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July 23, 1984

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J. B. RICHARD
SENIOR VICE PRESIDENT - NUCLEAR

The Honorable Nunzio J. Palladino
Chairman
U.S. Nuclear Regulatory Commission
1717 H Street, N.W.
Washington, D.C. 20555

DOCKET NUMBER
PROD. & UTIL. FAC. 50-416 OL
50-417 OL

Dear Mr. Palladino:

SUBJECT: Grand Gulf Nuclear Station
Units 1 and 2
Docket Nos. 50-416 and 50-417
License No. NPF-13
File: 0260/L-860.0
Comments on Commission Responses to Question from Rep. E. J. Markey of March 13, 1984
AECM-84/0375

On July 17, 1984 the Commission filed final responses to questions raised by Representative E. J. Markey in his letter to the Commission, dated March 13, 1984. These responses were obtained by Mississippi Power & Light Company (MP&L) on July 21, 1984. MP&L has reviewed these Commission responses and wishes to take this opportunity to provide clarifying remarks and additional information regarding the responses to Questions 1(B) and 1(F).

MP&L does not disagree with the factual content of the subject responses but considers that there exists additional information surrounding these complex circumstances and events. The purpose of this letter is to provide that information in hope that it will be useful to you and the other Commissioners in constructing a more balanced view of these complicated issues.

Specific clarifying information with respect to Question 1(B) and 1(F) is contained in Attachment 1 to this letter. Information on the chronology of the development of the GGNS Technical Specifications which supplements and expands the information provided in our April 9, 1984 letter is provided as Attachment 2 to this letter. That chronology indicates the significant effort expended in the development of the GGNS Technical Specifications and illuminates the complexity of the total issue. Additional background information on the development of the GGNS Technical Specifications is provided in Attachment 3.

Please advise me if you require clarification or additional information regarding these attachments.

Yours truly,

J. B. Richard

JBR:rg
Attachments
cc: See next page

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MISSISSIPPI POWER & LIGHT COMPANY

cc: Commissioner James K. Asselstine (w/a)
Commissioner Frederick M. Bernthal (w/a)
Commissioner Thomas M. Roberts (w/a)
Commissioner Lando W. Zech (w/a)

Mr. William J. Dircks (w/a)
Executive Director for Operations
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Mr. Harold R. Denton, Director (w/a)
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Mr. Darrell G. Eisenhut, Director (w/a)
Division of Licensing
Office of Nuclear Reactor Regulation
Washington, D. C. 20555

Mr. R. B. McGehee (w/o)
Mr. N. S. Reynolds (w/o)
Mr. G. B. Taylor (w/o)

Mr. Richard C. DeYoung, Director (w/a)
Office of Inspection & Enforcement
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Mr. J. P. O'Reilly, Regional Administrator (w/a)
U.S. Nuclear Regulatory Commission
Region II
101 Marietta St., N.W., Suite 2900
Atlanta, Georgia 30323

ADDITIONAL INFORMATION REGARDING QUESTIONS IDENTIFIED IN REPRESENTATIVE E. J. MARKEY LETTER TO THE NUCLEAR REGULATORY COMMISSION, DATED MARCH 13, 1984

Question 1(B)
MP&L Comments on Commission Response, dated July 17, 1984

The NRC indicates that two significant contributors to problems associated with the GGNS Technical Specifications were excessive informality of the process employed by both MP&L and the NRC Staff and a lack of sufficient review by the plant operations staff.

MP&L discussed both of these causes in a meeting with the NRC Staff on April 4, 1984 and formally documented these two areas as causes in letter AECM-84/0217, dated April 9, 1984. To the extent that the plant operations staff should have been more involved in the latter stages of the development of the GGNS Technical Specifications, MP&L concurs with the NRC Staff assessment of these two factors as causes for the technical specification problems.

MP&L also believes that there were additional, significant causes which were not discussed in the NRC response to this question. In particular:

a. Lack of Standard Technical Specifications and the first-of-a-kind nature of the plant;

b. Absence of application of Quality Assurance attention to the development and review of technical specifications;

c. Insufficient management attention;

d. Insufficient review of technical specifications by not only the plant operating staff, but also by Bechtel and General Electric during the late stages of technical specification development; and

e. No final, complete review of technical specifications immediately after receipt of Attachment A to the GGNS operating license.

The entire issue of problems associated with the GGNS Technical Specifications is complex with numerous contributors as discussed above. In particular, the fact that no BWR6 Standard Technical Specifications existed while the GGNS Technical Specifications were being developed is considered by MP&L to be a major contributor. For the initial three years of the five year span in which the GGNS Technical Specifications were being developed, substantial resources were expended by MP&L in an effort to develop a suitable BWR6 standard on which to base plant specific technical specifications. This expenditure of resources was essentially inefficient and ineffective since ultimately the NRC required that submittals be based on a set of technical specifications for an earlier model plant.

Information on the chronology of the development of the GGNS Technical Specifications which supplements and expands the information provided in our April 9, 1984 letter is provided as Attachment 2 to this letter. That chronology indicates the significant effort expended in the development of the GGNS Technical Specifications and illuminates the complexity of the total issue and the role of the informality, lack of a standard, and inadequate MP&L management attention in the development process. Additional background information on the development of the GGNS Technical Specifications is provided in Attachment 3.

Regardless of the contributors leading to the problems identified, MP&L considers that the applicant/licensee is ultimately responsible for the development and implementation process; MP&L acknowledges that responsibility. Since the receipt of the Low Power Operating License, management attention has steadily increased regarding the technical specifications.

This increased management attention has given rise to significant review efforts expended to establish the accuracy and adequacy of the technical specifications and associated surveillance procedures. Detailed evaluations were conducted into the background and causes of the problems experienced. MP&L considers all root causes to be adequately addressed by various corrective actions taken to date and is further committed to providing the proper level of management attention to maintain these documents accurate and adequate.

Question 1(F)
MP&L Comments on Commission Response, dated July 17, 1984

By way of the background, the Commission Response to Question 1(F) briefly discusses some key events and activities at Grand Gulf Nuclear Station immediately following the receipt by MP&L of the Low Power Operating License on June 16, 1982. Additional information is provided here to elaborate on the sequence of events following initial criticality, the rationale for the proposed testing schedule, and the entry into the maintenance outage following that testing.

The low power test program was specifically constructed to allow for timely execution of required tests and to eliminate duplicative testing, wherever possible. Proper sequencing was, therefore, essential to the efficient startup of GGNS - a prototype BWR6/Mark III design. For the purposes of this discussion, the sequence of some key events during this period is presented as follows:

(a) Initial fuel load;

(b) Low power physics testing (reactor pressure vessel head off, as is characteristic of the BWR design);

(c) Installation of reactor pressure vessel head;

(d) Non-nuclear heatup using recirculation system;

(e) Conduct prototype reactor, internal component vibration monitoring testing;

(f) With reactor near normal operating temperature and pressure, conduct single rod scram (friction) testing.

It should be noted that steps (e) and (f) above must have the reactor's fuel installed as a prerequisite. For this reason and because low power physics testing was to be conducted with the RPV head off, this test sequence dictated that non-nuclear heatup follow the plant's initial criticality. This test sequence is typical of an initial BWR startup.

Non-nuclear heatup commenced in mid-September, 1982. It was during the testing at or near operating conditions, following initial criticality and non-nuclear heatup, that it was discovered that the drywell cooling capability, for a number of reasons, was apparently insufficient. Only after an evaluation of this insufficiency and the prescription of appropriate corrective actions did MP&L elect to commence a maintenance outage to support the resulting design changes. That maintenance outage commenced in late October, 1982.

In summary, as clarification to the Commission Response to 1(F), the plant was shutdown following initial criticality testing; however, only after the conduct of later, appropriately scheduled testing and subsequent evaluation was a decision made to enter into a maintenance outage.

CHRONOLOGY OF GRAND GULF NUCLEAR STATION TECHNICAL SPECIFICATIONS

1977

There were several early efforts to develop GGNS Technical Specifications (Tech Specs) and to develop BWR6 Standard Technical Specifications (STS). MP&L began to develop GGNS "Standard" Technical Specifications based upon the existing standard which was for a Mark I plant. A BWR6 Standard Technical Specifications Review Group was established to determine a licensing strategy and develop a set of BWR6/Mark III Standard Technical Specifications. This group consisted of: Mississippi Power & Light Company (MP&L), Cleveland Electric Illuminating Company, Gulf States Utilities Company, Tennessee Valley Authority, Illinois Power Company, Public Service Company of Oklahoma, Puget Sound Power & Light Company, Tiawan Power Company, and General Electric (GE). The initial MP&L representative for the Review Group was from the corporate Project Management staff.

The early efforts involved use of a December 1975 BWR3/4 Mark I GE Standard Technical Specification for format guidance. The early draft STS developed by the Review Group was a re-typed version, as opposed to a marked-up copy of the NRC STS as was desired. This early group informally interfaced with Dr. Bob Bottimore of the NRC and was oriented mostly toward resolving the licensing issues and developing a licensing strategy. MP&L's internal efforts were limited since all Operations personnel and most of the key supervisors and managers on plant staff were involved in Cold License Operator Training through the end of the year.

1978

With fuel load scheduled for 1980, MP&L realized that the Technical Specifications must be developed as early as possible in order to support completion of surveillance procedures, operator training, and Pre-Op Testing. Therefore, most of the activities for developing BWR6/Mark III Standard Technical Specifications and the Grand Gulf specific Technical Specifications became more intense. In 1978 the following significant events took place:

1. The BWR6 STS Review Group evolved into 2 groups, one of which remained oriented toward the licensing issues and the second group which took over the responsibility for the technical content of the Technical Specifications. This second group was represented by most of the utilities' plant operations staff in order to take advantage of the best operations experience available to the BWR6 utilities. In addition, besides GE, most utilities had an Architect-Engineer (A/E) representative. MP&L was represented by a Plant Staff Technical Support Section Engineer. The Bechtel primary representative was the Mechanical Group Supervisor.

2. By September of 1978, MP&L, working closely with the BWR6 STS Review Group, completed a second draft of the Grand Gulf version of the BWR6 STS.

3. Based on a proposed draft of the BWR6 STS prepared by MP&L and the Review Group, MP&L, in late 1978 began intensive efforts to complete the Grand Gulf specific Technical Specifications with input from GE and Bechtel. At this time the Technical Support Section of Plant Staff was assigned responsibility for developing Grand Gulf specific Standard Technical Specifications. The Technical Support Section was responsible for insuring proper review by Operations, HP/Chemistry, Startup, Maintenance, PSRC, Engineering, Licensing, etc. Project Engineering was formally responsible for obtaining the GE and Bechtel input and reviews as requested by Technical Support. However, most communication went directly from Plant Staff to Bechtel.

4. In early 1978, the NRC was in the process of revising the GE STS. In April of 1978 they issued Revision 1 of the GE STS. This STS was later revised by the NRC in September, October, November, and again in December of 1978. However, these revisions were not formally issued

by the NRC. The new revised sections were informally sent to the appropriate utilities for inclusion in the Technical Specifications.

5. LaSalle submitted their proposed Technical Specifications on October 29, 1978. Since the document submitted by LaSalle was so different from the standard, they did not follow NRC directions and submit a marked-up copy of the STS. Instead, they had a new draft Technical Specifications printed and submitted that copy. However, the NRC felt it would be too difficult to review such a document and requested that LaSalle instead mark-up the standard, regardless of the difference between LaSalle's proposed Technical Specifications and the standard. The NRC intended to revise the standard again based upon their review of LaSalle Technical Specification and to issue a new standard based on the BWR5 product line.

1979

Significant activities continued through 1979 by both the Standard Technical Specifications Review Group and MP&L. MP&L was planning to complete its second draft of the GGNS specific Technical Specifications with a final review by the end of 1979, and then submit the GGNS Technical Specifications in early 1980. To meet this objective the following events took place:

1. In January 1979, the NRC provided MP&L with a draft "proof and review" copy of the STS which had been revised in September, October, November, and again in December of 1978. The NRC, after making several additional significant changes, later issued this basic document as Revision 2 of GE STS in August 1979. This STS still did not incorporate BWR5 product line features.

2. MP&L contacted the NRC, Dr. Bob Bottimore, to discuss the submittal of GGNS Technical Specifications. His direction was to use the latest material issued from his office and to mark up these Technical Specifications for submittal to the NRC. He indicatd that the Technical Specifications should not be submitted any earlier than 6 months prior to fuel load and, based upon NRC estimates of the GGNS schedule, he felt a submittal in 1980 would be too soon.

3. Because of the significant changes which had occurred in the Standard Technical Specifications, Bechtel & GE were asked to supply additional input and review the draft GGNS Technical Specifications in time to supply another draft of the GGNS Technical Specifications by July of 1979. Because of the problems experienced at LaSalle, Bechtel and GE were directed for the first time to supply their input in the form of marked-up STS pages. It was in this draft that MP&L changed the format from a completely retyped Technical Specifications to a mark-up of the STS. The mark-up was based on the latest draft copy of the STS provided by the NRC in January of 1979, which was effectively still a Mark I STS. The STS used by MP&L did, however, reflect the changes which the NRC had proposed in September, October, November and December of 1978.

4. At the July 10, 11 meeting of BWR6 Technical Specifications Review Group, MP&L presented the following schedule for the Technical Specifications:

   a. July 1979 - resolve comments and complete new draft of GGNS Technical Specifications.

   b. October 1979 - using the Bechtel, GE, and Review Group comments and the new STS Revision 2, complete a second draft of GGNS Technical Specifications.

   c. January 1980 - revise the GGNS Technical Specifications as necessary due to changes in the STS and complete the submittal packages with justification for changes from the STS.

   d. March 1980 - submit the final GGNS draft Technical Specifications to the NRC for review and approval.

   e. October 1980 - NRC approval of the Technical Specifications and fuel load.

5. Bechtel input to the GGNS Tech Specs was supplied on July 9, 1979 (MPB-79/0042). GE input would not be provided until September of 1979 and would be in the form of a revised STS submitted to the BWR6 STS Review Group.

6. Internally, MP&L went through at least four rewrite and review cycles during this period in order to develop the draft Tech Specs by the end of the year. The efforts were all coordinated by the Plant Staff Technical Support Section and involved extensive review by Operations, Maintenance, HP/Chemistry, and Startup.

7. At the July 10, 11 meeting of the BWR6 STS Review Group the following major generic BWR6 issues were identified as priority issues requiring resolution for the BWR6 STS:

a. Section 3/4.6 - Containment Systems
b. Section 3/4.4.5 - Specific Activity
c. Section 3/4.8 - Electrical
d. Section 3/4.1.3 - Control Rods
e. Section 3/4.4.1 - Recirculation Systems
f. Section 3/4.1.1 - Shutdown Margin
g. Section 3/4.4.2 - Safety Relief Valves
h. Section 3/4.3 - Instrumentation
i. Radiological Effluent Technical Specifications

8. The BWR6 STS Review Group objective was to resolve these generic BWR6 issues with the NRC before Dr. Bottimore issued the GGNS "proof and review" copy for review. This way, only specific GGNS issues would have to be taken up with the NRC during their review process. The NRC was contacted and made aware of the fact that the group was preparing a position on these generic issues and would like to meet with the NRC to resolve them. The NRC was receptive, but felt their priority was on BWR5 STS and review and approval of the LaSalle Technical Specifications.

9. In June, 1979, responsibility was assigned to a consultant (Ron Williams, from NSC/Quadrex) working under the direction of the Operations and Maintenance Superintendent (Assistant Plant Manager) to coordinate the final review and approval of GGNS Technical Specifications and establish a plan for developing surveillance procedures and controlling the Tech Specs/surveillance procedures such that changes to the Tech Specs would be reflected in the surveillance procedures. The consultant was a previously degreed SRO Senior Operations Engineer from Commonwealth Edison Co. (Dresden 2, 3) with many years of BWR operations experience.

10. In August of 1979, several key management positions and organizational changes occurred which had some impact on the Technical Specifications and surveillance procedure effort. The Operations and Maintenance Superintendent was promoted to another position in the Corporate office. The Operations Superintendent was promoted to the Manager of Safety and Licensing position in the Corporate office. At this time, it was felt that the basic droft Tech Specs had been developed by the Plant Staff and most of the remaining activity with the Technical Specifications would be between the NRC and MP&L

Licensing along with support from Plant Staff, GE and Bechtel. Therefore, it was agreed by the Plant Manager and the Manager of Safety and Licensing that responsibility for the Technical Specifications would shift to the Licensing Section. The Plant manager felt that this was appropriate since the Manager of Safety and Licensing had been instrumental in the development of the Technical Specifications, knew the GGNS design well, and most of the future activities would involve licensing. In addition, this would relieve his personnel and allow them to concentrate on the surveillance procedures. It was ageed that the Manager of Safety and Licensing would assure appropriate review and approval of Technical Specification changes by Plant Staff. Primary responsibility for the surveillance procedure effort shifted from Operations and the Operations and Maintenance Superintendent to the Technical Support Section on plant staff.

1980

As a result of delays in projected fuel load date for Grand Gulf Unit 1, the proposed date for submittal of the GGNS Tech Specs was delayed until the end of 1980. As a result, the following activities took place:

1. A meeting of the BWR6 STS Review Group was held in March 1980, in order to review and resolve comments on significant changes to the STS proposed by GE. In addition, the group met with Dr. Bob Bottimore of the NRC to discuss plans for review of the proposed STS and also the NRC review of the GGNS plant specific Tech Specs to be submitted later in the year. At the meeting, Dr. Bottimore said that his plans for the upcoming year were to issue the "proof and review" copy of the LaSalle Tech Specs in the summer, to issue a Revision 3 to GE STS for BWR5 by the end of the year and to issue a draft copy of the BWR6 STS.

2. A draft copy of the upcoming STS Revision 3 (marked "proof and review" March 1980) was provided to MP&L and other members of the BWR6 Standard Review Group. The purpose of Revision 3 was to incorporate BWR5 features and, therefore, this was the first glimpse of the NRC's proposed upgrade. Dr. Bottimore indicated that he appreciated the input for the BWR6 STS since it was his intent to issue a draft STS copy applicable to the BWR6 by the end of the year. However, because of his heavy work load he probably would not have much of a

chance to incorporate the Owners Group input. He indicated that the NRC version should resolve most of the BWR6 issues. He advised GGNS to submit a marked-up version of the latest STS provided from his office and that as he reviewed the Owners Group input and made changes to the BWR6 STS draft copy he would provide those to MP&L for incorporation into their Tech Specs. It was at this point that several copies of the STS and GGNS Technical Specifications began circulating.

3. A proposal was made by the Owners to the NRC to rewrite the STS in order to make it more useable by the operations and maintenance personnel. Dr. Bottimore indicated that any attempts to change the wording in the STS would be unacceptable since this was a legal document that had been carefully reviewed and approved by the NRC.

4. By May 17, 1980, MP&L had prepared another draft of the GGNS Technical Specifications based on Revision 2 of the STS. It also reflected changes identified in the March 1980 STS "proof and review" copy and incorporated additional input from GE and Bechtel. The GE input was specifically tailored to GGNS for the first time.

5. In July of 1980, after additional internal review by MP&L, a proposed draft of the GGNS Technical Specifications dated May 19, 1980 was issued to all of the utilities in the BWR6 STS Review Group, GE, and Bechtel for a final review. In addition, this copy of the Technical Specifications was issued to all Plant Staff sections for a thorough final review and comment prior to NRC submittal.

6. Based on a mid 1981 projected fuel load date, the NRC had requested submittal of the draft GGNS Technical Specifications by October 1980.

7. The LaSalle draft "proof and review" copy of the Tech Specs was issued by the NRC on August 1, 1980 this copy of the Tech Specs went through approximately 25 revisions from this period through January of 1982.

8. In September of 1980, Dr. Bob Bottimore informally sent to MP&L a copy of a proposed draft BWR6 GE STS dated August 25, 1980 for use in completing GGNS plant specific Tech Specs.

9. In November of 1980, Dr. Bottimore again informally sent a new BWR6 GE STS which changed the STS he had sent to MP&L in September.

10. As a result of these changes by the NRC, the submittal of GGNS Tech Specs was delayed to December of 1980, in order to assure that the latest guidance from the NRC was incorporated prior to submittal. On December 15, 1980, MP&L submitted the proposed GGNS Tech Specs and indicated that it was based primarily on Revision 2 of the STS since this was the only formal revision issued by the NRC at that time. Actually, MP&L included the NRC Revision 3 features they agreed with and omitted those that were unacceptable, or proposed an alternative.

11. In December 1980, the NRC issued Revision 3 (BWR5) to NUREG-0123 GE STS which superceded Revision 2.

12. Throughout this period, GE was working with the NRC relatively independent of the Owners on BWR5 and 6 STS. Dr. Bottimore received the input from GE, changed the STS if it was acceptable to the NRC and then informally sent changed pages to the owners.

13. Although earlier efforts had been initiated to develop the surveillance procedures, very little work had been completed. Because of the relatively final status (as MP&L thought) of the GGNS Tech Specs and the impending 1981 fuel load date, a program was initiated by MP&L to complete the surveillance procedures. A consultant (Quadrex) with approximately 20 engineers and procedure writers was contracted to complete the surveillance procedures. The initial drafts of most of the surveillance procedures were completed in mid 1981.

1981

The primary objective of the Technical Specifications effort in 1981 was to complete negotiations with the NRC, resolve all Technical Specifications issues, and gain NRC approval of the Grand Gulf Technical Specifications. As a result, the following major activities occurred:

1. By the time Grand Gulf submitted their Technical Specifications in December, 1980, the BWR6 STS Review Group had completed most of its activities and no longer functioned as an established owners group.

2. Because of the potential for a significant number of changes during NRC review and the fact that the surveillance procedures were under development, additional pro-

cedures were put in place for controlling the Technical Specifications. An MP&L contract engineer in the Licensing Section was assigned primary responsibility for controlling Technical Specification changes. This individual performed two functions: 1) to administratively track and control changes and insure the proper review and approvals, and 2) to perform an initial technical licensing review. A similar position was established within the Plant Staff Technical Support Section (Licensing Coordinator) to receive proposed changes from Licensing to assure proper Plant Staff review and approval, and to receive approved Plant Staff requests for changes and transmit them to Licensing.

3. During 1981, as a result of submittal of the Technical Specifications to the NRC, the MP&L Licensing Section controlled the Technical Specifications by use of a master copy. The master copy was dated and a log was kept for all proposed revisions to Technical Specifications. Any proposed changes received by the Plant Staff were reviewed by the Licensing Section and submitted to the NRC. Any proposed changes received from GE, Bechtel, or the NRC were sent to the Plant Staff for review. Any changes proposed by the NRC or "proof and review" pages received by the NRC were reviewed by Plant Staff and Licensing and, if approved by MP&L, the changes were dated and incorporated into the master copy. If the changes were not approved, then alternative specifications were proposed to the NRC.

4. The NRC did not really look at MP&L's submittal of their Technical Specifications submitted in December of 1980; they were actively involved in the review and approval of the LaSalle Technical Specifications. In April 1981, after a review by Bechtel and an internal review by the Plant Staff, the Radiological Effluent Technical Specifications were submitted to the NRC.

5. In May 1981, the NRC provided MP&L with their version (a draft "proof and review" copy) of the Grand Gulf plant Technical Specifications which was primarily a version of the BWR5 STS that had been revised to reflect the issues which had been addressed on the LaSalle Plant. MP&L was told to mark-up the proposed Technical Specifications and submit them to the NRC by the second week of June, 1981.

6. Based on an initial review of the NRC transmitted Technical Specifications, it was obvious that they had not incorporated much, if any, of the previous GE input for BWR6 STS or input from the MP&L proposed Technical

Specifications. There were many additional items and changes which were obviously a result of the LaSalle Technical Specifications review effort by the NRC.

7. On June 26, 1981, after a review of the NRC proposed Grand Gulf Technical Specifications by Bechtel, GE, MP&L Plant Staff, and MP&L Licensing, the MP&L-approved second draft of the Grand Gulf Technical Specifications was submitted to the NRC. All the changes over the previous draft were indicated by margin bars and the NRC was requested to please use this type of identification for subsequent proposed revisions (this was usually not done by the NRC).

8. On October 7 and 8, 1981, the NRC held a meeting with MP&L at the Grand Gulf Nuclear Station to discuss the proposed Technical Specifications with the MP&L Licensing group and primarily the MP&L Plant Operations staff. The objectives of the meeting were to discuss MP&L's requested Technical Specifications changes and to identify the issues which would require resolution, as well as those items which the NRC would not approve for the Grand Gulf Technical Specifications. In addition, the NRC wanted to assess the Plant Staff's involvement in the Tech Specs.

9. Consultant support for surveillance procedures was reduced in the fall of 1981 to one operations and two maintenance (I&C) procedure writers to complete additional procedures and subsequent revisions to the procedures (normally done by Temporary Change Notices).

10. By the end of 1981, MP&L had requested additional reviews by Bechtel and GE in order to assure the accuracy of the Technical Specifications and to finalize the Technical Specifications to the maximum extent possible. Most of the tables and setpoints were blank since this information was not available when the Technical Specifications were submitted. At this time, fuel loading was scheduled for early to mid 1982.

1982

MP&L was scheduled to load fuel in early to mid 1982 and the objective of the Technical Specifications effort was to resolve NRC open items, complete all the setpoint calculations, complete the tables and gain NRC approval of the Grand Gulf Technical Specifications.

1. In early 1982, Bechtel and GE were requested to finalize the instrument setpoints and to complete the tables in the Technical Specifications. These changes, as they were received, were sometimes sent to the NRC by formal letter, but more usually sent informally to Dr. Bottimore, who preferred it that way.

2. In January 1982, the NRC informally transmitted MP&L's "proof and review" Technical Specifications for final review.

3. In early 1982, MP&L Licensing requested one final review of the Grand Gulf Technical Specifications and indicated to the plant operating organization that the FSAR and Technical Specifications would be finalized following this review and comment resolution in order to obtain a final copy that the NRC could print for issuance in the operating license.

4. Because the final proof and review had to be "frozen" to allow printing, the NRC was very reluctant to make any additional changes. For the most part, change requests were sent to the NRC and new NRC approved pages were not sent back to MP&L indicating their disposition. Therefore, effectively, MP&L did not know until receipt of the operating license if the many changes requested in the last several months prior to receipt of the operating license on June 16, 1982, were made by the NRC.

4. Just prior to the receipt of the operating license (within one week before OL issuance), several changes requested by the plant staff as a result of their ongoing work at the site to close out all remaining items for fuel loading were requested by MP&L and subsequently made by the NRC.

5. Upon receiving the operating license, the plant staff was requested to review the Technical Specifications in order to ensure their accuracy and appropriateness, since many of the changes requested in early 1982 and just prior to licensing may not have been incorporated by the NRC. This review, however, was never formally conducted and discrepancies in the Technical Specifications and surveillance procedures were identified during fuel loading and low power physics testing as attempts were made to use them.

ATTACHMENT 3 TO AECM-84/0375

ADDITIONAL INFORMATION ON TECHNICAL SPECIFICATION DEVELOPMENT

I. OVERVIEW OF APPROACH

In early 1977, when MP&L initiated efforts to develop GGNS Technical Specifications, the task appeared to be formidable. In the early days of the GGNS project, the operations experienced resources were limited, and the guidance from the NRC was outdated and two BWR product lines removed. As a result, MP&L, in conjunction with other BWR6 owners, General Electric and Bechtel, determined that the best approach would be to pull together the best operations experience available to the BWR6 plants. This effort would not only provide valuable input to a set of Standard Technical Specifications, it would allow an efficient use of utility resources to resolve all generic issues relative to the BWR6 Technical Specifications such that when individual plants submitted their plant specific Technical Specifications, only issues relevant to that plant would have to be dealt with for the NRC review. The early approach of the BWR6 STS Review Group was to develop a completely new retyped version of the STS. However, as indicated previously, based on direction from the NRC in 1979, rather than develop a BWR6 specific STS, the Review Group was required to mark up a previously issued version of BWR3/4 STS.

The BWR6 STS Review Group interfaced informally with the NRC (Dr. Bob Bottimore) and during the initial efforts discussed their plans and objectives with the NRC. The NRC indicated their receptiveness to receiving the input from the BWR6 STS Review Group. Once the Review Group had completed most of its work toward developing a BWR6 STS, the intent was to meet with the NRC as necessary to resolve generic issues until a final BWR6 STS had been developed and agreed upon between the Review Group and the NRC.

MP&L's approach to developing the GGNS specific Technical Specifications involved using the Review Group's basic BWR6 STS document and revising it as necessary for plant specific applications. Since most of the operations expertise existed on the Plant Operating Staff, it was the responsibility of the Plant

Operating Staff to develop the initial set of GGNS Technical Specifications until submittal of the document to the NRC. Following submittal of the Review Group's BWR6 Standard Technical Specifications, MP&L intended to submit its GGNS Technical Specifications, providing at least one year for NRC's review and resolution of issues since it was the lead BWR6. Following submittal of the GGNS Technical Specifications, it would be MP&L Licensing's responsibilities to negotiate the issues with the NRC using the expertise of the architect/engineer and NSSS vendor, as well as the operations expertise of the Plant Operating Staff as necessary. An internal set of Technical Specifications, controlled by the Licensing Section, would be used as the base document for developing surveillance procedures and training operators. This would prevent use of out of date revisions to the GGNS Technical Specifications.

This approach, although logical, did not account for the number of proposed Standard Technical Specifications issued by the NRC during the process. With the number of Technical Specifications changing so rapidly during the critical stages of preparation for fuel load, it is not appropriate to expect any system to adequately control and distribute the proper version of a specific Technical Specification at any one particular time. In addition, because of a number of design changes to the plant in the late stages of construction resulting from Three Mile Island, other new regulatory issues, and design problems found during preoperational testing, much of the plant specific design information necessary to complete the Technical Specifications, including setpoints, was not available until very late in the development process. It was not anticipated that this information would be available until such a late date. In order to control the review and revision cycle and assure the adequate reviews and approvals from the Plant Operating Staff, Licensing assigned an individual on the Nuclear Safety Staff responsibility for tracking and coordinating the review and approval for all proposed Technical Specification changes from MP&L or the NRC. In addition, a focal point for Plant Operating Staff interface was established as the Licensing Coordinator in the Plant Technical Support Section. During this period of significant changes to the Technical Specifications, much of the interface with the NRC was through informal channels.

II. QUALIFICATIONS OF PREPARERS AND REVIEWERS

During the initial stages of development of the GGNS Technical Specifications and the BWR6 Review Group, the effort was predominantly handled by the MP&L Plant Operating Staff. The Technical Superintendent was responsible for developing the GGNS Technical Specifications. The Technical Superintendent was a degreed nuclear engineer who had been a reactor operator in the nuclear navy, with many years of naval operating experience. He assigned primary responsibility to two of his engineers, both of whom had been involved in the GGNS project since its early days. All three of these individuals had been through the initial portions of the GGNS operator cold licensing training program which included certification as an SRO at the Dresden simulator. In addition, the Operations Superintendent and the Initial Shift Supervisors were intimately involved in the review of the proposed GGNS Technical Specifications. The Operations Superintendent had been previously qualified as an Engineering Officer of the Watch and a Shift Supervisor at a naval prototype, and had also had been through the operator cold licensing training program which included certification as an SRO at the Dresden simulator.

In early 1979, a BWR operations experienced consultant was contracted by Plant Staff from Nuclear Services Corporation (Ron Williams). This consultant had been an SRO licensed senior operating engineer at the Dresden 2/3 plants and had many years of BWR operating experience. His initial responsibilities involved working for the Operations Superintendent to review the Technical Specifications and to develop the Operations Section surveillance procedures. Shortly after his initial efforts, he was assigned responsibility by the Operations and Maintenance Superintendent for initiating the surveillance procedure development efforts and developing a Technical Specification/surveillance procedure cross reference matrix.

As indicated previously, in late 1979 control of the Technical Specifications was shifted to the Corporate Licensing Section. In 1980 when the Technical Specifications were changing very rapidly due to changes in the base STS documents, the Licensing Section contracted with a BWR experienced consultant from EDS Nuclear who had several years of BWR engineering experience with Georgia Power Company. His responsibilities included initial technical review of the proposed revisions to the Technical Specifications from either MP&L or the NRC, providing recommendations on the disposition of such changes, and

obtaining the necessary reviews and approval of the Plant Operating Staff, Bechtel and General Electric. This consultant worked directly for the Supervisor of Nuclear Safety who reviewed all of his recommendations and work efforts. The Supervisor, Nuclear Safety was a degreed nuclear engineer (MS Nuclear Engineering) with over 11 years of engineering and licensing experience in BWR and PWR designs. The Supervisor, Nuclear Safety as well as the Manager, Safety and Licensing (over 8 years engineering, operations and licensing experience in PWR and BWR designs), who had previously been the Operations Superintendent on the Plant Operating Staff, were both intimately involved in the development, review and approval process.

In mid-1981, when the NRC directed MP&L to resubmit a complete new set of Technical Specifications, another contracted engineer was assigned responsibility for assisting in the coordination of the Technical Specifications revision effort. From that point on, this consultant, who had many years of predominantly PWR engineering experience (some BWR engineering experience), was assigned responsibility to administratively control the Technical Specifications in the Safety and Licensing Section. In this role he interfaced with the Plant Staff Licensing Coordinator who also acted in an administrative capacity to obtain the necessary reviews and approvals of the Plant Operating Staff of any changes requested by the NRC or MP&L.

In the latter portions of the Technical Specifications development effort and during the last two years prior to receipt of an operating license, several personnel with BWR operations experience were added to the Plant Operating Staff. The Assistant Plant Manager, Nuclear Support Manager, Operations Superintendent, and several shift supervisors were previously SRO licensed and possessed several years of BWR operating experience. During this period of time it was the responsibility of the Licensing Coordinator and the Plant Operating Staff to obtain their review and approval of proposed Technical Specification changes.