U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-440/96002

FACILITY

Perry Nuclear Power Plant, Unit 1

License No. NPF-58

LICENSEE

Cleveland Electric Illuminating Company
Post Office Box 5000
Cleveland, OH 44101

DATES

January 20 through March 1, 1996

INSPECTORS

D. Kosloff, Senior Resident Inspector
R. Twigg, Resident Inspector
J. Hopkins, Lead Project Manager
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APPROVED BY

for R. D. Lanksbury, Chief
Reactor Projects Branch 2

April 11, 1996
Date

AREAS INSPECTED

A special announced inspection of operations, engineering, maintenance, and plant support was performed. Safety assessment, compliance with the Updated Final Safety Analysis Report, and quality verification activities were routinely evaluated. Follow-up inspection was performed for non-routine events and for certain previously identified items.

RESULTS

Assessment of Performance

OPERATIONS: In general, the licensee continued to demonstrate a conservative operating philosophy. However, prior to the refueling outage, use of overtime was not conservative and may have challenged individual performance. Use of overtime during the refueling outage was generally well within Technical Specification requirements and guidelines (Section 1.4). One operating crew failed to properly implement a Technical Specification action statement for the control room ventilation recirculation system. The same crew subsequently identified the problem and promptly corrected it. This was a non-cited violation (Section 1.3). Operator response to a plant event was prompt and appropriate and the plant was well controlled during routine operations. Oral communications remained excellent.

MAINTENANCE: The licensee continued to slowly improve plant material condition during online maintenance and the refueling outage (Section 2.2). Personnel continued to identify planning and scheduling problems. Few personnel errors were identified during the inspection period, an improvement from previous performance during a refueling outage (Section 2.1). Foreign material exclusion practices were better than the previous refueling outage. However, several cases of foreign material in systems were identified that indicated that past practices had been poor (Section 2.3).

ENGINEERING: Overall, good support continued for other organizations, as demonstrated by the prompt responses to issues related to use of the polar crane (Section 3.1), review of test data (Section 3.2), a damaged startup transformer (Section 1.5), and evaluation of the drywell shield door (Section 7.0).

PLANT SUPPORT: Performance in the radiation protection area continued to be good. The licensee completed chemical decontamination of three systems, an improvement from the previous refueling outage (Section 4.1). A problem was noted in controls for emergency lighting (Section 4.2 and 7.3). Plant housekeeping during the refueling outage was good and improved over the previous refueling outage (Section 2.4).

SAFETY ASSESSMENT and QUALITY VERIFICATION: Quality assurance (QA) and self-assessment activities continued to have a positive impact on station performance (Section 5.1). Personnel continued to be aggressive in identifying adverse conditions. Specific examples were noted where corrective actions had improved plant performance (Section 5.2). However, there were other areas where improvement is still needed, such as in the implementation of the safety tagging program (Section 5.2). QA personnel promptly evaluated activities related to an explosion and fire in a startup transformer (Section 1.5).

Summary of Open Items
Violations: Not identified in this report
Unresolved Items: Identified in Sections 3.2 and 7.1
Inspector Follow-up Items: Identified in Sections 3.1, 7.2, 7.3, and 7.4.
Non-cited Violation: Identified in Section 1.3

INSPECTION DETAILS

1.0 OPERATIONS

NRC Inspection Procedures 71707, 71500, and 92901 were used to perform an inspection of plant operations activities. No cited violations or deviations were identified. One non-cited violation was identified.

1.1 Operations Summary

At the beginning of the inspection period the plant was operating at about 81% power in coast down, until it was shut down on January 27, 1996, for a refueling outage (RF05). The plant remained in the planned 62-day refueling outage for the remainder of the inspection period.

1.2 Operator Control of Routine Plant Operations Was Good

The inspectors observed routine plant operations including normal power operation, refueling operations, a plant shutdown and cooldown, and control of shutdown safety. The inspectors concluded that overall performance was good. The plant shutdown for the refueling outage was well controlled. Appropriate briefings were conducted for infrequently performed tasks. Oral communications continued to be excellent. However, a personnel error caused a Technical Specification violation.

1.3 Control Room Emergency Recirculation System Technical Specification Violation

On February 9, with the plant shut down, at about 4 p.m. the shift supervisor realized that he had allowed the plant to exceed the Technical Specification (TS) Limiting Condition for Operation (LCO) for the Control Room Emergency Recirculation System without taking TS LCO 3.7.2 Action b.1. This violation of the TS occurred when the operable train of control room ventilation was not placed in operation prior to the expiration of the seven day LCO for the inoperable train. Train A of control room ventilation had been inoperable since February 2 at 11:45 a.m. because the safety related systems which supply it with cooling water had been declared inoperable. Train A was still functional with the use of non-safety related cooling water and had been used periodically while it was administratively inoperable. Train B was fully operable, including its automatic initiation feature. On February 9 at 4:38 p.m. Train B was placed in the recirculation mode thus, removing its automatic initiation feature. This event had minor potential safety consequences because there was a high probability that Train B would have been promptly placed in recirculation if plant conditions would have required such an action. With the low existing heat loads, the inoperable system could have operated for some period of time without safety related cooling water. This licensee-identified and corrected violation is being treated as a Non-Cited Violation, consistent with Section VII.B.1 of the NRC Enforcement Policy. (50-440/96002-01(DRP))

1.4 Staffing/Overtime

The inspectors reviewed the licensee's change of working hours and the impact of increased use of overtime as related to personnel performance prior to entering a two month outage (RF05).

The licensee's Technical Specifications required administrative procedures to be developed and implemented to limit working hours of unit staff personnel who perform safety-related functions in accordance with GL 82-12. Both GL 82-12 and the licensee's administrative procedure, Perry Administrative Procedure (PAP) 0110, Revision 4, "Shift Staffing and Overtime," agreed that a sufficient number of plant operating personnel should be employed to maintain adequate shift coverage without routine heavy use of overtime. Furthermore, GL 82-12 stated the objective during routine plant operation was for operating personnel to work a normal 8-hour day, 40-hour week. However, although the licensee's administrative procedure incorporated those numbers, it referred to them as an ideal situation and established an increased guideline limit of 60 hours per week.

Approximately 3 weeks prior to entering RF05, with the plant in normal operation, the number of crews working rotating shifts was decreased from 5 to 3, and daily work hours were increased from 8 to 12 (excluding turnover). Some support work groups were also placed in a corresponding 3-section rotating shift schedule. As a result, these crews were routinely assigned to 60-hour work weeks. During the transfer, the licensee self-identified examples which exceeded another administrative guideline for working 72 hours in 7 days, without the deviation being documented as prescribed. They subsequently prepared the documentation.

The inspector discussed the use of overtime with operations management and staff. All operators interviewed were aware that limitations existed on overtime and that management approval was required to exceed those limits. A majority of licensed staff felt that increased hours did not decrease their alertness or fatigue them sufficiently to decrease performance and increase the potential for incidents and personnel errors. However, non-licensed operators had concerns about work exceeding the 72 hours in 7 days administrative limit, and felt their performance would deteriorate as fatigue increased during subsequent shifts. Additionally, they felt the change between shift cycles did not allow adequate turnover time.

Inspectors also re-reviewed a low power (15%) automatic reactor scram event that occurred on September 25, 1995, at 5:35 p.m. (refer to Inspection Report 50-440/95008). During normal plant startup a reactor feed pump turbine (RFPT) was being placed in standby. As a result of multiple personnel errors, the reactor scrammed due to low reactor water level. One of the scram evaluation report causal factors was that the operator responsible for placing the RFPT in standby had worked 69.5 hours that week and was likely at a reduced alertness.

The inspectors concluded that operators typically worked in excess of 40 hours per week during normal plant operation, and the licensee's administrative guideline and work schedule of 60 hours per week during normal plant operation prior to the outage exceeded the NRC objective for working hours without routine heavy use of overtime. Additionally, excessive working hours appeared to have decreased operator alertness, which may have contributed to personnel errors that caused a plant transient and scram.

1.5 Operator Response to Explosion and Fire in Start-up Transformer

On February 5, with the plant in a refueling outage, the licensee observed that at 3:13 p.m. the diesel fire protection water pump had started and the deluge system for the Unit 1 Start-up transformer had initiated. The control room operators activated the site fire brigade. The inspector on site responded to the control room and observed that safety-related loads were being supplied by the Unit 2 Start-up Transformer and that the operators were using the plant's off normal instructions to respond to their indications. The inspector then went to an observation point near the Unit 1 Start-up transformer to observe the deluge operation and the fire brigade response. Initially, there were no indications of fire at the transformer. However, at about 3:28 p.m. there were electrical arcing noises and one of the oil-filled ceramic-and-metal main conductor bushings exploded in a ball of fire about the size of the transformer. There were no reports of visible arcing. The deluge system continued to operate and quenched the flame except for a small flame at the top of the remnants of the bushing. The licensee requested and received prompt assistance from the Perry Township Fire Department and declared an unusual event due to the small continuing fire. Although the Perry Township Fire Department responded with equipment to the site, only backup was provided. The shift supervisor requested actuation of the Technical Support Center (TSC), a conservative action for an unusual event. The TSC was declared operational at 4:16 p.m. Quality Assurance personnel responded to various locations and evaluated immediate personnel response to the event. Since no equipment was threatened by the flame it was allowed to self-extinguish at 3:50 p.m. The unusual event was exited at 4:20 p.m.

The inspector verified that additional security measures had been taken to protect the Unit 2 Start-up Transformer. The inspector observed that engineering personnel promptly began an evaluation of the event including the feasibility of providing a second source of power through the Unit 1 auxiliary transformer. Since maintenance was in progress on equipment associated with the auxiliary transformer, engineering, maintenance, and operations activities were promptly coordinated to provide power through the auxiliary transformer. The licensee determined that the deluge was spuriously caused by a failed relay in the deluge control system. At the end of the inspection period the licensee was developing plans to ship the start-up transformer off site for inspection and repair. It was also evaluating operation of the plant without the transformer as it was expected to require several months to restore the Unit 1 start-up transformer to service. On

March 1, the licensee met with the NRC lead project manager and the inspectors on site to discuss its planned evaluation of potential safety issues associated with possible temporary operation of the plant until the Unit 1 Start-up transformer is returned to operation. Good engineering involvement was evident throughout this process.

All personnel observed by the inspector responded promptly and conservatively to this event and overall response was excellent.

1.6 Partial High Pressure Core Spray System Automatic Initiation

On February 18, with the plant in a refueling outage, the licensee was removing the high pressure core spray (HPCS) system from service for maintenance. During this activity, at about 2:30 a.m., there was an intermittent failure of an electric instrument power inverter. The failure caused an initiation signal and equipment associated with HPCS, that was not already removed from service, was actuated. All components functioned as expected. This event had no potential safety consequences. No personnel errors were identified. The inspectors will complete their review of this event upon receipt of the licensee's event report.

2.0 MAINTENANCE AND SURVEILLANCE

NRC Inspection Procedures 62703, 61726, and 92902 were used to perform an inspection of maintenance and testing activities. No violations or deviations were identified.

2.1 Ability to Get Work Done

Prior planning and walkdowns of work packages (work orders, repetitive tasks, and preventive maintenance items) allowed work to be performed more efficiently during this refueling outage (RF05) than in the previous refueling outage (RF04). For example, the following items were accomplished:

- A milestone schedule was established for RF05 in 1994 which included 36 major preoutage goals with identified completion dates.
- A specific work schedule was established for completion of preoutage preparation work orders (WO).
- Area coordinators and activity coordinators were assigned before the outage started.
- The motor operated valve (MOV) team began MOV work together as a team before the outage started.
- All MOV WOs were completed and walked down by November 1995.

- By November 1995 about 1700 of 1800 identified RF05 work packages had been walked down.

- Engineering and management review of all known RF05 modifications was completed before RF05 started.

- Shutdown risk evaluation was completed before RF05. High risks were identified and outage schedule changes were made to reduce the predicted risk of the highest risk activities.

2.2 Plant Materiel Condition

The inspectors evaluated plant material conditions by observing plant conditions, reviewing current Potential Issue Forms (PIFs), reviewing equipment conditions requiring additional personnel action or attention (work arounds), and reviewing the status of temporary modifications and the licensee's backlog of maintenance activities. The general condition of the plant remained good. The licensee had reduced the number of work arounds to 26 from 80 during the last year. During the refueling outage (RF05) the licensee had begun work to repair 16 work arounds that required an outage to repair. The number of temporary modifications had been reduced from 35 to 20 during the past year. During the refueling outage the licensee had begun work to remove 17 of the temporary modifications. The licensee maintained its corrective maintenance backlog below 50 where it has been since November 1995. The licensee continued to slowly reduce its non-outage general maintenance backlog, even after RF05 started. This backlog was reduced to about 1000 work orders (WO) at the end of the inspection period, from about 2000 WOs in June 1995. The licensee planned to complete about 1200 outage WOs during RF05 out of a total outage backlog of about 1800 WOs. The inspectors concluded that the licensee was continuing to slowly improve plant materiel condition.

2.3 Foreign Material Exclusion

During maintenance activities the licensee removed several items in systems which indicated that there had been poor foreign material exclusion (FME) practices in the past. Examples were:

- Some tape, a tie-wrap, and other miscellaneous items were found on a strainer used for chemical decontamination of the Fuel Pool Closed Cooling system; most likely left during plant construction.

- A foreign item was found by maintenance in the main generator bus ducting.

- Two 3/4" x 6" pieces of stainless steel were found by maintenance in the main condenser circulating water return line.

The inspectors observed good FME practices during observations of work in progress and concluded the overall FME program was good. The licensee identified two instances of clear plastic being used near fuel pools and one minor instance of weak FME implementation. These conditions described below, were promptly corrected.

- Contractor craft were grinding on a weld near an open pipe flange on an emergency closed cooling water heat exchanger. The original temporary flange cover had fallen off the flange.

- Two clear plastic bags containing equipment were identified by Quality Assurance Inspectors in the vicinity of the fuel pools.

- Several clear plastic bags from packaging of face shields were found by Quality Assurance Inspectors in containment on the refueling floor.

2.4 Housekeeping

During the previous refueling outage, housekeeping was identified as a weakness because work crews frequently did not clean up as they worked. The inspectors observed that housekeeping was good during this refueling outage. Work areas were generally free of loose debris, there were few tools found outside of work areas, and removed plant components were appropriately stored. Management expectations to "clean as you go" were communicated throughout the outage. The expectations were reinforced by documented management tours of the plant and thorough QA inspections with appropriately low thresholds for formal identification of problems.

3.0 ENGINEERING

NRC Inspection Procedures (IP) 37551, 40501, and 92903 were used to perform onsite inspections of the engineering function. No violations or deviations were identified.

3.1 Use of Polar Crane in Containment

Use of the containment Polar Crane over the reactor cavity (RPV Head removed with fuel in the vessel) was questioned by the licensee after an operator questioned worker practices during refuel floor activities. The crane was being used over the pool to help maneuver small tools on long (several feet) poles for work in the reactor cavity. The UFSAR documented that the polar crane was a "potential missile of significant consequence" and was designed with "adequate structural integrity to withstand all design basis loads applied." However, the UFSAR does not address a free fall of the crane's hook or whether or not the crane should be "single failure proof." The UFSAR does state that the "strong backs" used with the polar crane to lift the RPV Head and the Separator and Dryer vessel components are "designed so that no single failure will cause the load to drop or swing uncontrollably out of an essentially horizontal attitude." At the end of this inspection period, engineering was evaluating the need to make the polar crane single failure proof.

An interim administrative control halted the use of the polar crane over the open reactor vessel cavity for activities not specifically addressed in the UFSAR. This issue will be dispositioned during a future inspection and is an inspection followup item. (5-440/96002-02)

3.2 Review of LOOP/LOCA test data

On February 21, the inspectors observed the licensee conduct an 18-month surveillance (SVI R43-T5366) of Division I for a Loss of Offsite Power/Loss of Coolant Accident (LOOP/LOCA). After the test the licensee determined that data recorded by computer for the Residual Heat Removal Pump 'A' discharge pressure was not complete because the monitoring instrumentation was not calibrated for the higher discharge pressures exhibited during "minimum flow" alignment. As a result, the discharge pressure graph generated by the computer showed that pressure had leveled off at the maximum pressure that the instrumentation was capable of recording. During initial review of the pressure graph the reviewers concluded that the point where the pressure appeared to level off was the point where the pump had stabilized as it started. Stabilization had actually occurred a short time later, but that had been obscured by the "clipping" of the data that occurred when the maximum indicating capability of the instrumentation had been reached. The reviewers then recognized that the computer graph was not definitive in establishing that the pump discharge pressure had stabilized within the required time interval. Review of the previous 18-month test data revealed the same "clipping," which had not been identified at that time. The licensee was reviewing all past LOOP/LOCA surveillances for a similar potential error at the end of the inspection period. Pending inspector evaluation of the licensee's review, this issue is an Unresolved Item (50-440/96002-03).

4.0 PLANT SUPPORT

NRC Inspection Procedures 71750 and 92904 were used to perform an inspection of Plant Support Activities. No violations or deviations were identified.

4.1 Radiation Protection Performance

During the previous refueling outage, chemical decontamination was begun on the reactor recirculation system to lower the intensity of dose from radioactive materials within the system. This effort was abandoned shortly after it started when a contractor personnel error caused a leak of the decontamination fluid. The licensee then had to use additional shielding to compensate for the reduced effectiveness of the decontamination. However, the use of shielding was less effective than decontamination and collective worker radiation dose was higher than planned. Shortly before and during this refueling outage, chemical decontamination of three systems was completed to help reduce collective radiation dose during the refueling outage. More effort was devoted to planning and preparations for the three decontamination activities. Also, when problems were encountered during the third decontamination,

licensee management committed critical path time to solve the problems and complete the decontamination. This was an improvement over the previous refueling outage.

4.2 Fire Protection - Emergency Lighting

The inspectors observed three 10 CFR Part 50, Appendix R emergency lights that appeared to be pointed at locations where their light would serve no useful purpose. The inspectors informed licensee personnel who reviewed the condition and described what two of the units were installed to illuminate. The licensee determined that the third unit, 1R71-S0205, was described in the UFSAR (Table 9A.3-2) as illuminating Emergency Closed Cooling Valve P42-F0551. The valve was not illuminated by 1R71-S0205 because there was a wall between 1R71-S0205 and the valve and the valve was too far away. However, the licensee concluded that the valve was sufficiently illuminated by other nearby emergency lighting units. The inspectors verified the conditions described by the licensee and checked the positions of several other nearby lighting units to verify that they performed the function described in the UFSAR. The licensee initiated changes to the UFSAR and the procedure GEI-0117 to reflect the actual functions of the affected lighting units. The licensee's corrective actions were adequate. The licensee's initial failure to perform a safety evaluation addressing the discrepancy between the actual function of the emergency lighting units and the description in the UFSAR is addressed in Section 7.3 of this report.

5.0 SAFETY ASSESSMENT AND QUALITY VERIFICATION (SAQV)

NRC Inspection Procedures 40500, 92720, 92901, 91902, 91903, and 91904 were used to perform an inspection of Safety Assessment and Quality Verification activities. No violations or deficiencies were identified.

5.1 Management Controls for the Refueling Outage

The licensee took several initiatives prior to the refueling outage to improve overall performance during the outage. These included an "all supervisor" meeting prior to the outage, use of multidisciplinary shutdown safety advisors, improved preparations for chemical decontamination of radioactive systems, formation of three outage shift teams with multidisciplinary leadership and supervisory membership, early completion of outage modification packages, designation of area and activity coordinators, formation of a motor operated valve maintenance and test team, walkdowns of work packages, and improved coordination of quality assurance observations.

5.2 Effectiveness of Corrective Actions

Licensee personnel use a Potential Issue Form (PIF) to formally document issues or conditions which may need to be corrected. The licensee's threshold for initiation of a PIF was that an observed issue or condition did not meet the observer's expectations. The inspectors reviewed about 900 current PIFs. During the same period in the previous

year the inspectors reviewed about 270 then-current PIFs. The inspectors observed that PIFs continued to reflect excellent sensitivity to the importance of identifying issues by a wide cross section of licensee staff. The larger number of PIFs written during this inspection period were generally of the same significance as the PIFs written during the same period in the previous year. The increase appeared to be a result of the increase in personnel and activities during the current refueling outage (RF05) and greater sensitivity to conditions that may have gone unreported in the past. PIFs written as a result of PIF trend analysis also demonstrated that the licensee was more sensitive to the potential for less significant precursor events to allow identification of corrective actions in an activity before a significant condition develops.

Overall, corrective actions have improved plant performance. This was demonstrated by specific examples such as the improved leakage test performance of the main steam isolation valves, success in chemical decontamination of radioactive systems, the improved effectiveness of motor operated valve testing and maintenance, and better overall preparations for RF05. This was also reflected generally by increased sensitivity to the significance of observed conditions and the identification of issues earlier in planning or implementation processes. However, specific areas for improvement remain and there are still indications that some individuals need to become more diligent in identifying weaknesses in their own performance. For example, there were repeat failures of valves during local leak rate testing, continuing problems with the plant paging system, and numerous examples of weaknesses in control of measuring and test equipment. The licensee also identified several minor errors in safety tagging and a weakness in safety tagging controls for temporary electric power supplies. Programmatic improvements for control of temporary electric power supplies were promptly initiated.

6.0 LICENSEE ACTION ON PREVIOUSLY IDENTIFIED ITEMS

NRC Inspection Procedures 92700, 92701, 92702, 92901, 92902, 92903 and 92904 were used to perform follow-up inspection of the items below.

(Closed) Violation (50-440/93011-03(DRP)): The violation resulted from a failure by the licensee to identify expected suction pressure values or what action to take upon indication of abnormal values during operation of a Residual Heat Removal (RHR) pump. System operating procedures for the RHR pumps now include the verification of pump suction pressures with defined response actions. The verification is accomplished using suction pressure indications now in the control room instead of locally at the pump. This item is closed.

(Closed) Violation (50-440/93011-02(DRP)): The violation resulted from the licensee's failure to promptly recognize, adequately assess, and correct the fouling, deformation, and cracking of the RHR suction strainers and the unacceptable level of cleanliness of the suppression pool. The inspectors reviewed the licensee's response to the violation

and concluded that actions have been taken to prevent recurrence of the fouling and deformation of the RHR strainers. The inspectors conducted independent inspections of containment and the drywell as well as observation of the licensee during its routine containment inspections and drywell closeout inspections. No concerns were identified. This item is closed.

7.0 Review of UFSAR Commitments

A recent discovery of another licensee operating their facility in a manner contrary to the Updated Final Safety Analysis Report (UFSAR) description highlighted the need for a special focused review that compares plant practices, procedures and/or parameters to the UFSAR description. While performing the inspections discussed in this report, the inspectors reviewed the following applicable portions of the UFSAR that related to the areas inspected. Related sections of the Perry Safety Evaluation Report (SER), NUREG-0887, and its ten supplements were also reviewed.

Section 3.8.3.4.1.d, "Structural Steel Frames and Floors"
Section 5.4.8, "Reactor Water Cleanup System"
Section 5.4.9, "Main Steam Line and Feedwater Piping"
Section 8.2.1, "Offsite Power System - Description"
Table 9A.3-2, Page 9A.3-17, "Emergency Lighting Self-Contained Lighting Packs with 8-Hour Batteries"
Section 9.1, "Fuel Storage and Handling"
Issues related to the use of the Containment polar crane are discussed in this report in Section 3.1.
Section 9.1.3, "Spent Fuel Pool Cooling and Cleanup System"
Section 13.1.2.3, "Operating Shift Crews"

The following inconsistencies were noted between wording of the UFSAR and the plant practices, procedures and parameters observed by the inspectors. The licensee is committed to the use of Regulatory Guide (RG) 1.70, Revision 3, "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants."

7.1 UFSAR SECTION 3.8.3.4.1.d, STRUCTURAL STEEL FRAMES AND FLOORS

This section of the USFAR described the analytical model used in determining the response of structural components to suppression pool swell caused by postulated accidents. The personnel air lock for the drywell has massive concrete and steel shield doors, supported by steel structures, to minimize radiation outside the drywell. Those doors were normally closed while the reactor was critical. However, the doors were opened periodically at low reactor power levels for access to the drywell. The licensee determined that the structures supporting the doors had not been analyzed for pool swell structural loads while open. The analysis was performed, revealing that some structural components were not adequate to meet design code requirements during a pool swell. Some components were predicted to fail. However, the analysis indicated

that the complete support system would prevent the doors from falling and damaging safety related equipment.

The licensee concluded that opening the doors with the reactor critical was an unreviewed safety question. On February 27, 1996, the licensee requested an amendment to its operating license. Approval of the amendment request would allow the doors to be open briefly at low reactor power levels until the next refueling outage (RF06). This will remain an Unresolved Item (50-440/96002-04) until the NRC evaluation of the licenses amendment request is complete.

7.2 UFSAR SECTION 9.1.3, SPENT FUEL POOL COOLING AND CLEANUP SYSTEM

Information was gathered by the NRR project manager (PM) concerning the spent fuel pool cooling system design and operation. The Updated Safety Analysis Report, the Technical Specifications, and procedures (SOI-G41, Rev. 8, "Fuel Pool Cooling and Clean-up System" and SOI-P40/41, Rev. 1, "Service Water and Service Water Screen Wash") were reviewed and interviews were conducted. The PM's initial evaluation identified no discrepancies between the written documents and system operation; however, the information is continuing to be reviewed by NRR. If any discrepancies are identified, then appropriate follow-up action will take place. This issue will be reconsidered in the future and is an inspection followup item. (50-440/96002-05)

7.3 UFSAR TABLE 9A.3-2, EMERGENCY LIGHTING SELF-CONTAINED LIGHTING PACKS WITH 8-HOUR BATTERIES

This table showed that emergency lighting unit R71-S0205 illuminates Emergency Closed Cooling Valve P42-F0551. The light was ineffective because it was too far away from the valve and there was a wall between it and the valve. See Section 4.2. This issue will be reconsidered in the future and is an inspection followup item. (50-440/96002-06)

7.4 UFSAR SECTION 13.1.2.3, OPERATING SHIFT CREWS

This section of the UFSAR stated that "Perry normally has a minimum of five operating shift crews. Four shift crews may be established during certain phases such as startup testing or extended outages to maximize training." The NRC Safety Evaluation Report (SER), Section 13.1.2.2, stated that, "The applicant has committed to a five-shift operating staff plus two extra personnel on call to act as a relief crew when a shift member is ill, on vacation, or on assignment away from the site during a normal onshift period." There is no mention in the SER of operation with four shift crews. It appears that the reference to four shift crews was a change made to the UFSAR by the licensee after the SER was issued. The inspectors did not research this change because it did not appear to be significant. However, the inspectors observed that the licensee was using three shifts during the refueling outage and that they had begun using the three shift schedule about 3 weeks before the start of the outage.

The inspectors determined that the licensee did not perform a safety evaluation applicability check or a safety evaluation prior to use of the three shift rotation. After discussing this issue with the inspectors, the licensee prepared a safety evaluation for a UFSAR change to "delete reference to the (sic) specific number of shift crews that is required during plant shutdown conditions." The inspectors agreed with the safety evaluation conclusion that removing the statement from the UFSAR was acceptable. However, the safety evaluation incorrectly concluded that RG 1.70 did not require a listing of the number of shifts to be used while the plant is shut down. The NRC considers a plant to still be in an "operating" status during outages since the operating license is still required and licensed activities continue. However, RG 1.70 used the word "operating" in ways that confused its meaning. Also based on the SER, it appeared that the NRC accepted Section 13.1 of the UFSAR as written, although the section did not appear to agree with the format described in RG 1.70. The inspectors concluded that there was insufficient potential safety consequence to utilize additional NRC and licensee resources to pursue the issue. However, the above conditions showed the licensee had not been diligent in recognizing changes to the UFSAR and was not precise in documenting such changes. This issue will be reconsidered in the future and is an inspection followup item. (50-440/96002-07)

8.0 Persons Contacted and Management Meetings (Exit)

The inspectors contacted various licensee operations, maintenance, engineering, and plant support personnel throughout the inspection period. Senior personnel are listed below.

At the conclusion of the inspection on March 1, 1996, the inspectors met with licensee representatives (denoted by *) and summarized the scope and findings of the inspection activities. The licensee did not identify any of the documents or processes reviewed by the inspectors as proprietary.

D. C. Shelton, Senior Vice President
*R. D. Brandt, General Manager Operations
*N. L. Bonner, Engineering Director
*R. W. Schrauder, Nuclear Services Director
*L. W. Worley, Nuclear Assurance Director
*M. B. Bezilla, Operations Manager