Docket Nos.: 50-369
and 50-370

MAR 31 1986

MEMORANDUM FOR: Roger D. Walker, Director
Division of Reactor Projects
Region II

THRU: B. J. Youngblood, Director
PWR Project Directorate #4
Division of PWR Licensing-A, NRR

FROM: Darl S. Hood, Project Manager
PWR Project Directorate #4
Division of PWR Licensing-A, NRR

SUBJECT: NRR SALP INPUT - MCGUIRE NUCLEAR STATION, UNITS 1 AND 2

The enclosure provides NRR SALP V input for the period of September 1, 1984, through February 28, 1986. This assessment was conducted according to NRR Office Letter No. 44 dated January 3, 1984, and NRC Manual Chapter 0516, Systematic Assessment of Licensee Performance. A performance rating of 2 in the area of licensing activities for this period has been assigned by NRR. Other functional areas (housekeeping and control room behavior) are rated Category 2, except for the area of operational events which is rated Category 3.

Original signed by:
D. Hood
Darl S. Hood, Project Manager
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Enclosure: As stated

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Summary - Licensing Activities

1. Analysis

The licensee has declined in performance during this assessment period relative to the two previous periods. The decline is attributed to a need for improvements in the detail and adequacy of submittals to the NRC requesting licensing actions, primarily for changes to technical specifications. The licensee also needs to improve the timeliness of submittals when they deal with matters other than relief from requirements or avoidance of impact on plant operations. The licensee also needs to improve analyses and actions in connection with operational events.

Duke strong points continue to be a highly competent engineering staff, a heavy involvement with Industry Owners Group and Standards Committees, and a thorough knowledge of the regulatory environment.

2. Conclusion

The licensee is rated Category 2 in this area.

3. Board Recommendation

Licensee should pay increased attention to its submittals to the NRC and should seek to improve the timeliness of various types of responses to NRC requests. Licensee should strive to be more comprehensive in analyses and actions following operational events.

ENCLOSURE 1

Docket Nos. 50-369
and 50-370

FACILITY: William B. McGuire Nuclear Station, Units 1 and 2

LICENSEE: Duke Power Company

EVALUATION PERIOD: September 1, 1984 to February 28, 1986

FULL-POWER LICENSES: July 8, 1981 (Unit 1); May 27, 1983 (Unit 2)

PROJECT MANAGER: Darl S. Hood

I. INTRODUCTION

This report contains NRR's input to the SALP Review for McGuire Nuclear Station, Units 1 and 2. The assessment of the licensee's performance was conducted according to NRR Office Letter No. 44 , NRR Inputs to SALP Process, dated January 3, 1984. This Office Letter incorporates NRC Manual Chapter 0516, Systematic Assessment of Licensee Performance.

II. SUMMARY

NRC Manual Chapter 0516 specifies that each functional area evaluated will be assigned a performance category (Category 1, 2 or 3) based on a composite of a number of attributes. The performance of Duke Power Company in the functional area of Licensing Activities is rated Category 2. The licensee was rated Category 1 in the areas of Licensing Activities during the previous two SALP periods.

III. CRITERIA

The evaluation criteria used for this assessment are given in NRC Manual Chapter 0516 Appendix, Table 1, Evaluation Criteria with Attributes for Assessment of Licensee Performance.

IV. METHODOLOGY

This evaluation represents the integrated inputs of the Project Manager (PM) and those technical reviewers who expended significant amounts of effort on McGuire licensing actions during the current rating period. Using the guidelines of NRC Manual Chapter 0516, the PM and each reviewer applied specific evaluation criteria to the relevant licensee performance attributes, as delineated in Chapter 0516, and assigned an overall rating category (1, 2 or 3) to each attribute. The reviewers included this information as part of each Safety Evaluation Report transmitted to the Division of PWR Licensing-A (or its predecessor, the Division of Licensing). The PM, after reviewing the inputs of the technical reviewers, combined this information with his own

assessment of licensee performance and, using appropriate weighting factors, arrived at a composite rating for the licensee. A written evaluation was then prepared by the PM and circulated to NRR management for comments, which were incorporated in the final draft.

The basis for this appraisal was the licensee's performance in regards to both plant-specific requests (primarily for amendments to change Technical Specifications) and responses to generic issues. These items included those which were either concluded or sufficiently active during the rating period to provide a basis for assessment.

Plant-Specific Licensing Actions

- Delete surveillance of SG blowdown valves
- Response to DPO Tech Specs
- Unit 2/Cycle 2 Reload
- Unit 1/Cycle 3 Reload
- Storage of Oconee Spent Fuel at Unit 2
- Surveillance of Ice Condenser Doors
- Snubber Inspection Sample Plan
- Surveillance of CL Accumulator
- Surveillance of UHI
- Working Hours of Plant Staff
- Dose Projections of Normal Releases
- Use of ASME Code Cases N-411 and N-397
- Safeguards
- Excore Thermocouple Schedule
- Increase Number of RC Loops
- Rod Position Indication System
- Admin. Controls and Reporting
- RTS Outage Times
- Fire Pump Power Source
- Containment Pressure Control System
- Doghouse Water Level Inst.
- Increase in Number of Operable RC Loops
- UHI Deletion
- Operate at 46% power without UHI
- Increase Containment Leak Rate
- Retention of Post-Trip Records

Generic Licensing Actions

- GL 83-28 (Salem ATWS) Items 1.1, 1.2 3.1, 3.2, 4.1, 4.2, 4.5.1
- RVLIS and Subcooling Monitor
- Control of Heavy Loads (Phase I & II)
- Safety Parameter Display System
- Elimination of Large Primary Pipe Breaks
- GL 84-14 Replacement and Requal. Training Programs
- Detailed Control Room Design Review
- Hydrogen Control

V. ASSESSMENT OF PERFORMANCE ATTRIBUTES

A. Licensing Activities

The licensee's performance evaluation is based on a consideration of six of the seven attributes specified in NRC Manual Chapter 0516. These are:

-- Management Involvement and Control in Assuring Quality
-- Approach to Resolution to Technical Issues from a Safety Standpoint
-- Responsiveness to NRC Initiatives
-- Enforcement History
-- Staffing
-- Training

For the remaining attribute (Reporting and Analysis of Reportable Events), no basis exists for an NRR evaluation for the functional area of Licensing Activities.

1. Management Involvement and Control in Assuring Quality

There is evidence of prior planning and assignment of priorities, and decision making appears to be at a level that ensures management review. Well stated, controlled, and explicit procedures are in place for control of activities. Reviews are generally timely, and technically sound. Communications with NRR is frequent and effective.

Management involvement was particularly evident during NPC reviews and meetings on licensees requests involving plant modifications (e.g., storage of Oconee spent fuel in McGuire Unit 2 pool, UHI deletion, RTD bypass removal). Effective management involvement was also evidenced by completion of environmental qualification of electrical equipment within the schedule specified by 10 CFR 50.49.

Increased management attention is needed to improve the adequacy and content of Duke's proposed technical specification amendments. Several submittals were returned by NRR without processing because they contained ambiguous and inadequate bases for No Significant Hazards Considerations. Five submittals were denied by the NRC in total or in part because of inadequate technical justification. The absence of appropriate restrictions on applicability within Duke's request for operation at 46% power without UHI for the Unit with OFA fuel, and the absence of an effective implementation date for the spent fuel pool rerack amendment, resulted in amendments requiring followup action after issuance. Staff review of one submittal involving Doghouse Water Level Instrumentation was complicated by the absence of any descriptive system information in the submittal or in the FSAR.

Rating: Category 2

2. Approach to Resolution of Technical Issues from a Safety Standpoint

The licensee understands the technical issues and the responses are generally sound. The licensee considers carefully and thoroughly the impact of various NRC requests and positions on the plant. Conservatism is generally exhibited. This resulted in efficient reviews by NRR for licensee's request associated with reload amendments for Unit 1 Cycle 3 and Unit 2 Cycle 2, storage of Oconee fuel at Unit 2, UHI deletion, increased containment integrated leak rate criterion, detailed control room design reviews and safeguards programs.

The licensee understands well the regulatory environment and takes an active role from the safety standpoint. Duke often takes the lead or is an active participant with the nuclear industry to help resolve matters of generic concern. For example, the licensee participated in the Westinghouse Owners Group to develop improved steam generator tube rupture and small-break LOCA methods.

Licensee also plays a leadership role in current NRC-Industry efforts to improve Technical Specifications. In response to NRC positions regarding records on RTS Breaker Maintenance, Duke has committed to work with appropriate ANSI committees to determine generic positions regarding the appropriate retention period for post-trip records.

NRR recommends continued and more frequent use of combined facility submittals when requesting technical specification changes. This should provide a needed improvement in coordination and consistency of position among Duke facilities while providing for more efficient use of man power resources. It should also provide for more timely requests on the part of each individual facility. For example, the request on McGuire to increase the number of operable and operating RC loops consistent with the safety analyses occurred more than a year after the same correction had been identified on Catawba.

Rating: Category 2

3. Responsiveness to NRC Initiatives

The licensee usually provides timely responses to NRC requests for information. Responses to technical issues are generally complete and acceptable resolutions are initially proposed in most cases. The licensee has provided timely response to a large number of staff surveys and telephone requests, such as the surveys regarding diesel generator requirements for cold fast starts.

Duke attempts to meet deadlines and notifies NRR when they cannot be met. However, it appears that the licensee is more responsive to those issues that Duke considers as having higher priority (those issues affecting plant operation or modifications and involving relief from requirements). Issues to which Duke assigns lower priority frequently require schedule extensions.

Although licensee's responses are generally timely, a notable delay of several months occurred in the case of licensee's reply to NRR's request for comments regarding a technical reviewer's differing professional opinion based upon an earlier review of the McGuire Technical Specifications. This delay has impacted the Commission's schedule for completing review of the plant-specific items identified in the NRR request.

Rating: Category 2

4. Enforcement History

NRR provided technical support to Region II regarding the technical resolution of several matters which were associated with enforcement actions. NRR finds that the initial approach by Duke to establish operability of the Nuclear Service Water System by opening unit cross-connect valves and a November 3, 1985, decision to repair during startup valves which isolate the Volume Control

Tank, demonstrate a need for timely and improved coordination between Station and Corporate licensing staff in the interpretation of Technical Specifications and Section XI Code requirements. NRR believes Duke should assume a more aggressive role in pursuing design changes to improve effective sustained operation of the Auxiliary Building Filtered Ventilation Exhaust System during humid conditions. From our review of licensee's responses to enforcement issues, NRR finds licensee's resolutions to be generally technically sound and effective.

Rating: Category 2

5. Reporting and Analysis of Reportable Events

There is no basis for an NRR evaluation of this attribute with respect to the functional area of licensing activities.

6. Staffing

The assessment is based primarily on (1) licensing activities associated with Technical Specification changes regarding working hours and overtime for station personnel involved with safety-related activities, (2) review of safeguards activities, and (3) observations during site visits. The licensee appears to be adequately staffed with key positions identified and filled. Engineering resources appear to be ample with favorable turnover rates. Licensee performs its own A/E work and plans to provide services for others as well.

Rating: Category 2

7. Training and Qualification Effectiveness

The assessment is based on NRR review of licensee's Requalification Program for NRC Licensed Personnel and the Operator Replacement Training Program for the McGuire Nuclear Station, submitted in response to Generic Letter 84-14. The NRC found that the programs meet or exceed the criteria of 10 CFR 55 and NUREG-0737 and, therefore, are acceptable. The assessment is also based upon safeguards programs which were found to meet or exceed staff requirements.

Rating: Category 1

B. OTHER FUNCTIONAL AREAS

1. Housekeeping and Control Room Behavior

During site visits on June 21, September 9 and October 8, 9, 21 and 22, 1985, the staff toured several plant areas including the Auxiliary Building, Turbine Building, Control Room, and Safe Shutdown Facility. The staff found the plant to be in relatively good order with respect to cleanliness, and housekeeping. Activities in the control room were observed to be conducted in a professional manner with assigned personnel appearing to be alert and attentive to duty. Staff morale appeared to be high. Most personnel seemed to exhibit pride in their facility and in their jobs.

Rating: Category 2

2. Operational and Construction Events

During the report period McGuire 1 reported 32 events to the NRC Operations Center as required by 10 CFR 50.72. Six of these involved reactor scrams and eight involved the actuation of Engineered Safety Features (ESF). Of the six reactor scrams, all were from reactor power levels of greater than 90%. Subsequent to these scrams, systems generally functioned as designed. The only exception was after a dual-unit scram caused by loss of instrument air. That particular scram was complicated by the burning out of both VCT isolation valve motor operators. The condition of the motor operators was not recognized until approximately 14 hours after the event and was not reported to the NRC for 10 weeks.

McGuire Unit 2 reported 44 events during the report period, 19 involving reactor scrams and nine involving ESF actuations. Of the 19 reactor scrams reported by McGuire 2, 10 occurred during power operations of 90% or greater, 4 occurred during hot-standby or shutdown, and the remaining five at low and intermediate power levels (3-60%). Two of the scrams from full power were complicated by subsequent failures: on October 26, 1985 after a turbine trip/reactor trip, operators were maintaining SG levels using bypass valves when a leaking main feedwater regulator valve caused SG-3 level to rise to the hi-hi setpoint, isolating main feedwater and auto-starting auxiliary-feed. This appeared to be a random failure and the leaking valve was subsequently reseated successfully. The second scram with complications occurred on July 12, 1985 when technicians testing the reactor trip breakers and bypass trip breakers caused two separate main feedwater isolations. This occurrence appears to be a procedural and training inadequacy.

McGuire was a topic of discussion at six Operating Reactor Events Briefings. The most notable of these discussions addressed the dual unit trip that occurred on November 2, 1985, as a result of the loss of instrument air. Two months later a subsequent briefing described degradation of the high pressure injection system occurring during the startup on the day following that same November 2, 1985 loss of instrument air. These events appear to provide evidence that the licensee's follow-up analyses and actions are not thorough enough. Other examples for briefings are the recurrence of upper head injection problems on both units (10/19/84, 10/30/84, 11/1/84) and cross-connect problems with the Nuclear Service Water System (10/9/85, 3/11/86) affecting both units.

Events at the McGuire site are generally reported within the required time period following the occurrence. Reporting appears to be accurate and conservative. The licensee sometimes provides updates and courtesy calls to assure that events are being communicated properly.

Based on the above observations, we are of the opinion that the licensee has been responsive in reporting events, but has not been comprehensive in some of the follow-up analyses and actions subsequent to events.

Rating: Category 3

VI. CONCLUSION

Based on NRR's assessment of licensing activities and other functional areas during the period from September 1, 1984 to February 28, 1985, the overall rating for Duke Power Company's performance for the McGuire Nuclear Station, Units 1 and 2, is Category 2. This decline from previous assessments primarily reflects a need for Duke to provide increased attention to the detail and adequacy of submittals to the NRC requesting changes to the Technical Specification, and a need to improve the timeliness of submittals other than those seeking relief or impacting plant operations. It also reflects a need for the licensee to be more comprehensive in follow-up analyses and actions after operating events. The licensee's approach to the resolution of technical issues is generally sound and conservative; and the licensee is usually responsive to NRC initiatives.