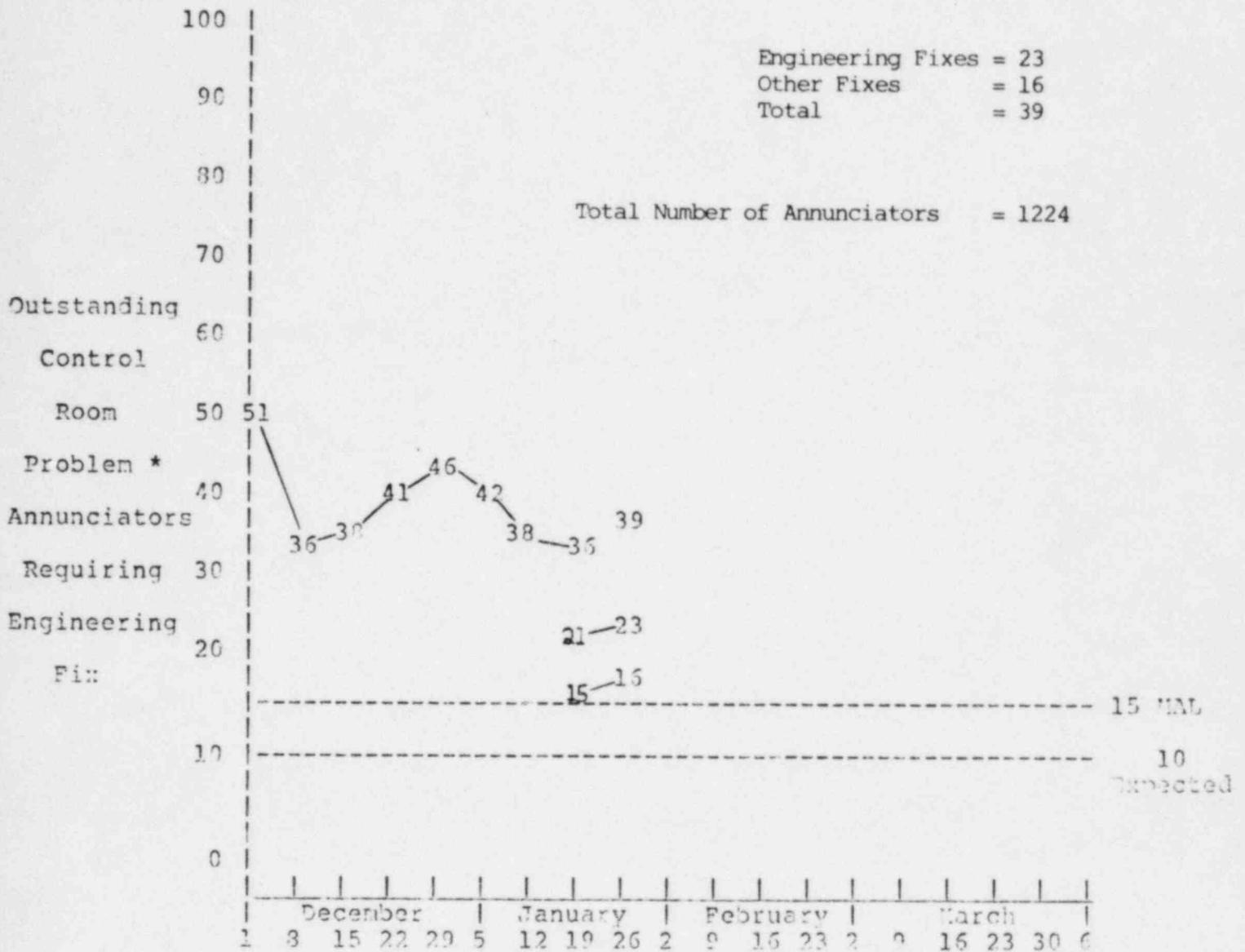
**Objective:** EDP's open 30 days after field work complete - 15 Management Attention Level  
 - 7 Expected



**NOTE:** This trend remains above the Management Attention Level. A management inquiry has revealed that the rate of closure has remained relatively constant due to the large number of EQ EDPs closed out during the 85-01 Outage.

**GOAL C: Minimize number of inoperable or continuously alarming annunciators in Control Room**

- Objective:**
- 15 Management Attention Level
  - 10 Expected



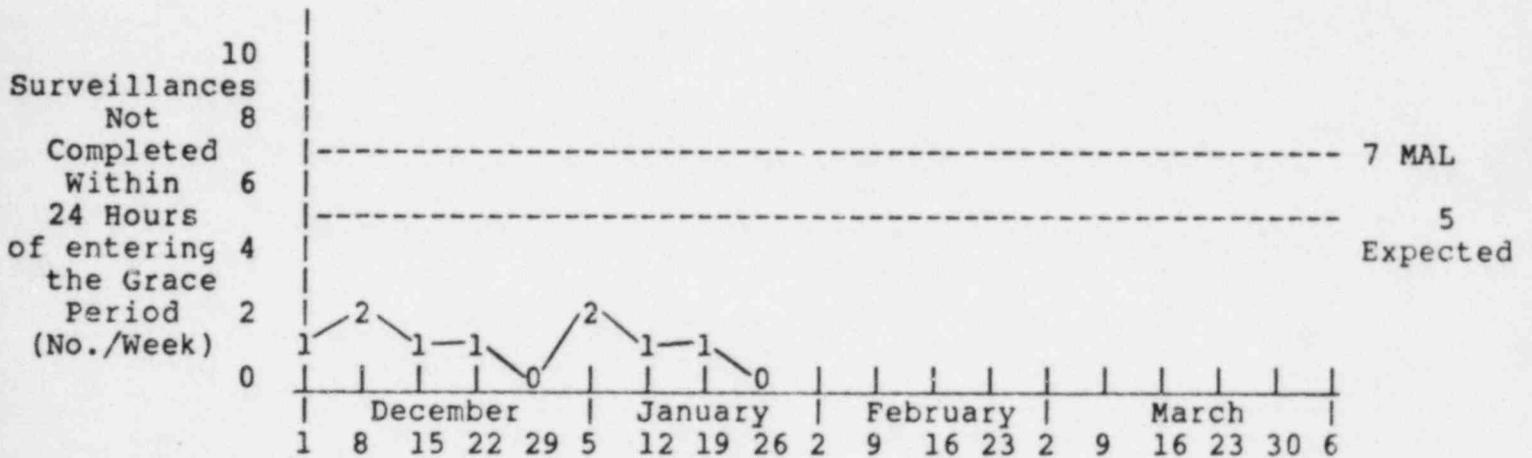
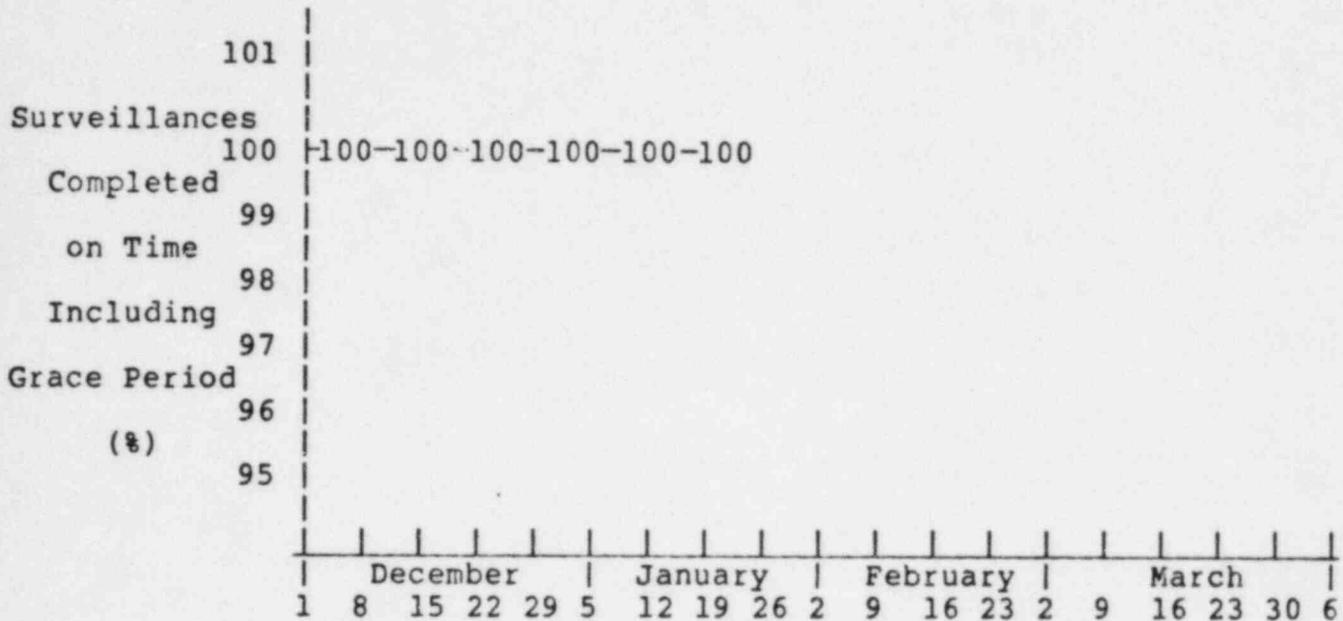
**NOTE:** Problem annunciators are all inoperable, nuisance, setpoint, logic, etc. related annunciators.

Management has requested a schedule and plan for the engineering items. Additional attention is being directed to expedite resolution of the other fixes required.

GOAL D: Perform Surveillances on time minimizing using grace period

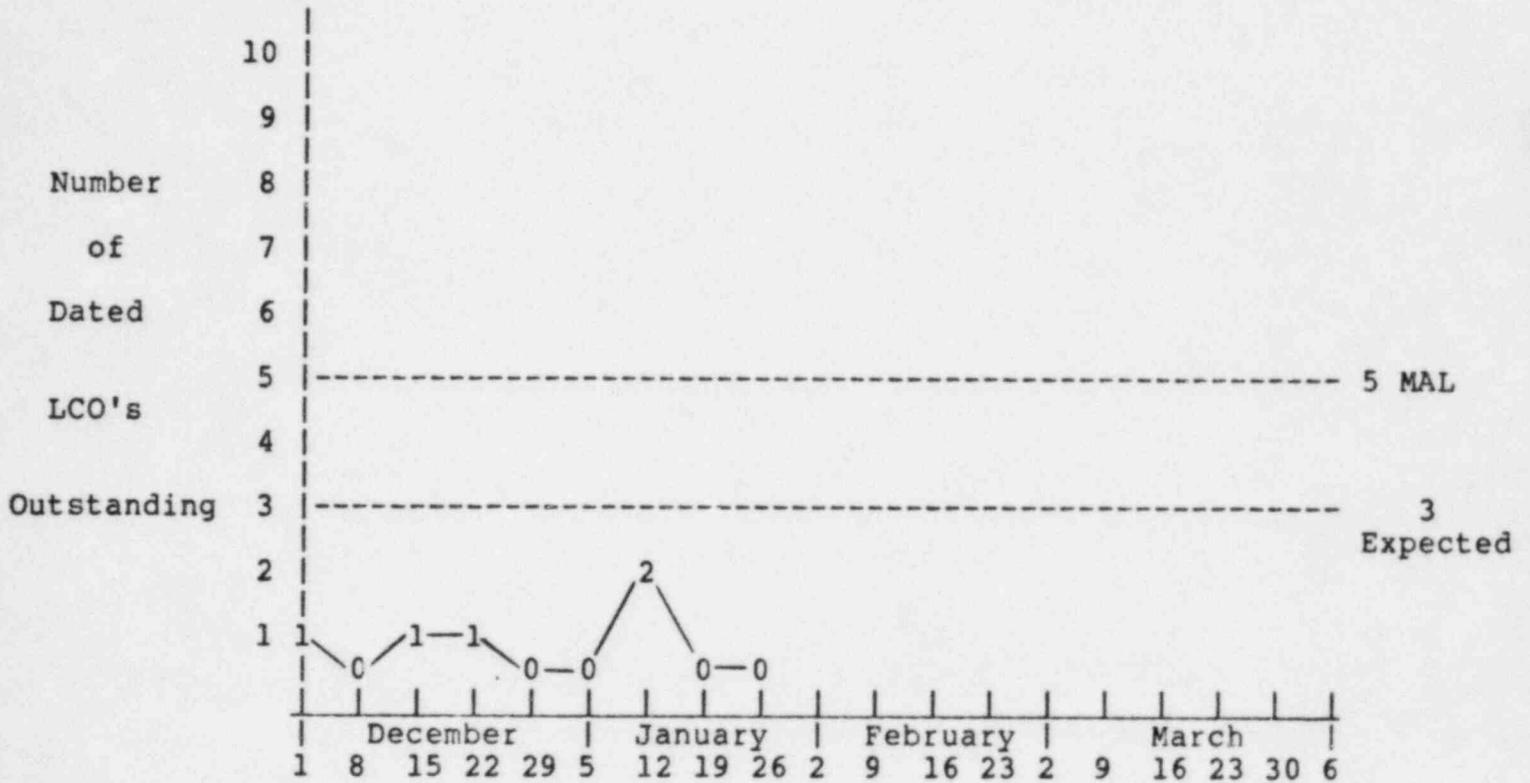
Objective: Surveillances completed on time including grace period:  
 - 99% Management Attention Level  
 - 100% Expected

Surveillances not completed within 24 hours of reaching the grace period:  
 - 7/week Management Attention Level  
 - 5/week Expected



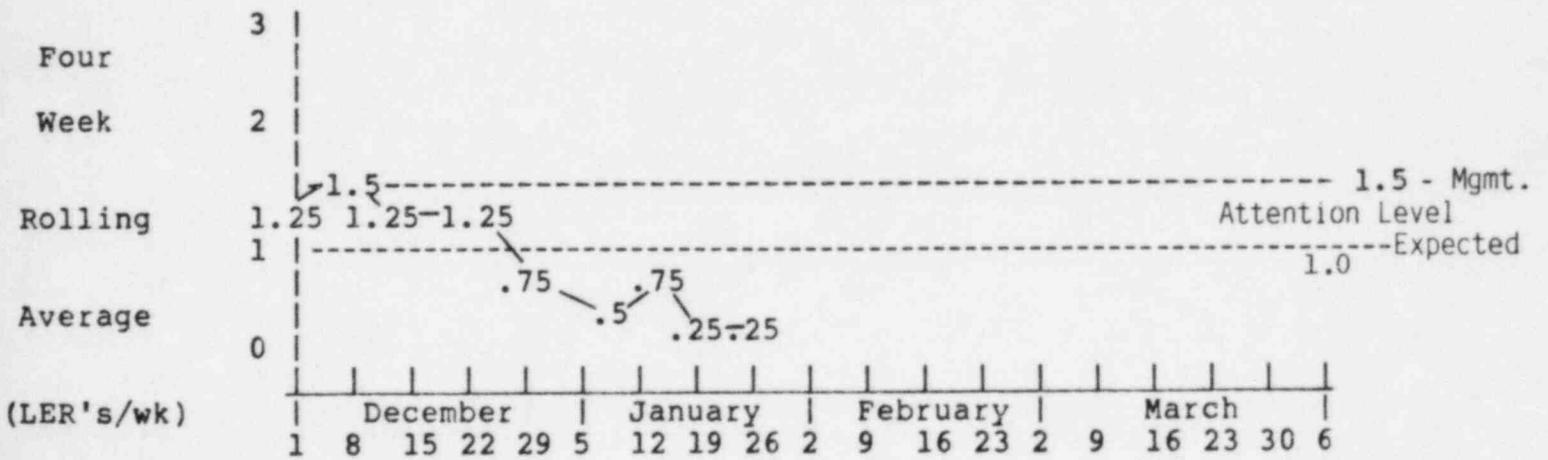
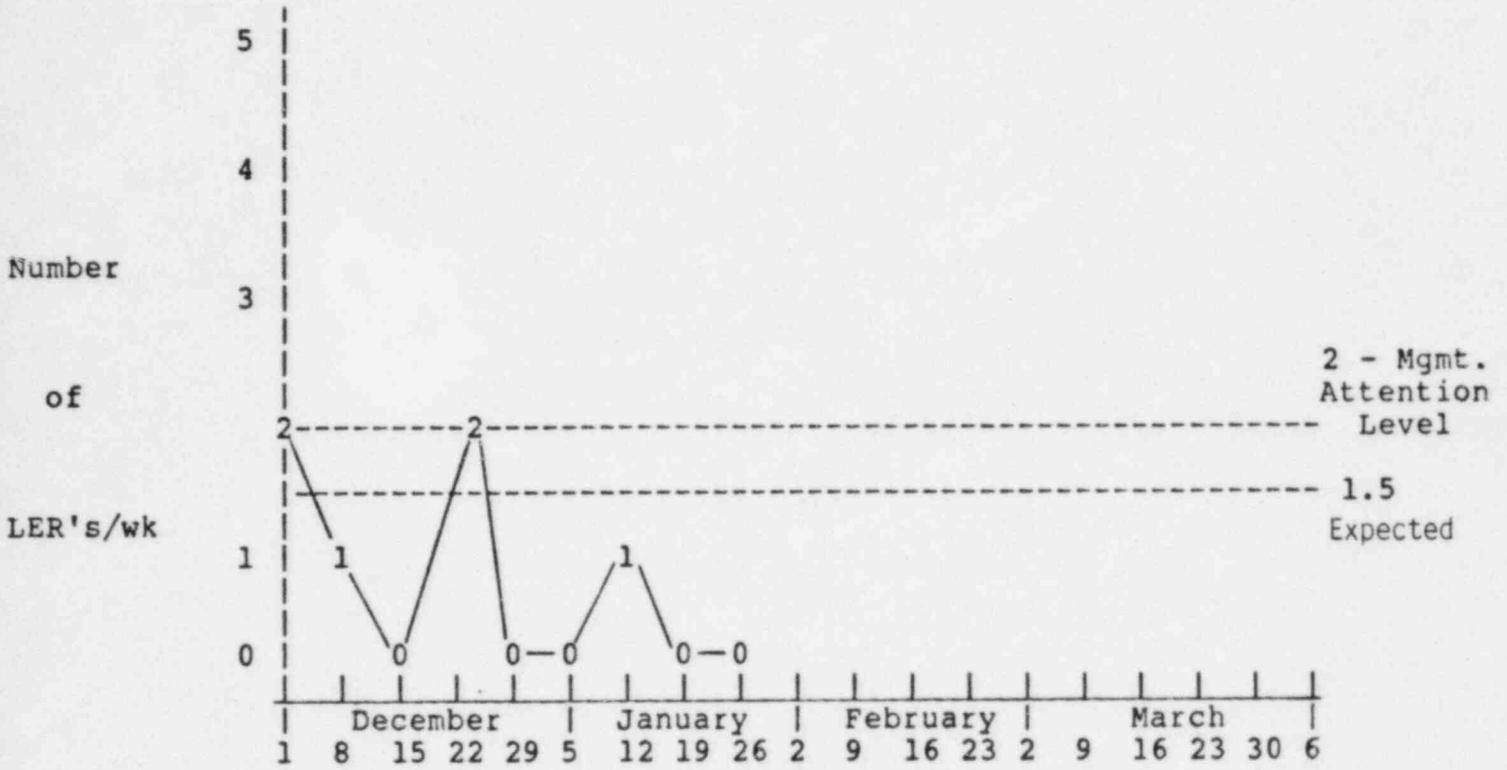
GOAL E: Minimize the number of outstanding, time sensitive LCO's

Objective: Number of dated LCO's outstanding - 5 Management Attention Level  
- 3 Expected



GOAL F: Minimize the number of reportable operational occurrences

Objective: Number of Licensee Event Reports (LER's) - 2/week Management Attention Level  
 1.5/week Expected



NOTE: Reportable Operational Occurrences do not include Security-related events.

ATTACHMENT 3

System and Equipment Problem Resolution or Progress

The information herein identifies the status of system and equipment problems which were identified as restraints to restart or which were addressed to improve regulatory and operating performance:

1. Equipment Environmental Qualification Modifications
2. Installation of an Alternate Shutdown Panel
3. Main Steam Bypass Line Replacement
4. South Reactor Feed Pump Turbine
5. High Pressure Coolant Injection (HPCI) Pump
6. Emergency Diesel Generator Repairs
7. Residual Heat Removal Pump "B" Motor Replacement
8. Reactor Auxiliary Building Embedded Plates
9. Traversing In-Core Probe (TIP) Nitrogen Purge Line Isolation
10. Reactor Water Clean-Up System Modifications

1. Equipment Environmental Qualification Modifications

In order to comply with the requirements of 10CFR49 and Generic Letter 85-15, an evaluation was made of all safety-related equipment to determine its environmental qualification (EQ). The Fermi 2 EQ submittal to the NRC identified which safety-related equipment in a harsh environment would require relocation or replacement. During the Fall 85-01 Outage, all equipment delineated in the submittal was relocated or replaced.

2. Installation of Alternate Shutdown Panel

During the 85-01 outage an alternate shutdown panel was installed to provide additional shutdown capability to satisfy License Condition 2.c.9.d. in the event of a damaging fire in the Control Center. A final design and operating procedure review was conducted in parallel with construction. Three design deficiencies were identified and are being corrected.

3. Main Steam Bypass Line Replacement

On September 15, 1985, cracks in the pipe wall of the east main steam bypass line were discovered. Similar cracks were found in the west bypass line upon further investigation. The cracks developed at attachment points as a result of high frequency, flow-induced vibration. New bypass lines have been installed which incorporate heavier wall pipe to reduce stress, reduce pipe attachment stress concentration and pressure breakdown orifices to stage the pressure and reduce velocity in the pipe. Vibration and strain instrumentation has been installed on the lines to provide empirical design verification after the lines are in operation. A safety evaluation has been completed to ensure the system capacity meets the values stated in the Fermi 2 FSAR.

4. South Reactor Feed Pump Turbine (SRFPT)

The SRFPT failed in June, 1985. The vibration on the machine was not detected in the Control Room due to inaccurate instrument indication. The extent of the damage required the complete disassembly and repair or replacement of the turbine rotor, bearing pedestal, and miscellaneous bearings, seals and trim piping.

Additional instrumentation has been added and the turbine is ready for operation when reactor steam is available. A piping modification was made on the gland seal system to reduce air in leakage to the condenser.

5. High Pressure Coolant Injection (HPCI) Pump

Initial operation of the High Pressure Coolant Injection (HPCI) Pump, under load, evidenced moderate vibration. During the Fall 85-01 Outage, cold alignment checks and realignment was made on the pump. No defects were found upon inspection of the booster pump internals.

Modifications to the governor and overspeed trip device were made to ensure proper operation in the future. Installation of alignment devices for hot alignment of the unit were completed. The unit is ready for testing when steam is available upon restart.

6. Emergency Diesel Generator Repairs

The diesels have undergone extensive analysis to determine the cause for the bearing problems experienced to date. Contributing causes include misalignment, long-term storage environment, misassembly, lack of pre-lube, and particulate in the oil. Several corrective actions have been taken to address the contributing causes. In addition, a slow-start feature has been added. A reliability demonstration is planned for two diesels. A presentation was made to the NRC staff on January 24, 1986, outlining this program. A formal submittal of the program will be made to the NRC.

7. Residual Heat Removal Pump 'B' Motor Replacement

On November 25, 1985, RHR pump motor "B" failed during operation in the shutdown cooling mode. Investigation shows the failure to be caused by lack of process control during manufacture followed by low-amplitude, cyclic stress during operation. A replacement motor has been obtained from the Browns Ferry plant and is now installed. Another motor is being investigated to assure that this was an isolated failure.

8. Reactor Auxiliary Building Embedded Plates

Standard embedded plates were incorporated in the design of the Reactor Building as a means to anchor loads to the concrete structure. Generic load capacities were established for these embedments with the intention of performing specific load reconciliation after construction completion to ensure no overloading.

A conservative analysis had been performed to identify those embedments which potentially could be overloaded. However, subsequent detailed review of the potentially overloaded embedments.

9. Traversing In-Core Probe (TIP) Nitrogen Purge Line Isolation

Recent correspondence from the NRC reveals the TIP nitrogen purge line should conform to General Design Criteria 56 (GDC56). An interim design to meet the intent of GDC56 is being implemented which incorporates two QAI seismically-mounted ball valves outside containment. This change will be installed prior to starting from the present outage.

10. Reactor Water Cleanup System Modifications

During initial operations, numerous unnecessary Reactor Water Cleanup System (RWCU) isolations occurred. These isolations have been attributed primarily to the Steam Leak Detection System and to the differential flow (Leak Detection) isolation signals. Instrument and control modifications were made on this system to prevent recurrence of the problem and to provide the operators Control Room information.

#### ATTACHMENT 4

##### Actions to Insure Readiness for Reactor Restart

Following are the items which were completed for the last reactor startup prior to the fall 85-01 Outage. Because this startup was successful, these items will be repeated for the next startup.

1. Lineups and independent verification of lineups will be completed on Engineered Safety Feature (ESF) Systems designated by the Operations Engineer within 30 days of the planned reactor startup date.
2. Existing lineups will be reviewed by Operations Supervision for all plant systems.
3. The lineups of primary containment manual isolation valves outside the drywell will be verified and independently reviewed.
4. A random sample of fire barriers will be walked down and verified for compliance with Technical Specifications.
5. Security barriers will be walked down and verified for compliance with the Physical Security Plan.
6. The accuracy of the "Control Room Status File" will be verified by Operations Supervisor.
7. All required Operational Condition 2 surveillances will be completed.
8. Temporary modifications will be verified for applicability.

##### Additional Items Added to Insure Readiness for Restart

The following additional items will also be completed to insure readiness for restart:

1. The Reactor Operators responsible for reactor startup will have recently conducted reactor startup evolutions on the simulator.

2. Outstanding Technical Specification change requests will be reviewed by Operations Supervision to ensure full compliance with Technical Specifications.
3. The Technical Engineer will review Deviation Event Reports identified by Nuclear Production management to ensure that they are closed or, if not closed, that they have been determined to not contribute to repetitive events.
4. Nuclear Quality Assurance will ensure that actions assigned as a result of Licensee Event Reports (LER) are completed or adequately planned.
5. The Reactor Operations Improvement Plan (ROIP) goals listed below are either being met or show a trend toward the established goal. These goals are:
  - a. Minimize the number of Control Room nuisance alarms.
  - b. Minimize the number of Engineering Design Packages (EDP) which are field complete for greater than 30 days but require paperwork closure.
  - c. Minimize the number of time-sensitive Limiting Conditions for Operation (LCO).
  - d. Minimize the number of "signed on" active work orders (PN-21's).
  - e. Complete all surveillances within the grace period and minimize the use of the grace period.
  - f. Minimize the number of Licensee Event Reports (LER).
6. Operational Assurance will conduct an audit or surveillance of committed reactor startup readiness tasks within 30 days of the planned reactor startup date.

Actions To Be Completed After Restart  
Prior to Test Condition I

The following listing are the items which must be completed prior to exceeding 5% power. These items are either the completion of testing which requires the reactor be in operation at low power levels or actions taken to ensure readiness of the facility to support power ascension. Upon successful completion of these items the plant will have met all the technical requirements to exceed 5% power and will be ready to commence Test Condition 1.

1. High pressure coolant injection will be retested and declared operable.
2. Reactor Core Isolation Cooling system will be verified operable.
3. The Main Steam Relief Valve and Automatic Depressurization System will be verified operable.
4. Main Steam bypass line expansion will be monitored during testing.
5. South Reactor Feed Pump performance will be verified by test.
6. Operation and performance of the Off Gas system will be verified by test.
7. Reactor Operations Improvement Plan (ROIP) goals listed below are being met or show a trend toward the established goals:
  - a. Minimize the number of Control Room nuisance alarms.
  - b. Minimize the number of Engineering Design Packages (EDP) which are field complete for greater than 30 days but require paperwork closure.
  - c. Minimize the number of time-sensitive Limiting Conditions for Operation (LCO).
  - d. Minimize the number of "signed on" active work orders (PN-21's).
  - e. Complete all surveillances within the grace period and minimize the use of the grace period.
  - f. Minimize the number of Licensee Event Reports (LER).