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MEMORANDUM FOR: Commissioner Gilinsky

FROM: William J. Dircks
Executive Director for Operations

SUBJECT: PREPARATION OF TECHNICAL SPECIFICATIONS

As a followup to my January 13, 1984 memorandum to you on the Grand Gulf Technical Specifications and in response to your verbal request to Edson Case for additional information regarding the procedures used for preparation of technical specifications in general and for additional information regarding the development of the Grand Gulf Technical Specifications, the NRC staff has prepared the enclosed information. Enclosure 1 describes the procedures the NRC staff has been using for preparing technical specifications for new operating licenses. Enclosure 2 describes how these procedures were applied to Grand Gulf and includes a discussion of the reasons for the many changes required in the Grand Gulf Technical Specifications following issuance of its low power operating license.

(Signed) William J. Dircks

William J. Dircks
Executive Director for Operations

Enclosures:
1. Procedures Used for Preparation of Technical Specifications for New Operating Licenses
2. Preparation of Grand Gulf Technical Specifications

cc: Chairman Palladino
Commissioner Roberts
Commissioner Asselstine
Commissioner Bernthal
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ENCLOSURE 1

PROCEDURES USED FOR PREPARATION OF TECHNICAL SPECIFICATIONS FOR NEW OPERATING LICENSES

Technical specifications for new operating licenses are prepared by the NRC with extensive input by the applicant. The NRC staff has prepared a set of Standard Technical Specifications (STS) for each of the four light water reactor vendors. These STS are the starting point for preparing technical specifications for each new plant. The STS are revised periodically by the NRC staff to reflect revised or new regulatory requirements and design changes.

The following procedures for preparing plant-specific technical specifications from the STS have been in use since the NRC staff began using STS in 1974 and are described in the Foreword (see attachment) of each of the four STS documents.

Approximately one year before the plant's scheduled fuel load date, the applicant is provided a copy of the applicable STS and instructed to review the STS document, to fill in the applicable plant-specific information, to identify non-applicable specifications or requirements, to identify areas where technical specifications are required but not included in the STS and to return the marked-up document to the NRC staff for review. The marked-up document is then reviewed by the NRC staff and compared with commitments made in the FSAR and with requirements established in the staff's SER. Draft technical specifications are then prepared and a copy of these draft technical specifications is provided to the applicant for review. Some plant-specific information will usually still be lacking since it may not be available for various reasons, e.g., completion of construction, analyses, or preoperational testing. Therefore, several NRC staff/applicant meetings are normally held to resolve the differences and to obtain the lacking information.

Following the review of the draft technical specifications and approximately three months prior to the scheduled fuel loading date, the NRC staff issues the Proof and Review Copy of the technical specifications. The Proof and Review copy is issued to the NRC staff review branches and to the applicant for a final review prior to issuing the operating license. The plant-specific technical specifications are essentially complete when the Proof and Review copy is issued. The NRC staff and applicant are requested to identify any required changes. The typical time alloted for this review is four weeks. Any comments from this review are then resolved and the final technical specifications are prepared for issuance with the operating license.

During preparation and review of plant-specific technical specifications, the NRC staff depends significantly upon the applicant to perform a thorough review of the information submitted in the marked-up STS document and that contained in the draft technical specifications and in the Proof and Review Copy to ensure that the information is reflective of actual plant design, configuration and nomenclature. Our experience shows that for reviews performed by the applicant, it is preferable to have this review performed by members of the applicant's plant operations staff since they are usually the most familiar with the plant's actual design and configuration. The information provided by the applicant to be included in the plant-specific technical specifications is reviewed by the NRC staff during its review of the draft technical specifications and the Proof and Review Copy but only on an audit basis and with little emphasis on inputs that reflect plant-specific nomenclature, e.g., component or system titles. The staff's review and acceptance of the draft technical specifications are based more upon ensuring that the safety criteria described in the applicant's FSAR and in the staff's SER are maintained than upon ensuring that actual plant nomenclature is accurately reflected in the technical specifications. Ensuring that actual plant nomenclature is accurately reflected in the technical specification is a function left primarily to the applicant.

FOREWORD

IMPLEMENTATION

The implementation of the STS on an individual license application will proceed in three phases. The major steps within each phase are indicated below.

Phase I

The applicant should;

1. Obtain copies of the STS from the LPM.

2. Identify and mark those specifications not required because of plant design or other factors. Specifications within this category should be retained in position within the document package for later review and discussion.

3. Identify those areas where specifications are required but are not provided in the STS.

4. Provide the applicable values of the parameters and variables identified by blanks or parentheses in the STS.

5. Provide the figures, graphs and other information required to complete the STS package.

Phase II

1. The Commission staff will review the information provided in the marked up STS package resulting form the Phase I preparation.

2. An applicant/staff meeting will be held to resolve noted differences of position and other related comments from the applicant, vendor and A.E.

Phase III

1. The Commission will provide a Proof and Review edition of the technical specification for final review by all parties based upon the resolution of comments and positions in Phase II.

2. Final comments and corrections will be incorporated into the document as received.

3. The Technical Specifications will be issued by the Commission as Appendix "A" of the Operating License.

ENCLOSURE 2

PREPARATION OF GRAND GULF TECHNICAL SPECIFICATIONS

Copies of the Standard Technical Specifications for General Electric Boiling Water Reactors (GE-STS) for Mark II containment plants were provided to the Grand Gulf applicant in March 1980. Although we knew that Grand Gulf had a Mark III containment, we provided them with the GE-STS for a Mark II containment since we had not yet prepared a GE-STS for Mark III containment plants and since there are only a few differences between the technical specifications in the GE-STS for Mark II containment plants and those for Mark III containment plants. Furthermore, we instructed the Grand Gulf applicant to identify those technical specifications which were not applicable or which required modifications due to design differences and to identify areas where technical specifications were required but not provided in the GE-STS. The applicant marked up the GE-STS and returned it to the NRC staff in June 1980. The applicant was not able to provide all the requested information, i.e., plant-specific parameters, values, nomenclature, figures, graphs, etc., at that time because some information was still being developed and analyzed. The NRC staff reviewed the applicant's proposed mark-up and prepared a draft of the Grand Gulf Technical Specifications in August 1980. A copy of this draft was provided to the applicant for review. Several NRC staff/applicant meetings were held over the course of the next 16 months to resolve noted differences between the NRC staff and the applicant. During this period, the applicant supplied the outstanding information required to complete the Technical Specifications. Proof and Review Copies of the Grand Gulf Unit 1 Technical Specifications were issued on January 5, 1982. The comments from this review were resolved and incorporated in the Technical Specifications during the March-April 1982 time frame. The Grand Gulf Technical Specifications were issued as Appendix A to the Grand Gulf Unit 1 License on June 16, 1982.

As noted in Enclosure 1, we believe it is preferable to have the plant's operation staff review the draft technical specifications during their development. However, this was not the case with Grand Gulf. The technical specifications were prepared by the NRC staff and a consultant acting as the contact for and on behalf of Grand Gulf. Although provided to the reactor vendor and the Architect Engineer for their review and comment, the proposed technical specifications were not reviewed by the Grand Gulf plant operations staff during the initial development period up to and including the Proof and Review. Nevertheless, when the license was issued, the NRC staff, based on its work with the applicant's designated contact, believed that the technical specifications were reflective of actual plant nomenclature and that the technical specifications were consistent with the operational requirements of Grand Gulf.

The Grand Gulf licensee has requested 205 changes to the Technical Specifications since the low power license was issued on June 16, 1982. Of the 205 requested changes, 130 have been granted, 43 are under review to be issued and 32 have been denied. For comparison, Pennsylvania Power and Light with its first nuclear plant, Susquehanna Unit 1 (Mark II containment), requested 34 changes to its technical specifications in the same post-licensing time frame.

The NRC staff has analyzed the 205 requested changes and has determined that the requested changes generally fell into four categories: (1) Editorial or Nomenclature Corrections-62 items (36%), (2) Consistency within Technical Specifications-26 items (15%), (3) Conformance to the As-Built Plant-78 items (45%), and (4) Changes to the Bases Section-6 items (4%). Categories (1) and (2) were purely administrative changes. Category (4) involved clarification statements for a better understanding of the reasons for the Technical Specifications. In accordance with 10 CFR 50.36, Category (4) items are not considered as part of the Technical Specifications. Since Categories (1), (2) and (4) are administrative in nature, we find that 55% of the proposed changes are administrative and 45% are associated with some function of the as-built plant. In accordance with our procedures for preparing technical specifications, the requested changes in Category (1), (2) and (4) were of the type that we primarily depend upon the applicant to detect while some of the items in Category (3) should have been detected by the NRC staff during our review.

A review of the Category (3) items showed that only nine of the 78 items were concerned with non-existent equipment or a misrepresented function associated with some equipment or system. Most of these nine items should have been detected and corrected during the staff reviews. One item (Explosive Valves in TIP System) clearly was a carry over from the Mark I and II concepts. Three items (Fuel Grapple Interlock, Load Shedding and Sequencer Automatic Function and Low Condenser Vacuum Bypass) were consistent with the Grand Gulf design as reflected in the Grand Gulf FSAR. However, the Grand Gulf FSAR was in error with regard to the actual plant design. One (Lever Arm on Vacuum Breaker) was the direct result of a change that was specifically requested by the licensee and approved in License Amendment No. 4. Later, the licensee determined that these lever arms did not, in fact, exist. As a result, another technical specification change request had to be processed. One discrepancy was related to equipment unique to the Mark III containment plants (Fuel Tube Transfer System). There are two options available, horizontal and vertical. Grand Gulf has a horizontal system but incorrectly selected some technical specifications appropriate for a vertical system. Two items involved details of the as-built plant that are generally not available in the FSAR for staff review (Voltage Instrumentation on MCC Panels and Control Room Filtration Bypass). One item (Hydrogen Recombiner Penetrations) was accurately described in the FSAR but incorrectly addressed in the technical specifications and should have been detected by the NRC staff.