



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

PDR

September 13, 1984

The Honorable Morris K. Udall, Chairman
Subcommittee on Energy and the Environment
Committee on Interior and Insular Affairs
United States House of Representatives
Washington, D. C. 20515

Dear Mr. Chairman:

We are pleased to respond to your July 26, 1984, request to supplement the record of the July 24, 1984, hearing on the Grand Gulf nuclear plant. Responses to your questions are enclosed.

Sincerely,

Nunzio J. Palladino

Enclosure:

Responses to questions for the
record of the Grand Gulf hearing

cc: Rep. Manuel Lujan

8409250388 XA
50-4130840913
COMM CORRESPONDENCE

QUESTION 1: Has an analysis been prepared of Grand Gulf inspection reports, Part 21 Reports, and 50.55E reports for the purpose of providing an overview of deficiencies and the adequacy of resulting corrective actions?

ANSWER

The systematic assessment of licensee performance (SALP) provides, in part, a formal analysis of the Licensee's approach to resolution of technical issues, responsiveness to NRC initiatives, enforcement history, and reporting and analysis of reportable events or conditions. The most recent documented analysis for Grand Gulf is the SALP assessment, dated January 11, 1984, which is attached. Licensee performance has also been evaluated routinely and is documented in a near term operating license management report prepared monthly. The section from the most recent report, dated July 30, 1984, applicable to Grand Gulf, is attached. (Page 7 of this report, which mentions on-going investigations has not been included.)

All Grand Gulf inspection reports, Part 21 reports, and 50.55E reports are inspected/analyzed under the routine and reactive inspection programs. Specifically, on initial notification of inspection findings, reportable events or unusual conditions, the information is evaluated by appropriate staff offices to determine the significance of the event, potential enforcement action and the need for any immediate actions and followup. All licensee written reports are reviewed to:

1. Verify that details are clearly reported and that reporting requirements have been met.
2. Determine that the report adequately assesses the event.
3. Ensure the stated cause appears correct and is supported by the report details.
4. Determine that corrective actions appear adequate to prevent recurrence.
5. Assess the generic applicability of the issue.

Based on the inspector's and NRC management's judgment of the issue, detailed onsite inspections of the technical aspects of the issue may be conducted to determine if escalated enforcement action or management meetings with the Licensee are necessary.

Report items are tracked internally by the responsible inspection staff until the issues are closed out in a follow-on NRC inspection report. Overviews of the deficiencies and corrective actions are accomplished routinely by cognizant inspectors and their supervisors during the period the issues remain open.

Attachments: a/s

QUESTION 2: Has an analysis been prepared of reported events that have occurred since issuance of the low power license for the purpose of determining whether these events suggest the existence of deficiencies that should be corrected?

ANSWER

Several analyses have been performed by NRC offices of reported events that occurred since issuance of the low power license of Grand Gulf. These analyses were directed towards determination of adverse performance trends and were compared to other operating reactors which had similar low power licenses. Analyses of these types which have been developed are as follows:

1. NRC memorandum from Sagid Salah to Karl V. Seyfrit, June 17, 1983, entitled, "Technical Report for Grand Gulf Unit 1".
2. NRC memorandum from Sagid Salah to Karl V. Seyfrit, November 15, 1983, entitled, "Technical Report for Grand Gulf Unit 1".
3. NRC memorandum from William J. Dircks to Commissioners, February 24, 1984, entitled, "Personnel Errors at Selected Operating Plants".
4. NRC memorandum from Frank J. Miraglia to Thomas Novak, February 27, 1984, entitled, "Grand Gulf Operating Experience".
5. NRC memorandum from William J. Dircks to Commissioners, March 28, 1984, entitled, "LER Data on Personnel Errors".
6. NRC memorandum from Thomas R. Wolf to Karl V. Seyfrit, April 25, 1984, entitled, "Technical Review Report of an Improper Spare Parts Procurement Event at Grand Gulf Unit 1".
7. NRC memorandum from Frank J. Miraglia to Darrell G. Eisenhut, June 13, 1984, entitled, "Grand Gulf Operating Experience Update".

A copy of each of the above is attached. Items 3 and 4 are enclosures to Item 5. Since Grand Gulf has Transamerica Delaval, Inc., diesel generators, a copy of NRC memorandum from Frederick J. Hebdon to Carl H. Berlinger, February 27, 1984, entitled, "Operating History Overview for Diesel Generators in Nuclear Service", has also been attached.

In addition, the Office for Analysis and Evaluation of Operational Data reviews and assesses the significance of each Grand Gulf Licensing Event Report (LER) as it is received. Their records show that 372 LER's with event dates after June 16, 1982, were reviewed. Five of these were rated as significant. The five are as follows:

1. 83-069, Residual Heat Removal System Shutdown Cooling Mode and Reactor Water Cleanup System Isolated.
2. 83-107, Diesel Generator Turbocharger Bolt Failure.
3. 83-126, Diesel Generator Fuel Line Rupture.
4. 83-136, Diesel Generator Cylinder Exhaust Gaskets Failed.
5. 83-147, Spare Parts for Chlorine Detection System not Proper Quality (The technical review of this item is documented in the attached NRC Memorandum from Thomas R. Wolf to Karl V. Seyfrit, April 25, 1984.)

Evaluations indicate that the licensee has taken action to correct problems which result in repetitive reportable events.

The systematic assessment of licensee performance periodically provides a formal analysis of the Licensee's Event Reports by functional area to help NRC management identify negative trends or programmatic weaknesses both within the functional areas and the Licensee reporting program.

As discussed in detail in the answer to Question 1, each reportable event also receives individual NRC review and disposition.

Attachments: a/s

QUESTION 3: Has the Commission compiled a list of false statements material to the licensing of Grand Gulf?

ANSWER

To date the Commission has determined that certain submittals involving certification of RO's and SRO's were material false statements. The NRC staff is examining submittals involving Technical Specifications to determine if they contain material false statements. However, prior to licensing, the Staff determined that the errors in the Technical Specifications had been corrected.

QUESTION 4: Has an assessment been made of MP&L's compliance with QA audit requirements of 10 CFR 50, Appendix B, Criterion XVIII?

ANSWER

Assessment of the MP&L QA program required by 10 CFR 50, Appendix B, is routinely performed by the NRC Staff. Operational quality assurance requirements for Grand Gulf 1 are contained in the MP&L topical quality assurance program. Their topical QA program description, including changes thereto, has been specifically reviewed and accepted by NRC as meeting 10 CFR 50, Appendix B. The MP&L program for Criterion XVIII meets NRC guidance contained in Chapter 17 of NUREG 0800, Standard Review Plan. The adequacy of the detailed instructions, procedures, and drawings needed to carry out the program has been routinely reviewed during the ongoing inspection program.

Implementation of the required program has been assessed by the routine inspection program. A few violations were identified, but they did not indicate a failure to establish or meet Criterion XVIII requirements. (See the response to Question 11 for a discussion of the effectiveness of the QA program implementation.) The inspections indicated that MP&L had established and was basically implementing all NRC requirements in their topical QA program. These inspections confirmed that the audit program, audit organization, qualifications of auditors, audit procedures, audit schedules, audit reports, and reaudits in deficient areas essentially met all QA program commitments to NRC regulatory guides and endorsed ANSI standards on auditing activities.

QUESTION 5: Are licensing conditions attached to the Grand Gulf low power license significantly different in number or character from conditions attached to low power licenses for Susquehanna and LaSalle?

ANSWER

The LaSalle-1 license contains 30 license conditions, Susquehanna-1 contains 28 and Grand Gulf has 45 conditions. Many conditions are similar except the Grand Gulf license contains 3 conditions which relate to its status as a first-of-a-kind plant and 3 conditions which address the lack of nuclear experience in the MP&L staff. Also, the number of conditions depends on the form of the license. For example, the LaSalle license has one condition on fire protection which contained five subparts while the Grand Gulf license has two separate conditions relating to fire protection.

QUESTION 6: Does Mississippi Power and Light currently comply with its original FSAR commitments regarding operator experience?

ANSWER

Yes. MP&L's original FSAR commitment, given in FSAR Amendment 51, is as follows:

There will be at least one SRO with substantial BWR operating experience on each operating shift for the plant startup period. Three of these SRO's were previously licensed on operating BWR's, and two were assigned to operating shifts at another operating BWR for 6 months after completing their SRO training. During this period they participated in startups and shutdowns, including scrams and scram recoveries, as well as surveillance testing and refueling. Normally, one of the above five BWR experienced SRO's will be on shift or a consultant with similar experience will be on shift until the plant achieves 100 percent power.

As noted in the Staff's Safety Evaluation Report, NUREG-0831, Supplement 2, MP&L provided resumes of individuals who would provide such experience, and the staff concluded from these resumes that the individuals have acceptable experience. In November 1983, MP&L provided resumes of other individuals who would be acting as shift advisors to fulfill the experience requirements. The staff has reviewed these resumes and the training program presented to these shift advisors and has concluded that the GGNS shift advisors meet the experience and training requirements as specified in Generic Letter 84-16, "Adequacy of On-Shift Operating Experience for Near Term Operating License Applicants", dated June 27, 1984. All shift advisors have held SRO licenses.

QUESTION 7: When did MP&L first recognize the necessity for drywell cooling system modifications?
When did MP&L first report the need for such modifications to the NRC?

ANSWER

The Licensee recognized the need for the modification during the initial non-nuclear heat-up of the reactor system in September 1982.

The NRC was advised of this need in the fall of 1982.

QUESTION 8: In addition to the modification to the drywell cooling system, what other "major", "significant", or "unusual" modifications have been made at Grand Gulf since issuance of the low power operating license?

ANSWER

Other plant modifications (i.e., significant or unusual):

- a. Passive syphon to the standby service water tower basin (ultimate heat sink).
- b. Replacement of agastat relays with newer design. These components are used in relay logic (safety and non-safety).
- c. Some component replacement in TDI diesel.
- d. Gas turbine generator installation.
- e. Modification of pipe supports because soil/structure interaction.

QUESTION 9: Have the diesel deficiencies been adequately addressed in the context of the concerns expressed by the NRC staff in its January 26, 1984, meeting with the TDI owners' group?

ANSWER

Mississippi Power and Light has made several submittals which address the adequacy of the TDI diesel generators on an interim basis. These submittals describe earlier inspections, component replacement, and operating performance. In July 1984, MP&L submitted an inspection report following NRC staff-ordered inspection and test. The staff has evaluated the results of the inspection and has determined that the TDI diesels meet NRC regulations.

QUESTION 10: The systematic assessment of licensee performance (SALP) for the 13-month period ending September 30, 1983, assigned the Grand Gulf facility Category 3 rating (the lowest rating) in 5 out of 9 areas that were assessed. Have actions been taken to determine whether the defects enumerated in the SALP report have been corrected in a manner satisfactory to the NRC?

ANSWER

Since the last SALP period, (September 1, 1982 - September 30, 1983), the level of NRC inspection activity at Grand Gulf continued to be approximately 200% of budgeted hours, concentrating in those functional areas that were rated as Category 3. This is detailed in the answer to Question 11. Based on the findings from this concentrated inspection effort, effective actions have been taken by MP&L to correct these areas of concern. The Regional assessment of these low rated areas indicates a significant improvement in the areas of operations and surveillance. Likewise, significant improvements in the areas of maintenance and quality assurance are anticipated based on recent maintenance personnel changes and increased actions on the part of both the plant and corporate management. The NRC licensing staff has also noted significant MP&L management attention to NRC initiatives. These issues were further addressed at the July 31, 1984 Commission meeting.

QUESTION 11: The SALP for the period ending September 30, 1983, found that "...implementation of the QA program at Grand Gulf is inadequate to identify problems and/or ineffective in bringing about adequate corrective actions." What is the basis for determining that problems not identified or resolved as a result of QA shortcomings during this period have subsequently been identified and/or resolved?

ANSWER

On December 5, 1983, a Confirmation of Action Letter was issued to MP&L which required, in part, that prior to exceeding 5% power the Plant Safety Review Committee (PSRC) would review previously identified plant discrepancy reports to assure that any safety-related deficiencies in hardware or procedures were properly dispositioned. In MP&L Letter No. AECM-84/0239, dated April 30, 1984, MP&L responded that reviews of incident reports, quality deficiency reports, and material nonconformance reports had been completed and approved by the PSRC. Items identified for follow-up corrective action were either completed prior to plant restart or placed in the plant corrective action program.

The SALP Review Board concluded that the overall QA program was inadequate to identify problems and/or was ineffective in bringing about adequate corrective actions. This conclusion regarding the QA program was based on an assessment of all functional areas addressed in the SALP report that had been rated Category 3. These areas involved plant operations, maintenance, surveillance testing, and licensing activities. The Board concluded that the deficiencies identified in the above areas indicated an ineffective QA program. Each of these areas and the Licensee corrective actions are addressed below:

1. Plant Operations

Problems were identified with procedure adequacy, procedure compliance, personnel training, safety evaluations, inadequate supervisory attention to management control systems, and failure to meet certain NRC commitments. Significant concerns were also identified with licensed operator training.

Corrective actions taken by the Licensee have greatly improved the operator training program. An incentive program was established for licensed operators. Retesting in February 1984 by NRC examiners confirmed appropriate upgrading of licensed operator qualifications. A comprehensive operations program has

been instituted which includes both short term and long term actions to improve safety, reliability, and operating effectiveness. Management actions also included disciplinary actions, realigned administrative responsibilities, additional staff training, and periodic management meetings with plant personnel. The Licensee established a compliance section to track NRC requirements and the number of problems in this area have been significantly reduced. Improvement in this area has been verified during facility inspections. Based on the Licensee's corrective actions and verified by our inspections, continued improvement is expected.

2. Maintenance

Insufficient Licensee management attention resulted in poor implementation of the maintenance program. Problems developed when maintenance department managers failed to establish clear lines of authority, direction, and responsibilities. Minimal management involvement, unrealistic schedule pressures, and lack of an effective maintenance training program contributed to or caused numerous problems.

Management changes have been made in the maintenance area. Under this new direction, with training, and awareness by key maintenance personnel, we expect better control over maintenance activities. Additional training is being provided to maintenance personnel.

3. Surveillance Testing

An overall management control system had not been established to verify that all surveillance testing requirements had been established. Significant weaknesses were found in the administrative control procedures and formal QA audits had not been conducted in this area.

Following Region II enforcement actions in October 1982, significant improvements have been verified by NRC reinspection in deficient areas. The Licensee completed a massive effort to assure that all surveillances are implemented under a fully accountable management control system. A complete re-review of the facility technical specifications had been performed by the Licensee to assure that all technical parameters are correct and that all needed surveillances have been incorporated into appropriate revisions. The MP&L QA staff has formally audited the surveillance test program for content and implementation. Problems identified during these QA audits are being resolved.

4. Licensing Activities

Problems in this area were mainly related to deficiencies in the facility Technical Specifications. These problems also involved technical inaccuracy in several proposed revisions to Technical Specifications.

The Licensee has made numerous changes in their management structure involving additional staff positions as well as significant changes in key management personnel from the president of the company down through the plant operating staff. In all areas, there has been an increased awareness of and responsibility for both administrative and technical accuracy by all levels of management and supervisory personnel.

5. Quality Assurance Staff

The quality assurance staff is responsible for audits required by Criterion XVIII of Appendix B. Although in compliance with NRC requirements for auditing activities, Region II was concerned that QA audits had not been more effective in identifying and resolving the types of problems discussed above. It appeared that QA audits had not been conducted at the scope and depth needed to provide a more meaningful determination of effectiveness of all aspects of the QA program.

As discussed above, line managers are more aware and involved in their personal responsibility for achieving the desired level of quality. Additional training has been provided to increase QA auditor knowledge in areas such as operation and maintenance. A licensed senior reactor operator has been added to the site QA staff. Another auditor is being trained as a shift technical advisor. Others are receiving training in specific maintenance activities. There has been increased use of technical specialists to assist QA audit teams in areas requiring additional expertise. The site QA staff performs more direct surveillance of ongoing plant activities, and QA administrative procedures have been revised to better document the presence of QA personnel in the field. Each member of the site QA staff is required to perform at least one surveillance per week of ongoing plant activities. In addition to day-to-day surveillance activities, the QA staff has reaudited various aspects of all deficient areas discussed in the SALF report. In some cases such as the licensed operator training program, the audit was a 100% review and verification.

Problems identified during these surveillance and audit activities are being resolved through established

corrective action systems. Planned audit schedules are being adjusted on an as-needed basis to reflect plant activities and conditions involving unexpected outages or maintenance activities. Planned audit schedules have been changed to accommodate specific requests for QA staff assistance by line managers. Implementation of these activities and their long term benefit has been and will continue to be assessed during NRC inspections. Program and personnel changes within the QA staff provide reasonable assurance that QA audit activities will result in meaningful determinations on all aspects of the QA program.

QUESTION 12: The SALP report for the period ending September 30, 1983, refers on Page 24 to a large backlog of design changes. The Report states: "... the Licensee established a Design Change Task Force to specifically identify the status of approximately 2000 outstanding design changes." Does the Commission have available a list of these design changes? Is this number unusually large for a plant that had received a low power operating license?

ANSWER

The Commission does not maintain a list of design changes at Grand Gulf or at any other facility. Such information is available to inspectors at the respective plant sites. Samples of design changes are routinely inspected to determine the adequacy of Licensee evaluations with respect to 10 CFR 50.59.

Based on initial comparisons with other recently licensed facilities, 2000 outstanding design changes appears high; however, further research and discussion indicates the number 2000 may be misleading. MP&L takes all inputs of potential design changes and assigns each a design change package (DCP) number. Subsequently, reviews are conducted against other outstanding DCP's, completed DCP's, and other criteria for desirability and acceptability. MP&L indicated that about 25% of the 2000 DCP's were ultimately cancelled due to duplication. It is important to understand that most other Licensees screen potential DCP's before assigning a DCP number. Additionally, MP&L generally gives minor design changes separate tracking numbers, while the industry norm is to combine related minor changes into one DCP. Thus, the number 2000 cannot be easily correlated against the number of outstanding DCP's at other facilities.

QUESTION 13: Has the Commission considered requiring conduct of an independent review to determine whether Grand Gulf is now in substantial compliance with the Commission's regulations?

ANSWER

No, the Commission is confident that the NRC review is adequate to determine that Grand Gulf is in substantial compliance with the Commission's regulations.

QUESTION 14: Has the Commission compiled a list of Technical Specification deficiencies, and the dates on which they were discovered, reported, reported as corrected, and the corrections approved?

ANSWER

A list of technical specification deficiencies was generated by the Licensee in its review of Technical Specifications and the "as-built" plant. The NRC independently compared the Technical Specifications with the FSAR and certain portions of the "as-built" plant and identified additional deficiencies. Subsequently, the Licensee compiled a comprehensive list for resolution. The NRC has closely tracked the resolution of these items but has not maintained a list of dates discovered, reported, reported corrected, and corrections approved as mentioned in this question.

QUESTION 15: Has the Commission assembled a comprehensive list of defects in design and construction for the purpose of determining what the existence of such defects might imply with respect to defects that have not yet been discovered?

ANSWER

A comprehensive list of defects has not been compiled. As discussed in response to Question No. 1, the Staff continually evaluates identified design and construction deficiencies to determine any generic implication.