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Licensee:	Southern Nuclear Operating Company, Inc.
Facility:	Farley Nuclear Plant (FNP), Units 1 and 2
Location:	7388 North State Highway 95 Columbia, AL 36319
Dates:	September 8 - 12, 1997
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EXECUTIVE SUMMARY

Farley Nuclear Plant
NRC Inspection Report 50-348,364/97-09

This inspection included a review of the licensee's implementation of 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants" [the Maintenance Rule]. The report covers a one-week period of inspection.

- Overall, the inspection Team concluded that licensee had a comprehensive Maintenance Rule program that met the requirements of 10 CFR 50.65, and the program was being effectively implemented.

Operations

- Licensed operators, in general, understood their specific duties and responsibilities for implementing the Maintenance Rule (Section O4.1).

- A weakness was identified relative to inconsistency in operator's understanding and use of the definition for unavailability as applied to the Maintenance Rule (Section O4.1).

Maintenance

- Required structures, systems, and components (SSCs), with the exception of one system, miscellaneous starters (H24), were included within the scope of the Rule (Section M1.1).

- The licensee was performing periodic evaluations and assessments that met the requirements of the Maintenance Rule (Section M1.3).

- The licensee's method for balancing reliability and availability met the intent of Paragraph (a)(3) of the Rule (Section M1.4).

- The licensee considered safety in establishment of goals and monitoring for the (a)(1) systems and components reviewed (Section M1.6).

- For the SSCs reviewed, industry-wide operating experience was considered, as appropriate (Section M1.6).

- Corrective actions, goals, and monitoring for the (a)(1) SSCs reviewed were appropriate (Section M1.6).

- A lack of programmatic oversight, with respect to categorizing and resolving potential equipment failures, was considered a program weakness (Section M1.6).

- For (a)(2) SSCs, in general, performance criteria had been properly established, suitable trending was being performed, corrective actions were taken when SSCs failed to meet performance criteria or experienced failures, and industry-wide operating experience was considered, where practical (Section M1.7).

- In general, operating data were being collected. However, a violation, with two examples, was identified for (1) failure to establish availability performance measures for 15 high-safety-significant SSCs and (2) failure to implement availability measures for the 15 high-safety-significant SSCs and seven other SSCs (Section M1.7).

- A program weakness was identified relative to inconsistencies related to collecting and trending unavailability data for Maintenance Rule scoped systems (Section M1.7).

- The written structural program was considered weak relative to adequately addressing the guidance of Revision 2 of Regulatory Guide 1.160 (Section M1.7).

- Plant material condition and housekeeping observed during walkdowns was generally acceptable. Below average cleanliness was noted in some out-of-the-way areas. Piping and components were painted but showed some evidence of aging, including some minor corrosion, oil leaks, and water leaks. Boron deposits and several minor leaks, which had been previously identified and were appropriately contained, were observed on a number of systems (Section M2.1).

- Maintenance Rule assessments were detailed, and effective, timely corrective actions were taken. The first (1996) Maintenance Rule assessment was not as thorough as the 1997 assessment (Section M7.1).

Engineering

- The approach to risk-ranking for the Maintenance Rule was adequate (Section M1.2).

- The current method for assuring that the assumptions for reliability and availability in the Probabilistic Risk Assessment (PRA) were conservative was adequate (Section M1.2).

- The approach, under paragraph (a)(3) of the Rule, to assessing the risk-impact of maintenance activities was good. The assignment and use of licensed operators to perform evaluations was considered a strength (Section M1.5).

- The licensee's process for ensuring that critical safety functions were available during planned outages was adequate (Section M1.5).

- Engineering and maintenance personnel were knowledgeable of plant systems, were proactive in taking corrective actions and understood how to apply the Maintenance Rule (Section E4.1).

Report Details

Summary of Plant Status

Both Farley units operated at power during the inspection period.

Introduction

The primary focus of this inspection was to verify that the licensee had implemented a maintenance monitoring program which met the requirements of 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," (the Maintenance Rule). The inspection was performed by a team of inspectors that included a Team Leader, two Region II inspectors, one Region II Senior Reactor Analyst, one Resident Inspector, and a Senior Operations Engineer from the Quality Assurance and Maintenance Branch, Office of Nuclear Reactor Regulation (NRR). In addition, NRC staff support was provided by the Senior Operations Engineer from NRR. The licensee provided an overview presentation of the program to the team on the first day of the inspection. The overview handout is included as Attachment 2 to this report.

I. OPERATIONS

04 Operator Knowledge and Performance

04.1 Operator Knowledge of Maintenance Rule

a. Inspection Scope (62706)

Prior to the onsite portion of the inspection, the Team reviewed six months of Reactor Operator (RO) shift logs, Shift Supervisor relief check sheets, and Limiting Condition of Operation (LCO) logs. During the onsite portion of the inspection, the Team interviewed five licensed operators involved in on-shift work coordination duties to determine if they understood the general requirements of the Maintenance Rule and their particular duties and responsibilities for its implementation. Three were currently involved in Senior Reactor Operator duties, and two were performing Reactor Operator duties. From the interviews the Team determined their understanding of the Maintenance Rule, how their current duties were impacted by the Maintenance Rule, and their understanding of how availability was tracked by the Rule.

b. Observations and Findings

In general, the operators interviewed understood the philosophy of the Maintenance Rule and their responsibilities associated with the Rule. The operators all believed that they were adequately trained and understood the requirements of the applicable procedures. All operators understood the need to restore equipment to operating condition and minimize SSC unavailabilities. The Operations staff used the Equipment Outage Forecasts produced by the planning department to understand the risk-significance of planned activities. Operations sent representatives to participate in the planning meetings. The individuals interviewed had an understanding of the common risk terms used at the site. The operations staff knew who to contact in the

planning department for aid in evaluating risk due to emergent equipment problems while other equipment was out-of-service.

The Team's review of six months of control room logs from both units showed variation in the quality of log entries with respect to the logging of out-of-service times for equipment. The Shift Supervisor Check Sheets did not indicate times for on shift activities, so it would be of little use for determining information needed for the Maintenance Rule. Interviews indicated this was not the use for which the Check Sheets were intended. The RO logs varied in quality with respect to Maintenance Rule data gathering. Equipment taken out-of-service as part of a procedure-directed surveillance activity frequently was not logged separately. Equipment taken out-of-service for maintenance activities was logged in and out-of-service. Interviews of the operations personnel indicated differing understanding of how to measure Maintenance Rule unavailabilities. The INPO definition of unavailability was confused with the definition required for the Maintenance Rule. Interviews with the individual in planning who tracked the unavailabilities showed the LCO logs were used exclusively for the tracking. This resulted in LCO operability times being used for maintenance unavailabilities. Some components that required tracking were not tracked through administrative LCOs or other means (see Section M1.7 b.5 below). The interviews indicated that the operations staff was sensitive to the importance of the logs as a source of information for Maintenance Rule record keeping, but their differing understanding of the definition of maintenance unavailability indicated the RO logs would not provide consistent data if used. The inconsistencies in the recording, gathering and application of unavailability data was viewed by the Team as a weakness.

c. Conclusions

Licensed operators, in general, understood their specific duties and responsibilities for implementing the Maintenance Rule. However, there was some inconsistency in their understanding and use of the definition for unavailability as applied to the Maintenance Rule. This was viewed as a weakness.

II. MAINTENANCE

M1 Conduct of Maintenance

M1.1 Scope of Structures, Systems, and Components Included Within the Rule

a. Inspection Scope (62706)

Prior to the onsite inspection, the Team reviewed the Farley Final Safety Analysis Report (FSAR), Licensee Event Reports (LERs), the Emergency Operating Procedures (EOPs), previous NRC Inspection Reports, and information provided by the licensee. The Team selected an independent sample of structures, systems, and components that the Team believed should be included within the scope of the Rule, which was not

classified as such by the licensee. During the onsite portion of the inspection, the Team used this list to determine if the licensee had adequately identified the structures, systems, and components that should be included in the scope of the rule in accordance with 10 CFR 50.65(b).

b. Observations and Findings

The licensee appointed an Expert Panel to perform several Maintenance Rule implementation functions including establishing the scope of the Maintenance Rule. The panel reviewed 239 systems and structures for Units 1 and 2 of which 159 were determined to be in the scope of the Rule.

The Team reviewed the licensee's Maintenance Rule database in an effort to verify that all required structures, systems, and components were included within the scope of the Maintenance Rule. The Team's review was performed to assure the scoping process included the following:

- all safety-related SSCs that are relied upon to remain functional during and following design basis events and ensure the integrity of the reactor coolant pressure boundary, the capability to shut down the reactor and maintain it in a safe shutdown condition, and the capability to prevent or mitigate the consequences of accidents that could result in potential offsite exposure comparable to the 10 CFR, Part 100 guidelines,

- non-safety SSCs that are relied upon to mitigate accidents or transients,

- non-safety SSCs which are used in the plant emergency operating procedures,

- non-safety SSCs whose failure could prevent safety-related SSCs from fulfilling their safety-related function,

- non-safety SSCs whose failure could cause a reactor trip or actuation of a safety-related system.

The Team reviewed the licensee's Maintenance Rule database and verified that all required structures, systems, and components were included in the rule with one exception. The licensee had not included System H24, within the scope of the Maintenance Rule. This system included various motor starters associated with Balance of Plant (BOP) motors. The Unit 1 and 2 steam generator feedwater pump turbine AC lube oil pumps were part of System N21, Condensate and Feedwater, which was scoped under the Rule. However, failure of a starter for one of these lube oil pumps could also potentially cause a loss of steam generator feedwater and result in a reactor trip. The Team discussed this discrepancy with members of licensee management, and the Team was informed that this system should have been included in the scope of the Maintenance Rule. The licensee issued Occurrence Report (OR) 1-97-342 during the

inspection to re-evaluate this system for inclusion in the Maintenance Rule. Based on the risk-significance of this minor discrepancy, the licensee's corrective actions for this isolated issue, and the reasonableness of licensee's efforts to implement the Rule, the Team concluded that the licensee appropriately addressed the Team's concerns.

c. Conclusions

Required structures, systems, and components, with the exception of System H24 were included within the scope of the Rule.

M1.2 Safety or Risk Determination

a. Inspection Scope (62706)

Paragraph (a)(1) of the Maintenance Rule requires that performance monitoring and goals be commensurate with safety. Implementation of the Maintenance Rule using the guidance contained in NUMARC 93-01 requires that safety be taken into account when setting performance criteria and monitoring under paragraph (a)(2) of the Maintenance Rule. This safety consideration would then be used to determine if SSC functions were to be monitored at the train, system, or plant level. Also, Section 9.3.2 of NUMARC 93-01 recommends that risk-significant SSC performance criteria be set to assure that the availability and reliability assumptions used in the risk-determining analysis (i.e., PRA) were maintained. The Team reviewed the licensee's methods for making these required safety determinations.

b. Observations and Findings

The Maintenance Rule program at Farley had major changes in the months prior to this inspection. The original Expert Panel had been replaced by a Periodic Assessment Committee (PAC). The Team attended a PAC meeting and interviewed some of its members. The original program was established using the original Individual Plant Examination (IPE) submittal, but the program was transitioning to an updated model run using a different PRA computer program. Equipment out-of-service risk determinations were being made using the new code.

b.1 Risk Ranking

The licensee's PRA model used for the current ranking process was the same as the IPE submitted to the NRC, dated June 1993. The model was a full scope Level 2 analysis, for Unit 1 only, that used generic data and plant specific data gathered from 1984 through 1990 as the basis for its availability and reliability data. The data had not been updated for the Maintenance Rule. The original PRA was developed using Westinghouse PRA codes and had a core damage frequency of 1.3 E-4. The licensee recently converted its model to a form which will run using the Cutset and Fault Tree Analysis (CAFTA) set of PRA codes, and this model was input into the Equipment Out-Of-Service (EOOS) program used in the planning group's risk evaluations. Unique models for both Units 1 and 2

incorporating all design changes through 1996 were developed for this update. The core damage frequency in the new models was about 8.6 E-5. Differences in the core damage frequencies were explained by changes in the modeling of high head and low head safety injection, and in the failure assumptions of reactor pump seals because of new high temperature o-rings that had been installed in the seals. The licensee was in the process of incorporating the changes that resulted from this new review into the Maintenance Rule risk rankings. At the time of the inspection, incorporation was scheduled to be completed later this year.

The Team reviewed the truncation limits used during the risk ranking process. Truncation limits are imposed on PRA models in order to limit the size and complexity of the results to a manageable level. Farley used a truncation level of 1E-11 when quantifying their original PRA, and 6E-11 for their CAFTA model. This was more than five orders of magnitude less than the internal event core damage frequency. The truncation level used appeared to be appropriate for performance of the risk ranking for the Maintenance Rule.

The Team reviewed a sample of SSCs covered by the Rule that had been categorized as non-risk significant to assess if the licensee had adequately established the safety significance of those SSCs. The numerical risk ranking given in the Level 2 PRA analysis supported the decisions made by the original screening process. Because of the robustness of the containment as modeled in the PRA, many of the normal safety-related systems that support heat removal from the containment or mixing of the air in the containment were not ranked as risk-significant. The original Expert Panel chose to accept the non-risk significant status of these functions for the Maintenance Rule. The Team found the sample of SSC's met the established program guidance.

Based on this review, it appeared that the licensee's process was adequate to perform the risk ranking for the Maintenance Rule.

b.2 Performance Criteria

The Team reviewed the licensee's performance criteria to determine if the licensee had adequately set performance criteria under paragraph (a)(2) of the Maintenance Rule consistent with the assumptions used to establish the safety significance. Section 9.3.2 of NUMARC 93-01 recommends that risk-significant SSC performance criteria be set to assure that the availability and reliability assumptions used in the risk-determining analysis (i.e. PRA) are maintained.

The Team reviewed summary documents used to determine performance criteria for demand and run time failures. The licensee used the methodologies in Electric Power Research Institute (EPRI) Technical Bulletins 96-11-01 and 97-03-01 to set acceptable criteria. Demands were estimated, not counted. Credit was not given to equipment that had

higher than the 10 to 20 demands assumed in the analysis. Run time failures were handled using an assumed full time service for two cycles of operation. For equipment in standby service, acceptance criteria were set to zero due to their limited run times.

Maintenance unavailability assumptions were maintained by setting performance criteria for SSCs at the assumed hours from the PRA analysis. Since the data were gathered in the mid 1980's and most equipment reliability has improved over the years, few systems challenged the availability performance criteria. Sensitivity studies were conducted for some systems to determine what effect exceeding the criteria would have on plant risk and to determine potential new criteria. The Team noted that as the PRA assumptions for unavailability were updated using more recent data, more systems would be expected to exceed the "average unavailability" value in the PRA. The method for assuring the PRA assumptions for unavailability were met was acceptable.

b.3 Expert Panel

The Team reviewed the licensee's process and procedures for the Expert Panel. The licensee had established an Expert Panel in accordance with the guidance provided in NUMARC 93-01 when the Maintenance Rule was being implemented at the site. The Expert Panel's responsibilities included the final authority for initial decisions regarding Maintenance Rule scope, risk-significance, and performance criteria selection. The original Expert Panel had representation that included Operations, Maintenance, Training, QC and System Engineering. After establishment of the original scoping and risk-significance, the licensee determined the Expert Panel was not required to be maintained by the Maintenance Rule Implementation Plan in effect at that time. Since that time a PAC has been formed to address issues concerning the Maintenance Rule.

The Team attended a PAC meeting conducted September 11, 1997. Issues discussed included declassification of selected (a)(1) systems to (a)(2) status, systems newly upgraded to (a)(1) status, and the Maintenance Rule Improvement Plan. The Team noted a good exchange of ideas between the board members and the invited speakers discussing the various issues. There was not a representative present with a PRA background. During the meeting a PAC member suggested that for future meetings someone representing the PRA group be included in the discussions. The Team agreed this would strengthen the expertise in the group.

c. Conclusions

Based on the review of the sampled SSCs, the licensee's approach to risk-ranking for the Maintenance Rule was adequate. The current method for assuring the assumptions for reliability and availability in the PRA were conservative was adequate. The PAC was accomplishing the requirements for an Expert Panel per the NUMARC guidance.

M1.3 Periodic Evaluation

a. Inspection Scope (62706)

Paragraph (a)(3) of the Rule requires that performance and condition monitoring activities and associated goals and preventive maintenance activities be evaluated taking into account, where practical, industry-wide operating experience. This evaluation was required to be performed at least one time during each refueling cycle, not to exceed 24 months between evaluations. The Team reviewed the licensee's periodic evaluation process.

b. Observations and Findings

The licensee's program addressed periodic evaluations consistent with the Rule. The licensee has conducted two Periodic Maintenance Effectiveness Evaluations: May 29, 1996 covering the period prior to April 1996; and June 10, 1997, covering the period May 1996 to April 1997. The evaluations had properly addressed the topics of NUMARC 93-01, "Industry Guidelines For Monitoring The Effectiveness Of Maintenance at Nuclear Power Plants", Revision 2, Section 12.

c. Conclusions

The Team concluded that the licensee had performed periodic evaluations and assessments that met the requirements of the Maintenance Rule.

M1.4 Balancing Reliability and Unavailability

a. Inspection Scope (62706)

Paragraph (a)(3) of the Rule required that adjustments be made where necessary to ensure that the objective of preventing failures of SSCs through (preventive) maintenance was appropriately balanced against the objective of minimizing unavailability of SSCs due to monitoring or preventive maintenance. The Team discussed with responsible personnel the licensee's methodology for and history of balancing reliability and availability.

b. Observations and Findings

The Team reviewed the licensee's approach to balancing system reliability and availability. The licensee considered reliability and to availability were in balance, if the performance criteria were met. In instances where system reliability had fallen below its performance standard, preventive maintenance was increased to restore reliability. The Maintenance Planning and Scheduling function had responsibility for minimizing the unavailability caused by performance of corrective and applicable preventive maintenance. Scheduling considerations regarding availability and reliability were found in FNP-0-ACP-52.1, "Guidelines for Scheduling of On-Line Maintenance."

c. Conclusions

The Team concluded that the licensee's method for balancing reliability and availability met the intent of Paragraph (a)(3) the Rule.

M1.5 Plant Safety Assessments Before Taking Equipment Out-of-Service

a. Inspection Scope (62706)

Paragraph (a)(3) of the Maintenance Rule states that the total impact on plant safety be taken into account before taking equipment out-of-service for monitoring or preventive maintenance. The Team reviewed the licensee's procedures and discussed the process with plant operators and the planning department.

b. Observations and Findings

The Team interviewed the Planning and Scheduling Supervisor, and a RO on rotation from Operations, who both performed the risk evaluations for equipment out-of-service. A PRA computerized tool, EOOS, was used to evaluate risk for various full power plant configurations. EOOS had the CAFTA plant models loaded into it. These model's cutsets for a 6E-11 truncation formed the basis for the EOOS evaluations. In a hybrid mode, EOOS also ran the plant model at 1E-7 truncation and determined if any unique cutsets created by the evaluated condition needed to be included in the solution. The model was a Level 2 PRA, and large early release frequency and risk achievement worth values were generated for each plant condition evaluated. The output was used to plan future equipment outages, to evaluate the plan of the day, and to evaluate the impact of equipment failures on plant conditions. The Planning and Scheduling Supervisor was an SRO on shift prior to moving to planning. The EOOS evaluations were performed by persons having a very high level of plant knowledge. Open communication between the RO in planning and performing the day-to-day EOOS evaluation and the PRA specialist from the corporate office were observed by the Team during the inspection. The plant operations experience present in planning was seen as a strength in performing plant risk evaluations. The use of EOOS for determining the risk input for plant equipment out-of-service evaluations was a good practice.

The Team interviewed the Outage Planning Supervisor about risk-assessment prior to removing SSCs from service during transition periods and during shutdown (Modes 5, 6 and defueled). Farley currently did not have a way to assess transition risk, but was aware of current owner group efforts to develop guidance for evaluation of risk during these transient conditions. Outage removal from service decisions are made in accordance with FNP-0-UOP-4.0, 'General Outage Operations Guidance", Revision 7, dated August 1, 1997. The procedure had limitations based on other equipment out-of-service, time to saturation, and availability of systems to meet critical functions. A shutdown EOOS model was being developed. The Team found the current guidelines to be adequate.

c. Conclusions

The approach, under paragraph (a)(3) of the Rule, to assessing the risk-impact to maintenance activities was good. The assignment and use of licensed operators to perform evaluations was considered a strength. The licensee's process for ensuring that critical safety functions were available during planned outages was adequate.

M1.6 Goal Setting and Monitoring for (a)(1) SSCs

a. Inspection Scope (62706)

Paragraph (a)(1) of the Rule required, in part, that licensees shall monitor the performance or condition of SSCs against licensee-established goals, in a manner sufficient to provide reasonable assurance the SSCs are capable of fulfilling their intended functions. The Rule further required that goals be established commensurate with safety and that industry-wide operating experience be taken into account, where practical. Also, when the performance or condition of the SSC did not meet established goals, appropriate corrective action was to be taken.

The Team reviewed the systems and components listed below which the licensee had established goals for monitoring of performance to provide reasonable assurance the system or components were capable of fulfilling their intended function. The Team verified that industry-wide operating experience was considered, where practical, that appropriate monitoring was being performed, and that corrective action was taken when SSCs failed to meet goal(s) or when a SSC experienced a Maintenance Preventable Function Failure (MPFF).

The Team reviewed program documents and records for four systems or components that the licensee had placed in the (a)(1) category in order to evaluate this area. The Team also discussed the program with licensee management, the Maintenance Rule Coordinator, engineering and maintenance personnel, and other licensee personnel.

b. Observations and Findings

b.1 Radiation Monitoring - Systems D11 and D21

The Team reviewed portions of System D11, Process Radiation Monitoring, and System D21, Area Radiation Monitoring, during this inspection. These systems had initially been classified as (a)(1) on March 15, 1996, on Units 1 and 2 due to general system unreliability. Problems had included aging components, reduced detector life, cable damage, connector damage, and module failures. The licensee has replaced failed detectors, replaced aged modules and circuit cards, and performed inspections of drawers and cables. Additionally, detector life was being trended to establish detector change-out PMs prior to failure. The licensee had established goals of no more than two functional failures or one MPFF per unit per function for two fuel cycles until

March 4, 1999. The Team verified that the licensee had implemented goal setting and monitoring as required by paragraph (a)(1) of the rule for the Radiation Monitoring System.

b.2 Instrument Air (IA) - System P19

The licensee experienced 11 incidents (events) related to the IA compressors, which the licensee considered as Repetitive Maintenance Preventable Functional Failures (RMPFF). For this reason the licensee categorized the IA compressors (a)(1) on September 17, 1996. The licensee experienced nine incidents (events) related to the IA dryers, which were considered as RMPFFs. For this reason the licensee categorized the air compressors (a)(1) on July 10, 1996. The licensee, on September 11, 1997, based on 13 months of failure free operation of IA dryer operation, returned the dryer portion of the IA system to (a)(2) status. The last of the corrective actions were completed two months prior to the re-classification.

The Team reviewed the corrective action for these failures and the goals and monitoring under the (a)(1) status and concluded that the corrective action, goals, and monitoring were appropriate. The Team also reviewed additional work order data concerning performance of this system from September 1995 until the beginning of the inspection.

b.3 Component Cooling Water (CCW) - System P17

The CCW system was placed in the (a)(1) category of the Maintenance Rule, on August 30, 1996, for exceeding 2B CCW Pump unavailability performance criteria of 107 hours per cycle. Exceeding the unavailability performance criteria by approximately three hours was due to the unexpectedly long time to investigate and repair an oil leak on the pump. The CCW components, which provide containment isolation, were included in the containment isolation (E14) system, and the safety-related 4160 volt component breakers were included in the 4160 volt switchgear (R15) system. The licensee determined that the CCW system was their third most risk-significant safety system based on its contribution to core damage frequency.

The Team reviewed the corrective actions for failures and the associated goals and monitoring under the (a)(1) status for the P17 system and concluded that the corrective actions, goals and monitoring were appropriate. Since initial corrective actions were put into place, no repetitive failures had been identified, and system availability had improved. The Team also reviewed additional work order data concerning the performance of this system for the period of October 1994 to September 1997. Selected areas and components of the CCW system were walked down, and its material condition and area housekeeping were considered adequate. System leakage and other discrepancies had been already identified by the licensee, and appropriate leak containers were in-place and effective.

The Team compared periods of unavailability identified by a review of LCO tracking sheets and maintenance history with the unavailability database for the CCW system. The unavailability time in the database was found to be consistent with the raw data. It was noted by the Team that the unavailability database was maintained by a single individual on his desk computer, and the program was not accessible by the local area network (LAN). The Team pointed out that this setup was vulnerable to a complete loss of correlated data, potentially requiring an extensive efforts to re-create. The licensee agreed with this observation and stated the process for maintaining the data would be enhanced.

The Team also noted that system failures were classified by a single point contact who reviews all maintenance work orders (MWO). He had the responsibility to classify MWOs as either functional failures (FF), MPFF, "None," or "Hold." A classification as "None" would send the MWO to the equipment failure trending database without further review. Classification as a MPFF or FF would maintain the failure in the Maintenance Rule database and "Hold" would maintain the MWO in the Maintenance Rule database while awaiting further information to make a decision. A "Hold" would be later classified as either FF, MPFF, or "None." A random selection of MWOs for the P17 system, representing all failure categories, was reviewed, and no discrepancies were identified. Although the licensee indicated that some monitoring of the single point contact decision process had occurred, it was not routine and was limited in scope. Additionally, there were no processes or procedural requirements to review failures on the "Hold" list routinely against the current (a)(1) classified systems or the list of systems approaching (a)(1) status. Therefore, prompt and timely resolution of "Hold" items that might impact current corrective actions of (a)(1) classified systems or cause a system to enter the (a)(1) category was not ensured. This lack of programmatic oversight, with respect to categorizing and resolving potential failures, was considered a program weakness.

The system specialist was interviewed and it was determined that he had been recently assigned this system (the system did not have a system specialist assigned when originally designated an (a)(1) category system). The specialist, a former licensed SRO and Shift Supervisor, was very familiar with the overall plant. Additionally, until recently, he was the Maintenance Rule Coordinator for the site and was very familiar with the Maintenance Rule and site implementation.

On September 11, 1997, the Team observed the PAC meeting in which the possibility of removing the CCW system from (a)(1) status was discussed. The committee made the conservative decision to maintain the CCW system in (a)(1), pending additional information and analysis.

b.4 Emergency Power Diesels - System R43

The emergency power diesels (EDGs) were placed in the (a)(1) category on April 3, 1996. Problems with load instability and water in the lube oil caused the EDGs to be monitored under paragraph (a)(1) of the Rule.

Those two problems appeared to have been solved, although fuel oil and lube oil leakage had been a continuing problem.

The Team reviewed ORs, Deficiency Reports (DRs), and MWOs for the previous two years and found that the licensee had taken suitable corrective actions and was effectively monitoring and tracking system performance against the established goals. The Team reviewed the corrective actions, goals, and monitoring for the EDGs and found those activities suitable for developing a demonstration that their performance would be effectively controlled through preventive maintenance so that the EDGs would remain capable of performing their intended functions. The licensee currently anticipated returning the EDGs to the requirements of paragraph (a)(2) of the Rule if the following goals are met: (1) the load instability issue does not arise again before April 1998; (2) the lube oil remains free of water until December 1997; (3) return header leaks do not recur before modifications are complete; and (4) no failures are caused by air start header check valve back leakage during three quarterly surveillances.

c. Conclusion

The licensee considered safety in the establishment of goals and monitoring for systems and components reviewed. Corrective actions, goals, and monitoring for the (a)(1) SSCs reviewed were appropriate. Industry-wide operating experience was considered, as appropriate. A lack of programmatic oversight, with respect to categorizing and resolving potential equipment failures, was considered a program weakness.

M1.7 Preventive Maintenance and Trending for (a)(2) SSCs

a. Inspection Scope (62706)

Paragraph (a)(2) of the Rule states that monitoring as required in paragraph (a)(1) is not required where it has been demonstrated that the performance or condition of an SSC is being effectively controlled through the performance of appropriate preventive maintenance, such that the SSC remains capable of performing its intended function.

The Team reviewed selected SSCs listed below for which the licensee had established performance criteria and was trending performance to verify that appropriate preventive maintenance was being performed, such that the SSCs remained capable of performing their intended function. The Team verified that industry-wide operating experience was considered, where practical, that appropriate trending was being performed, that safety was considered when performance criteria were established, and that corrective action was taken when SSCs failed to meet performance criteria, or when a SSC experienced a MPFF.

The Team reviewed program documents and records for selected SSCs the licensee had placed in the (a)(2) category in order to evaluate this area. The Team also discussed the program with licensee management, the

Maintenance Rule coordinator, engineering and maintenance personnel, and other licensee personnel. In addition, the Team reviewed specific program areas based on review of operator logs and equipment out-of-service logs.

b. Observations and Findings

b.1 DC Distribution and Batteries - System R41

System R41 included both safety-related and non-safety related BOP batteries and DC electrical distribution. The licensee had classified the safety-related portions of this system as risk-significant. Review of System R41 determined that appropriate performance criteria had been established and monitoring was being accomplished against those criteria. Review of the problems associated with the system determined that appropriate corrective actions had been taken for failures. Operating experience had been used in system monitoring. No deficiencies were noted concerning this system.

b.2 Containment Spray System - System E13

System E13 was designed to automatically actuate on high containment pressure following an accident to supply borated water to cool the containment atmosphere. Additionally, the system was designed to provide airborne iodine removal capability. Review of System E13 determined that appropriate performance criteria had been established and monitoring had been accomplished against those criteria. Review of the problems associated with the system determined that appropriate corrective actions had been taken for failures. Operating experience had been used in system monitoring. No deficiencies were noted concerning this system.

b.3 Structures

To establish a baseline for plant structures, the licensee completed their baseline building inspection in three stages on the following dates: June 26, 1996; December 12, 1996; and August 13, 1997. This baseline inspection was documented in Maintenance Rule - Structural Monitoring, File No. ENG 15 96-1078 - Log Nos. FP 96-0367, FP 96-0714 and FP 97-0408. In addition, the licensee had taken credit for a variety of structural inspections conducted under existing programs. Some examples were: Settlement Monitoring; Cooling Tower Inspections; Groundwater Monitoring; Seismic Monitoring; Inservice Inspection; and the Biannual Inspection of the Service Water Pond Dam.

The Team reviewed the following licensee structural program documents: "Structural Monitoring Program for the Maintenance Rule", Revision 1, dated September 1996; NMS-96-0179; FNP-0-ETP-4389, "Service Water Storage Pond Dam Biannual Inspection", Revision 1, completed July 16, 1996; and "Biannual Inspection of the Service Water Pond Dam", dated January 3, 1997. The Team noted that the "Structural Monitoring Program for the Maintenance Rule", the licensee's written Maintenance Rule

program, was based on Nuclear Energy Institute (NEI) 96-03, "Industry Guidelines For Monitoring the Condition of Structures at Nuclear Power Plants", Revision D. The Team compared the written program with Regulatory Guide 1.160, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants", Revision 2, dated March 1997. The Team noted the following areas where the written program needed enhancements and more detail to address the guidance for structures in Revision 2 of Regulatory Guide 1.160 adequately.

- The written program did not list attributes to be inspected. The third report of three, dated August 13, 1997, did include an appendix entitled, "NRC Inspection Procedure 62702 Guidance". The report inferred that the appendix reflected the inspection attributes used for the structures monitoring program.

- The written program specified acceptance criteria by reference to ACI 349-3R and Westinghouse Owners Group (WOG) Life Cycle Management "Aging Assessment Field Guide". Specific acceptance criteria were not included in the written program.

- The written program described examiner qualification in general terms; As an example it stated, "civil/structural engineering graduate with five years civil/structural experience and/or registered professional engineer". The preceding did not require the registered professional engineer to have any experience in the civil or structural areas. The rest of the examiner qualification criteria were couched in terms of "knowledge in..." or "knowledge of..." a variety of civil or structural areas of interest. No specific or general training requirements, other than "civil/structural engineering graduate", were specified.

- The written program did not include all the structures that the licensee scoped under the Rule. An example was the fire pump house. The first report of three only listed structures with degraded conditions, the report was silent as to acceptable structures. The second report listed buildings and rooms examined in a separate appendix, in addition to structures with degraded conditions. In the third of three reports, buildings or building elevations with no degraded conditions were added as an individual record to the database. The fire pump house was added in this fashion. It was not listed in the program list of structures scoped under the Rule.

- The written program indicated that the inspections were to be a sample and that not necessarily all parts of a structure would be inspected. An example was cable trays, of which only a portion were inspected. The licensee was unable to provide any objective quality evidence as to which trays were inspected and which were not. Without knowing which trays were inspected, tracking and trending, under paragraph (a)(2) of the Rule, was not possible.

- The written program made no provisions for moving a structure from (a)(2) status to (a)(1) status of the Rule.

- The written program did not address structures that were acceptable with deficiencies, which, if left uncorrected until the next scheduled inspection, might not meet their design bases.

Based on the above, the Team concluded that the written structural program was weak relative to adequately addressing the guidance of Revision 2 of Regulatory Guide 1.160. However, not withstanding the identified weaknesses in the written program, the Team, during their walkdown inspection of structures, did not identify any structural degradation that had not been identified by the licensee. The licensee indicated that they were in the process of evaluating their structural monitoring program for enhancements.

The Team conducted a walkdown inspection of the service water intake structure, the diesel generator building and portions of the reactor auxiliary building, in order to observe the condition of the concrete and steel structures located within and without the buildings. Although some minor surface cracking in the concrete walls was observed, the Team concluded from the visual observations that the buildings appeared structurally sound. No unacceptable conditions were noted. The Team identified some minor material condition deficiencies discussed further in paragraph M7.1 below. During the walkdown inspection, the Team was accompanied by civil engineers who were knowledgeable and qualified to perform structural evaluations.

b.4 Engineering Safeguards Room Air Coolers System (ESRC) - System (E-16)

Review of the ESRC system determined that appropriate performance criteria had been established and monitoring had been accomplished against those criteria. Review of the problems associated with the system determined that appropriate corrective actions had been taken for failures. Operating experience was being used in system monitoring. The Team compared periods of unavailability identified by a review of operator logs and clearance logs with the unavailability database for the ESRC system and no problems were identified.

b.5 Chemical & Volume Control/High Head Safety Injection (CVCS/HHSI) - System E21

The CVCS/HHSI system is considered an (a)(2) category system, although several of the system components were considered to be in (a)(1) status. Specifically, failures on the accumulator system (passive safety injection sub-system) and the CVCS reactor coolant pump seal injection sub-system, caused those individual items to be classified in the (a)(1) category. The CVCS/HHSI components, which provided containment isolation, had been included in the containment isolation (E14) system

and the safety-related 4160 volt component breakers were included in the 4160 volt switchgear (R15) system. The licensee determined that this system was their fifth most risk-significant safety system based on its contribution to core damage frequency.

The Team compared periods of unavailability identified by a review of LCO tracking sheets and maintenance history with the unavailability database for the CVCS/HHSI system. Data was accurate for CVCS/HHSI system functions which had unavailability performance criteria established and the data had been collected. During the review, it was determined that the licensee was not monitoring unavailability data for the boric acid transfer pump (BATP) for the performance of this system. The BATP was considered to be inoperable for 2 days, 1 hour and 56 minutes between February 18 to February 20, 1997, and its current unavailability performance criteria had been established as 26 hours per pump per cycle. Although the established performance criteria had been exceeded, the historical review, which might result in adjustment of the criteria, had not been performed. Also, the BATP function for the CVCS/HHSI system was a none-risk significant function. Further review determined that the governing procedure, FNP-0-GMP-87.0, Performance Criteria For Systems Under The Scope Of The Maintenance Rule, had been revised (Revision 3 dated June 13, 1997), and that the revision process had established unavailability performance criteria for certain functions for at least 22 systems, including the BATP, that had not previously been monitored for unavailability. Of these 22 systems, 15 had at least one risk significant function as defined by the licensee. Attachment 1 to this report contains a list of the 22 systems and functions. The procedure was issued and in effect on June 13, 1997, however, as of September 8, 1997, the licensee had failed to implement the required monitoring against established criteria by not capturing and trending unavailability for the systems and functions added by Revision 3 Procedure FNP-0-GMP-87.0. Failure to establish availability performance measures for the 15 high-safety-significant SSCs and failure to implement the measures for the 15 high-safety significant SSCs and seven other SSCs were considered to be two examples a violation of 10 CFR 50.65(a)(2) for failure to demonstrate that the performance of these SSCs had been effectively controlled through the performance of appropriate preventative maintenance. The violation was identified as 50-348,364/97-09-01, Failure to Demonstrate Performance of 22 Maintenance Rule Scoped Systems.

For the 22 systems noted above, the required historical review of performance data using the new unavailability criteria had not yet been conducted. The licensee was aware of this and had plans to accomplish this task. The Team reviewed CVCS/HHSI system functions which had unavailability performance criteria being collected and monitored. The Team concluded that the data was accurate.

The Team reviewed the completed and planned corrective actions for CVCS/HHSI system failures and concluded that the corrective actions were appropriate. The Team also reviewed additional work order data

concerning the performance of this system for the period of October 1994 to the beginning of the inspection. Selected areas and components of the CVCS/HHSI system were walked down, and the material condition and area housekeeping were adequate. System leakage and other discrepancies were already identified by the licensee, and appropriate leak containers were in-place and effective.

During the review of system E21, the Team reviewed the process of collecting, tracking, and trending unavailability data under the licensee's Maintenance Rule Program. The current process used operations initiated LCO tracking sheets to define system or component unavailability. Plant Procedure FNP-0-ACP-52.1, Guidelines For Scheduling On-Line Maintenance, Revision 3, which provided the methodology for the Maintenance Department to collect unavailability data, was recently revised to incorporate the updated unavailability functional criteria for systems identified in FNP-0-GMP-87.0, Revision 3. The Team identified the following programmatic inconsistencies.

- FNP-0-ACP-52.1, did not identify nor provide for effective capture or distribution of unavailability data per system function, for certain specific systems (Reactor and Safeguard Systems - C31, E31, H21 and H22; CVCS/HHSI - E21; DC distribution system - R41 and R42; and emergency lighting - R45). An example of not adequately tracking or trending unavailability data was the turbine driven auxiliary feedwater (TDAFW) train, where unavailability data collected from the LCO tracking sheet was applied to the auxiliary feedwater (AFW) system - N23, which had allowed 185 hours per cycle unavailability. However, if the unavailability of the TDAFW train was due to local relay panels - system H22, which had an allowed unavailability of zero hours per cycle, the procedure would not cause the functional failure to be attributed to the H22 system, and thereby not cause H22 to be considered for (a)(1) status.

- LCO tracking sheets were the only means used to collect unavailability data. FNP-0-ACP-52.1 stated in Section 4.1 that "Reliance on LCOs is avoided when spare components replace components removed from service (i.e. SW, CCW, charging, battery chargers, etc.)." The Operations Group's work practice had been to write an administrative tracking LCO on Technical Specification (TS) required equipment, even if that equipment is not currently required. However, this was only a work practice and was not required by procedure. Therefore, tracking of unavailability data of all Maintenance Rule scoped systems and components (not all of which are TS required), through the LCO process, was not assured.

- Table 3 in FNP-0-ACP-52.1 provided a "Proposed Availability Tracking Method" for most risk-significant systems. It recognized that for certain systems, unavailability data would be collected through a review of ORs or DRs and not LCO tracking sheets. However, since the unavailability data was only being collected via LCO tracking sheets, collecting all relevant unavailability data was not adequately assured.

The licensee had recognized a general problem with the accounting of unavailability data and planned to investigate and resolve this issue by November 1997. The Team considered the inconsistencies noted above relative to collecting, tracking, and trending unavailability data for maintenance Rule scoped systems to be a programmatic weakness.

b.6 Auxiliary Feedwater System - System N23

The auxiliary feedwater system was considered to have two functions, one of which was categorized as risk-significant. The Team verified that the licensee had established performance criteria commensurate with safety for monitoring the system's Maintenance Rule functions and that pertinent parameters had been trended. Also, suitable operational data was being captured in the Maintenance Rule database. The Team reviewed occurrence reports, deficiency reports, and MWOs for the previous two years and found that the licensee had taken suitable corrective actions and had been effectively monitoring and tracking system performance against the established criteria.

b.7 Spent Fuel Cooling and Clean-Up System - System G31

The spent fuel cooling and clean-up system was categorized as not risk-significant. The Team verified that the licensee-established suitable performance criteria for monitoring the system's single Maintenance Rule function. The Team reviewed occurrence reports, deficiency reports, and MWOs for the previous two years and found that the licensee had taken suitable corrective actions and had effectively monitored the system against the established criteria.

c. Conclusions

For (a)(2) SSCs, the Team concluded that, in general, performance criteria had been properly established, suitable trending had been performed, corrective actions were taken when SSCs failed to meet performance criteria or experienced failures, and industry-wide operating experience had been considered, where practical. In general operating data had been captured. However, a violation, with two examples, was identified for (1) failure to establish availability performance measures for 15 high-safety-significant SSCs and (2) failure to implement availability performance measures for the 15 high-safety-significant SSCs and seven other SSCs. A program weakness was identified relative to inconsistencies related to collecting and trending unavailability data for maintenance Rule scoped systems. In addition, the written structural program was weak relative to adequately addressing the guidance of Revision 2 of Regulatory Guide 1.160.

M2 Maintenance and Material Condition of Facilities and Equipment

M2.1 Material Condition Walkdowns

a. Inspection Scope (62706)

During the course of the reviews, the Team performed walkdowns of selected portions of the following systems and plant areas, and observed the material condition of these SSCs:

- Service Water Intake Structure
- Diesel Generator Building
- Reactor Auxiliary Building
- Turbine Building
- Instrument Air - System P19
- Engineering Safeguards Room Air Coolers - System E16
- Emergency Power Diesels - Systems P21 and R43
- Spent Fuel Pool Cooling and Clean-Up - System G31
- Auxiliary Feedwater - System N23
- Containment Spray - System E13
- DC Distribution and Batteries - System R41
- Radiation Monitoring - Systems D11 and D21
- Chemical & Volume Control/High Head Safety Injection - System E21
- Component Cooling Water - System P17
- Other Balance of Plant Areas

b. Observations and Findings

The Team performed material condition walkdowns on selected portions of the buildings and systems listed above. In general, housekeeping in the areas around systems and components was acceptable. Piping and components were painted but showed evidence of aging, including some indications of corrosion, oil leaks, and water leaks. There appeared to have been more emphasis on painting in the more heavily traveled areas. Minor oil, water, and steam leaks appeared more prevalent on Unit 2, which was scheduled to enter an outage in October 1997.

The Team noted the following specific conditions during the walkdown inspection of systems and structures.

- The Team observed boron deposits and several minor leaks on the Unit 1 containment spray system. This issue had been previously identified and documented under Occurrence Report 1-97-274 and appropriate leak containers were in place and effective.

- For the CVCS/HHSI and CCW systems, the Team noted system leakage and other minor discrepancies, which had been previously identified. Appropriate leak containers were in-place and effective.

- The majority of the cask crane rail hold-down-clip bolts had significantly less than full thread engagement. When questioned,

the licensee indicated that the condition would have been evaluated during construction. The license was unable to demonstrate that this condition was ever noted or evaluated. Subsequently, the licensee provided the Team with Calculation No. SC-96-1078-001, "Cask Crane Rail Bolts", Revision 0, dated September 11, 1997. This calculation demonstrated that the cask crane would meet its design basis if all the rail hold-down-clip bolts had only ½ nut thread engagement. Although the Team did not observe all the clip-hold-down bolts, the bolts observed had a minimum of ½ nut thread engagement. Of concern to the Team, was the fact that there was no documented evidence to evaluate this obviously discrepant condition, located along a frequently traveled path.

- A number of long diagonal cracks, not noted in the 1996 structures baseline inspection, were noted by the Team. The licensee indicated that they would make appropriate additions to their structural monitoring database.

- Spongy areas on the diesel generator and reactor auxiliary building roofs were noted by the Team. The licensee indicated that they had a roof renewal program ongoing.

- A length of structural steel and a section of grating were noted respectively on the roofs of the reactor auxiliary building and the diesel generator building. The licensee indicated that they would have these items removed.

- Below average cleanliness was noted in out-of-the-way areas. Examples were the Unit 1 turbine-driven auxiliary feedwater pump area, the Unit 2 main steam and feedwater valve room, and the turbine building basement.

c. Conclusions

Plant material condition and housekeeping observed during walkdowns was generally acceptable. Below average cleanliness was noted in some out-of-the-way areas. Piping and components were painted but showed some evidence of aging, including some minor corrosion, oil leaks, and water leaks. Boron deposits and several minor water leaks, which had been previously identified and were appropriately contained, were observed on a number of systems.

M7 Quality Assurance in Maintenance Activities

M7.1 Licensee Self-Assessments

a. Inspection Scope (62706)

The Team reviewed the licensee's self-assessments to determine if Maintenance Rule independent evaluations had been conducted and the findings of the audits had been addressed.

b. Observations and Findings

The licensee had performed two audits in the area of 10 CFR 50.65. Audit 96-MR/21-1 was conducted February 12 through March 21, 1996, to determine if the requirements of 10 CFR 50.65 had been implemented. No adverse findings were identified. Audit 97-MR/21-1 was conducted January 20 through February 18, 1997, to determine if the requirements of 10 CFR 50.65 had been effectively implemented. Seven findings were identified that indicated significant problems with the implementation of the 10 CFR 50.65 program. The licensee subsequently issued seven audit finding reports (AFRs) and associated corrective action reports (CARs). The Team reviewed the AFRs and CARs.

Both audits were independent and of an appropriate scope. In view of the fact that the first audit did not identify any findings and the second audit identified seven significant findings, the first audit was less than thorough. Effective and timely corrective actions had been taken.

c. Conclusions

The Team concluded both audits were detailed, and that effective and timely corrective actions had been taken. The 1997 audit was more thorough than the 1996 audit.

III. ENGINEERING

E2 Engineering Support of Facilities and Equipment

E2.1 Review of Updated Final Safety Analysis Report (UFSAR) Commitments (62706)

A recent discovery of a licensee operating their facility in a manner contrary to the UFSAR description highlighted the need for a special, focused review that compares plant practices, procedures and parameters to the UFSAR descriptions. While performing the inspections discussed in this report, the Team reviewed the applicable portions of the Farley FSAR that related to the areas inspected. The Team verified that the FSAR wording was consistent with the observed plant practices, procedures and parameters.

E4 Engineering Staff Knowledge and Performance

E4.1 Engineering Knowledge of the Maintenance Rule

a. Inspection Scope (62706)

The Team interviewed licensee personnel from the licensee's maintenance and engineering organizations for the SSCs reviewed in Sections M1.6 and M1.7 to assess their understanding of the Maintenance Rule and associated responsibilities.

b. Observations and Findings

The Farley site organization has not utilized system engineers. The licensee has assigned system owners from the licensee's maintenance and engineering organizations for (a)(1) systems and certain selected (a)(2) systems. Additionally, for other systems with no assigned system owners, experienced licensee personnel were assigned to answer questions from the Team. Licensee engineering and maintenance personnel were knowledgeable of plant systems and proactive in corrective actions. Personnel interviewed understood specific requirements of the Maintenance Rule and how to apply the Rule to plant systems.

c. Conclusions

Engineering and maintenance personnel were knowledgeable of plant systems, proactive in corrective actions and understood specific requirements of the Maintenance Rule.

V. MANAGEMENT MEETINGS

X1 Exit Meeting Summary

The Team Leader discussed the progress of the inspection with licensee representatives on a daily basis and presented the results to members of licensee management and staff at the conclusion of the inspection on September 12, 1997. The licensee acknowledged the findings presented.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

T. Arute, Site Maintenance Supervisor
B. Bradham, Safety Audit and Engineering Review Supervisor
J. Cherey, Maintenance Engineer
R. Coleman, Maintenance Manager
C. Collins, Operations Support Superintendent
H. Erbskorn, Maintenance Supervisor
T. Esteve, Planning & Contract Supervisor
R. Hill, Nuclear Plant General Manager
R. Johnson, Maintenance Team Leader
R. Lulling, Planning & Scheduling Supervisor
M. Mitchael, Health Physics Superintendent
R. Monk, Engineering Supervisor
C. Nesbitt, Assistant General Manager, Plant Support
J. Odem, Unit Superintendent, Operations
J. Simmons, Maintenance Rule Coordinator
L. Stinson, Assistant General Manager, Plant Operations
L. Williams, Training Manager
R. Yance, Plant Mofifications and Maintenance Support Manager

NRC

C. Casto, Deputy Division Director, DRS
T. Ross, Senior Resident Inspector
J. Bartley, Resident Inspector
J. Zimmerman, Project Manager, NRR

LIST OF INSPECTION PROCEDURES USED

IP 62706 Maintenance Rule

ITEMS OPENED, CLOSED, AND DISCUSSED

OPENED

Type	Item Number	Status	Description and Reference
VIO	50-348,364/97-09-01	Open	Failure to Demonstrate Performance of 22 Maintenance Rule Scoped Systems - Section M1.7 b.5

LIST OF ACRONYMS USED

AFR	-	Audit Finding Report
AFW	-	Auxiliary Feedwater
BATP	-	Boric Acid Transfer Pump
BOP	-	Balance of Plant
CAFTA	-	Cutset and Fault Tree Analysis
CAR	-	Corrective Action Report
CCW	-	Component Cooling Water System
CFR	-	Code of Federal Regulations
CVCS/HHSI	-	Chemical and Volume Control System/High Head Safety Injection System
EDGS	-	Emergency Power Diesels
EOOS	-	Equipment Out-of-service
EOP	-	Emergency Operating Procedure
EPRI	-	Electric Power Research Institute
ESRC	-	Engineering Safeguards Room Air Coolers System
FF	-	Functional Failure
FNP	-	Farley Nuclear Plant
FSAR	-	Final Safety Analysis Report
H24	-	Miscellaneous Starters
IA	-	Instrument Air
IPE	-	Individual Plant Evaluation
LAN	-	Local Area Network
LCO	-	Limiting Condition of Operation
LER	-	Licensee Event Report
MPFF	-	Maintenance Preventable Functional Failure
MWO	-	Maintenance Work Order
NEI	-	Nuclear Energy Institute
NPF	-	Nuclear Power Facility
NRC	-	Nuclear Regulatory Commission

NRR	-	Office of Nuclear Reactor Regulation
NUMARC	-	Nuclear Management and Resources Council, Inc.
OR	-	Occurrence Report
PAC	-	Periodic Assessment Committee
PM	-	Preventive Maintenance
PRA	-	Probabilistic Risk Assessment
P.E.	-	Professional Engineer
PDR	-	Public Document Room
QA	-	Quality Assurance
RO	-	Reactor Operator
RMPFF	-	Repetitive Maintenance Preventable Functional Failures
SRO	-	Senior Reactor Operator
SSC	-	Structure, System, or Component
TS	-	Technical Specification
TDAFW	-	Turbine Driven Auxiliary Feedwater
UFSAR	-	Updated Final Safety Analysis Report
WOG	-	Westinghouse Owners Group

LIST OF DOCUMENTS REVIEWED

FNP-0-ACP-52.1, Guidelines For Scheduling On-Line Maintenance, Revision 3.

FNP-0-GMP-87.0, Performance Criteria For Systems Under The Scope Of The Maintenance Rule, Revision 3.

FNP-0-GMP-87.0, Performance Criteria For Systems Under The Scope Of The Maintenance Rule, Revision 2.

FNP-0-M-87.0, Maintenance Rule Scoping Document, Revision 3.

FNP-0-M-89.0, FNP Maintenance Rule Site Implementation, Revision 2.

FNP-0-AP-16, Conduct of Operation - Operations Group, Revision 27.

FNP-0-UOP-4.0, General Outage Operations Guidance, Revision 7.

Calculation NO.SC-96-1078-001, "Cask Crane Rail Bolts", Revision 0, dated September 11, 1997.

"Structural Monitoring Program for the Maintenance Rule", Revision 1, dated September 1996; NMS-96-0179.

FNP-0-ETP-4389, "Service Water Storage Pond Dam Biannual Inspection", Revision 1.

"Biannual Inspection of the Service Water Pond Dam", dated January 3, 1997.

ATTACHMENT 1

LIST OF MAINTENANCE RULE SYSTEMS AND FUNCTIONS WITH UNAVAILABILITY CRITERIA ASSIGNED BY REVISION 3 TO PROCEDURE FNP-0-GMP-87.0 AND NOT BEING MONITORED

System No.	System	Function*/ Risk Sig.?
B11	Reactor Vessel & Head	B11001/Yes
B12	Piping & Instrumentation	B12001/Yes
C23	Turbine Control System	C23001/No
C31	Reactor Protection System	C31002/No
C31	Reactor Protection System	C31003/Yes
E14	Containment Isolation System	E14001/No
E15	Penetration Room Filtration System	E15002/No
E15	Penetration Room Filtration System	E15003/No
E21	Chemical Volume & Control System/HHSI	E21001/Yes
E21	Chemical Volume & Control System/HHSI	E21008/Yes
E31	Safeguard Protection System	E31001/No
E31	Safeguard Protection System	E31002/Yes
E31	Safeguard Protection System	E31003/Yes
F16	Storage Equipment (Source of Borated Water for HHSI)	F16001/Yes
H21	Local Control Panels & Racks	H21002/No
H22	Local Relay Panels	H22001/Yes
N11	Main Steam System	N11001/No
N11	Main Steam System	N11005/Yes
N12	Auxiliary Steam System	N12001/yes
N31	Turbine - Generator	N31003/No
P11	Condensate & Demin Water Transfer & Storage	P11002/Yes
P12	Makeup Water System	P12001/No
P43	Fire Protection Pumps And Supply Valves	P43001/Yes
R41	D.C. Distribution System	R41001/Yes
R41	D.C. Distribution System	R41002/Yes

System No.	System	Function*/ Risk Sig.?
R41	D.C. Distribution System	R41003/No
R42	D.C. Distribution System	R42001/Yes
R45	Emergency Lighting	R45001/No
S29	Pipe Type Cable Circuits	S29001/yes
V43	Fire Protection Distribution	V43001/Yes

*Function as defined in licensee Procedure FNP-0-GMP-87.0, Revision 3

NRC Entrance

The Maintenance Rule

Introduction: Miles Coleman

Maintenance: Miles Coleman

Program Development: Bob Monk

Planning: Rick Lulling

Operations: Cheri Collins

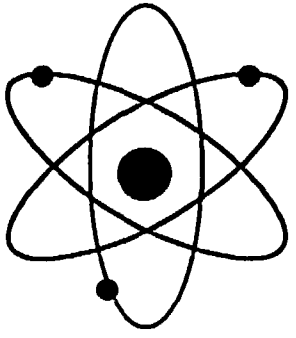
Engineering Support: Bob Monk

Maintenance Rule Status: Janet Simmons

Key Personnel Introduction: Miles Coleman

AMERICA'S BEST
DIVERSIFIED UTILITY

FARLEY
NUCLEAR PLANT



Maintentance Rule Program

FNP Maintenance

Maintenance Rule
under Maintenance

A1 Ownership

Maintenance Teams

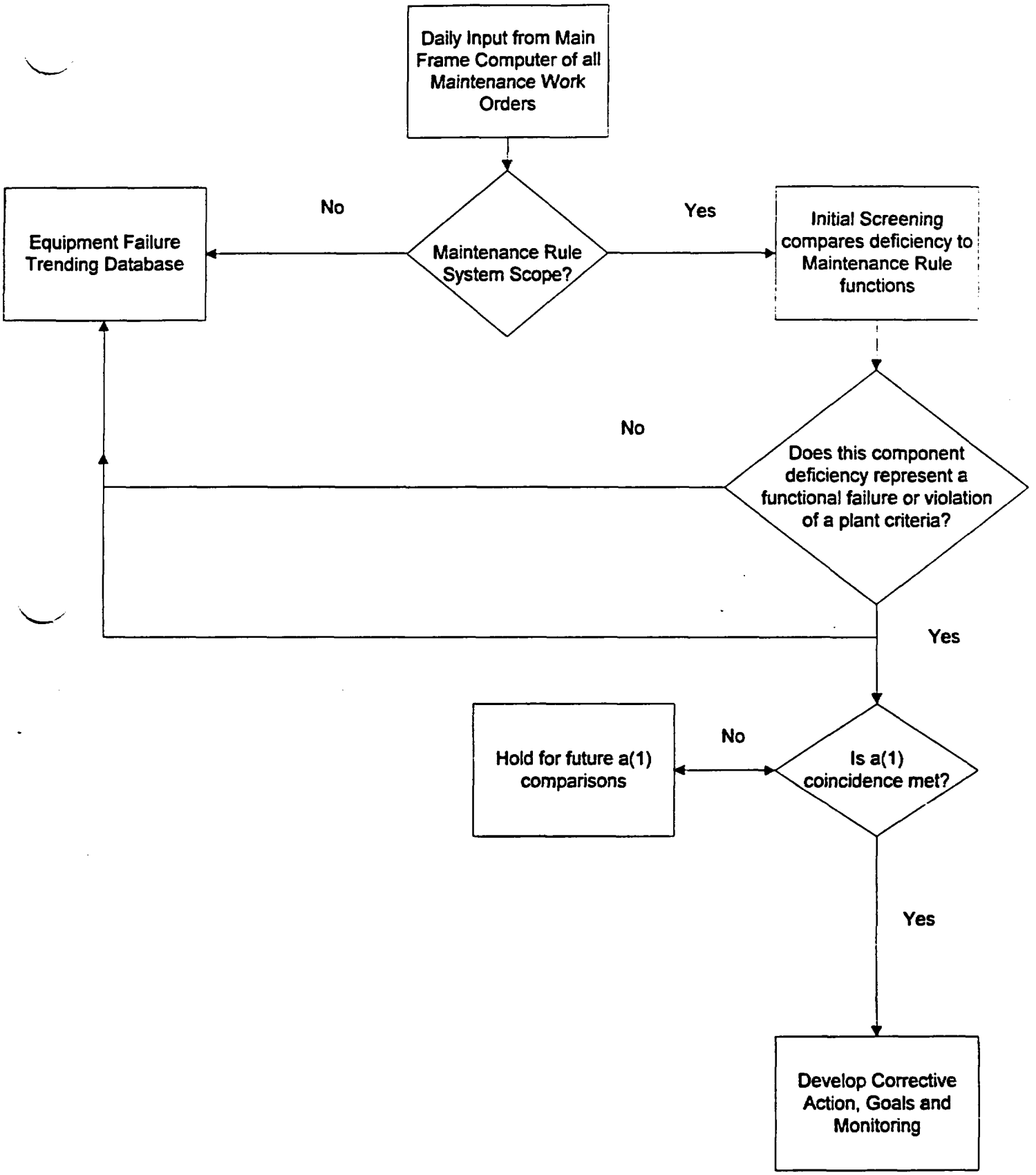
Program Development

Program Development

Performance Criteria

Single-point Daily Monitoring

Farley Nuclear Plant Maintenance Rule Program Process Flow Diagram



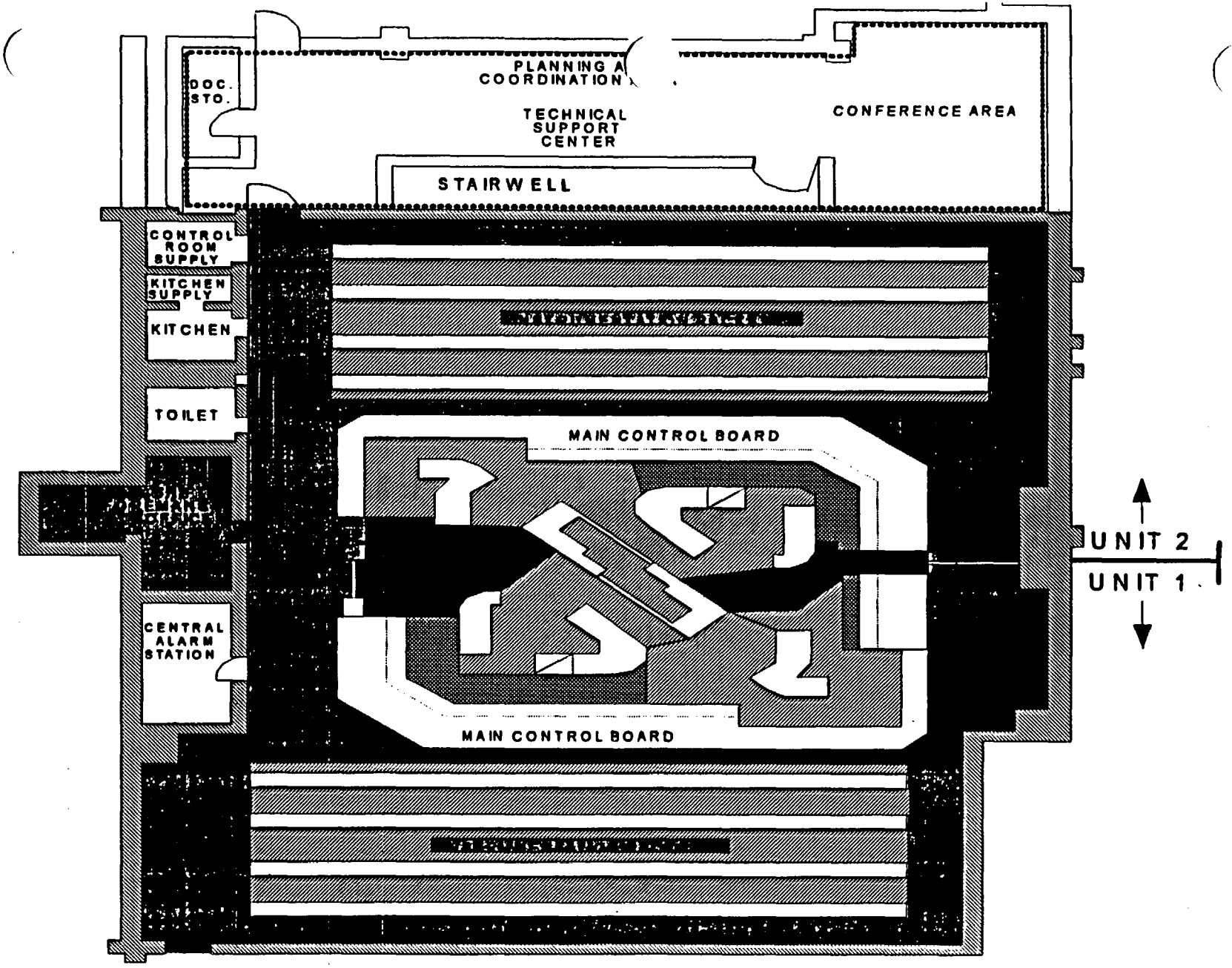
FNP Planning

Planning Work

Train Weeks

EOOS

Availability



GENERAL ACCESS AREA
LIGHT GREY CARPET

RESTRICTED AREA
REDISH GREY CARPET

ATC ENTRANCE - HOLD POINT
DARK BLUE CARPET

TECHNICAL SUPPORT CENTER

CONFINES OF CONTROL ROOM

NOTE: ONE DUAL UNIT LICENSED SRO SHALL BE PRESENT IN THE CONTROL ROOM BETWEEN THE TWO SECURITY DOORS AT ALL TIMES.

Maintenance Rule Status

Current Status of the Maintenance Rule

A1 Monthly Report

Structure Program