Georgia Power Company
40 Inverness Center Parkway
Post Office Box 1295
Birmingham, Alabama 35201
Telephone 205 992-7122

Georgia Power
the southern electric system

C. K. McCoy
Vice President, Nuclear
Vogtle Project

February 3, 1997

LCV-0917-A

Docket Nos. 50-424
50-425

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

Ladies and Gentlemen:

VOGTLE ELECTRIC GENERATING PLANT
RESPONSE TO REQUEST FOR INFORMATION PURSUANT TO 10 CFR 50.54(f)
REGARDING ADEQUACY AND AVAILABILITY OF
DESIGN BASES INFORMATION

By letter dated October 9, 1996, the Nuclear Regulatory Commission (NRC) requested licensees to submit information which will provide the NRC added confidence and assurance that each licensee's plant(s) is operated and maintained within the design bases, and that any deviation is reconciled in a timely manner.

Georgia Power Company fully agrees with the NRC's position that licensee programs to maintain configuration control should be sufficient to provide assurance that the plant's physical and functional characteristics are consistent with, and are maintained in accordance with, the plant's design bases. Georgia Power Company also supports the NRC's belief that licensees are responsible for knowing the plant's licensing bases, having the appropriate documentation that defines the design bases, and providing formal guidance for assessing plant and/or procedure changes required by NRC regulations. Georgia Power Company believes that maintaining the design integrity of Vogtle Electric Generating Plant in a reasonable manner, while integrating design function with operations, maintenance, and license requirements, is consistent with ensuring efficient, safe plant operation, and providing reasonable assurance of protecting the health and safety of the public.

Pursuant to 10 CFR 50.54(f), Georgia Power Company hereby submits the enclosed response to the NRC's request to provide information regarding the adequacy and availability of design bases information for the Vogtle Electric Generating Plant.

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In preparing this response, no special design bases verification review or reconstitution effort was undertaken; however, as discussed in section F, "Design Review/Reconstitution Programs", a licensing basis assessment, which meets the intent of NEI 96-05, "Guidelines for Assessing Programs for Maintaining the Licensing Basis", is being performed. No significant programmatic breakdowns associated with maintaining the plant licensing and design bases have been identified in this assessment. Commitments to future activities by Georgia Power Company to verify and validate the design bases of Vogtle Electric Generating Plant are discussed in section F.2.

Mr. C. K. McCoy states that he is a vice president of Georgia Power Company, and is authorized to execute this oath on behalf of Georgia Power Company. Having read the contents of the Enclosure and, in reliance on the processes described in the Enclosure utilized to develop and validate that Enclosure, Mr. McCoy does hereby affirm that the contents of the Enclosure are true and correct to the best of his information, knowledge, and belief.

Sincerely,

C. K. McCoy

Sworn to and subscribed before me this 3rd *day of* February *1997*

Mary N. Bentley
Notary Public

My Commission Expires: May 6, 1999

Enclosure: "VEGP Response to Request for Information Regarding Adequacy and Availability of Design Bases Information"

cc: Georgia Power Company
Mr. J. B. Beasley Jr.
Mr. M. Sheibani
NORMS

U. S. Nuclear Regulatory Commission
Mr. L. A. Reyes, Regional Administrator
Mr. L. L. Wheeler, Licensing Project Manager, NRR
Mr. C. R. Ogle, Senior Resident Inspector, Vogtle

Enclosure

Vogtle Electric Generating Plant

Response to Request for Information Pursuant to
10 CFR 50.54(f) Regarding Adequacy and Availability of
Design Bases Information

Enclosure

Vogtle Electric Generating Plant

Response to Request for Information Pursuant to
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Response to Request for Information Pursuant to
10 CFR 50.54(f) Regarding Adequacy and Availability of
Design Bases Information

EXECUTIVE SUMMARY

By letter, dated October 9, 1996, the Nuclear Regulatory Commission (NRC) issued to licencees a request for information pursuant to Title 10 Code of Federal Regulations (CFR) Part 50.54(f) regarding the adequacy and availability of design bases information. Licensees were required to submit, within 120 days of receipt of the letter, information that provides the NRC staff added confidence and assurance that plants are operated and maintained within the design bases.

In response to the NRC's request, a working group cognizant of the licensing and the engineering design configuration and control processes that support the operation of Vogtle Electric Generating Plant was assigned responsibility for preparing the submittal. The integrated team approach required the participation of corporate, plant, and architect/engineer personnel. Direct leadership for this effort was the responsibility of a corporate officer. Supporting levels of management were constantly involved throughout the submittal development process. A multilevel project review was conducted by responsible and knowledgeable individuals involved with maintaining the plant design bases to ensure accuracy and completeness of this response, with perspectives ranging from the Plant Review Board to the implementation working level.

The focus of this response is principally process oriented with conclusions supported by previously completed procedure and design bases verification activities, as discussed in sections B "Translation of Design Bases Requirements Into Procedures", and section C "Consistency of Systems, Structures, and Component Configuration and Performance with Design Bases". For the purposes of the NRC request, no special design base [illegible]cation review or reconstitution effort was undertaken; however, as discussed in sectio[illegible]sign Review/Reconstitution Programs", a licensing bases assessment, which meet[illegible] of NEI 96-05, "Guidelines for Assessing Programs for Maintaining the Licensing Basis [illegible]ing performed. No significant programmatic breakdowns associated with maintaining the plant licensing and design bases have been identified from this assessment. Commitments to future activities by Georgia Power Company to verify and validate the design bases of Vogtle Electric Generating Plant are discussed in section F.2.

Events, violations, deficiencies and audit findings provide indications of performance and opportunities for improvement. The general results, weaknesses, comments, and/or corrective actions resulting from these types of activities provide reasonable assurance that the plant is being maintained and operated safely, and that processes are in place to recognize and resolve problems before they evolve into significant safety issues.

Based upon the information presented herein, Georgia Power Company concludes that there is reasonable assurance that the current processes and programs at Vogtle Electric Generating Plant are effective in controlling changes to the design bases and providing reasonable assurance that the plant's configuration and operation are consistent with its design bases. Georgia Power Company believes that processes and programs will detect existing or potential problems before they become significant. Georgia Power Company and the NRC set demanding standards for performance of people and equipment that may affect safety. The standards are sufficiently conservative so that a failure to meet them allows the identification and correction of problems before they evolve into circumstances having significant safety consequences.

INTRODUCTION

PLANT HISTORY

Vogtle Electric Generating Plant (VEGP) is relatively new in design and operation. VEGP Units 1 and 2 are Westinghouse four-loop Pressurized Water Reactor designs with each turbine/generator output rated at 1215 MW_e. Unit 1 and Unit 2 were issued full power Facility Operating licenses on March 16, 1987, and March 31, 1989, and commenced commercial operation on June 1, 1987, and May 20, 1989, respectively. The initial operating licenses were granted with maximum reactor thermal power rated at 3411 MW_{th}. In 1993, with license amendments, each unit was uprated to 3565 MW_{th} maximum reactor thermal power.

As joint owner of VEGP, Georgia Power Company has retained responsibility for design and configuration control since the initial construction permit application. During the design and construction of VEGP, Georgia Power Company served as the primary project management organization. Detailed engineering design services were provided by three organizations. Bechtel Power Corporation (BPC) was primarily responsible for design of safety-related systems and structures. Westinghouse provided the nuclear steam supply system. Southern Company Services (SCS), a wholly owned subsidiary of The Southern Company and sister company to Georgia Power Company, was generally responsible for plant licensing, and the design of nonsafety-related power generation systems and components.

Relationships among Georgia Power Company, BPC, Westinghouse, and SCS have been maintained throughout the operating life of the plant. Currently, Georgia Power Company is responsible for overall configuration control and management of engineering services provided by Southern Nuclear Operating Company (SNC), SCS, Westinghouse, and BPC. Under Georgia Power Company direction, SNC, a sister company of Georgia Power Company, provides nuclear support services, technical services, and administrative services associated with Georgia Power Company's operation of VEGP. SCS performs detailed engineering work and provides coordination services and issues major modification engineering design packages even though the detailed engineering work may have been performed by BPC or Westinghouse. Southern Company Services also provides design bases documentation management services. The long-standing relationship of Georgia Power Company with primary engineering services providers has helped to ensure consistency and retrievability of design bases documentation.

NRC REQUEST BACKGROUND

By letter dated October 9, 1996, the NRC issued to licensees a request for information pursuant to 10 CFR 50.54 (f) regarding the adequacy and availability of design bases information concerns based on the following:

> "...NRC's findings during inspections and reviews have identified broad programmatic weaknesses that have resulted in design and configuration deficiencies at some plants, which could impact the operability of required equipment, raise unreviewed safety questions, or indicate discrepancies between the plant's updated final safety analysis report (UFSAR) and the as-built or as-modified plant or plant operating procedures. These inspections and reviews have also highlighted numerous instances in which timely and complete implementation of corrective action for known degraded and nonconforming conditions and for past violations of NRC requirements has not been evident.
>
> The magnitude and scope of the problems that the NRC staff has identified raise concerns about the presence of similar design, configuration, and operability problems and the effectiveness of quality assurance programs at other plants. Of particular concern is whether licensee programs to maintain configuration control at plants licensed to operate are sufficient to demonstrate that plant physical and functional characteristics are consistent with and are being maintained in accordance with their design bases."

The NRC specifically requested licensees to provide the following information:

> "(a. Description of engineering design and configuration control processes, including those that implement 10 CFR 50.59, 10 CFR 50.71(e), and Appendix B to 10 CFR Part 50;
>
> (b. Rationale for concluding that design bases requirements are translated into operating, maintenance, and testing procedures;
>
> (c. Rationale for concluding that system, structure, and component configuration and performance are consistent with the design bases;
>
> (d. Processes for identification of problems and implementation of corrective actions, including actions to determine the extent of problems, action to prevent recurrence, and reporting to NRC; and

(e. The overall effectiveness of your current processes and programs in concluding that the configuration of the plant is consistent with the design bases."

The NRC further requested that, in responding to items (a) through (e), licensees indicate whether any design review or reconstitution programs have been undertaken, and if not, provide a rationale for not implementing such a program.

The organization of this response follows the order shown above, as well as the Table of Contents; i.e., letter items (a) through (e) followed by item (f) which addresses the design review program.

VOGTLE ELECTRIC GENERATING PLANT
RESPONSE TO NRC REQUEST FOR INFORMATION

A. ENGINEERING DESIGN AND CONFIGURATION CONTROL PROCESSES

NRC Request

"(a) Description of engineering design and configuration control processes, including those that implement 10 CFR 50.59, 10 CFR 50.71(e), and Appendix B to 10 CFR Part 50."

Georgia Power Company Response

The Vogtle Electric Generating Plant engineering design and configuration control program was developed and is maintained to provide reasonable assurance of the compatibility of the plant's physical and functional characteristics with the design bases and plant documentation. The evolution of system functional requirements, regulatory requirements, codes and standards, and plant modifications that has transpired since initial operation requires the control processes to be both integrated successfully and flexible enough to allow changes while maintaining requirements and protecting the integrity of design and operation. The following primary processes are used for design and configuration control for Vogtle Electric Generating Plant.

- Design Change.
- 10 CFR 50.59 Implementation.
- 10 CFR 50.71(e) Implementation.
- 10 CFR 50, Appendix B Implementation.
- Procedure Revision.
- Commitment Tracking.
- Procurement.
- Document Control.
- Work Control Process.
- Core Reload Design and Licensing Process

Each of these processes is discussed in detail in sections A.1. through A.10.

A.1 Design Change Process

The design change process discussed below is controlled by plant, architect/engineer (A/E), and corporate procedures, and conforms to the requirements to 10 CFR 50, Appendix B, and ANSI N45.2.11, "Quality Assurance Requirements for the design of Nuclear Power Plants." (Reference section A.4 for a discussion of Appendix B implementation.)

A.1.1 Design Change Initiation

A change to plant design becomes necessary for reasons such as new or changing regulatory requirements, equipment problems, equipment improvements, and operational improvements. The need for a change can be identified by plant, support staff, or design individual. A change proposal is prepared and reviewed by plant management to determine scope, purpose, budget, and cost benefit. The review includes consideration of the number and scope of design changes planned for outage and nonoutage work periods. This is considered so that work scope can be scheduled and managed properly.

If the change is approved, a design change request is transmitted from the plant to the A/E for design package preparation.

A.1.2 Design Change Package Preparation

The A/E prepares design changes in accordance with written procedures under an approved 10 CFR 50 Appendix B program. (Reference section A.4 for further discussion of Appendix B implementation.) Personnel who prepare design changes are appropriately trained and experienced.

The basic steps in the design change process are:

a. Acquire a full understanding of the scope, need, and purpose of the requested design change.

b. Identify and assemble the design inputs in accordance with design procedures, that must be considered in preparing the design change. In this context, design inputs include the design bases requirements upon which the final design is based. Design inputs are identified from the following sources:

- Design bases documents.
- System descriptions.
- Design criteria.
- System specifications.
- Equipment specifications.
- Codes and standards.
- Regulatory requirements.
- Calculations.

c. Prepare the detailed design change package including a 10 CFR 50.59 evaluation. (Reference section A.2 for further discussion of the safety evaluation process.)

Many design change packages are evaluated in separate design review meetings, (conceptual, detailed, and final), involving corporate, the A/E, and site personnel. These reviews help to promote an understanding of the design change so that it meets the purpose of the original change proposal. Site participation typically involves personnel representing operations, engineering support, maintenance, plant modifications, outages and planning, chemistry, health physics, security, administration, and training and emergency preparedness, as required.

d. Identify the documentation affected by the design change in accordance with design procedures. The A/E has responsibility for identifying and implementing changes to documentation maintained by the A/E. Plant personnel are responsible for identifying changes to documentation maintained by the plant as discussed in section A.1.3. Active documentation is required to be updated and maintained to reflect the "as-built" status of the plant. Responsibility for the updating of each type of documentation is assigned to a particular department, functional group, or organization.

The types of documentation that may be revised include:

- Domestic drawings.
- Vendor drawings.
- Vendor instruction manuals.
- Databases.
- Indices.
- Calculations.
- Design criteria.
- Equipment specifications.
- System specifications.
- Final Safety Analysis Report (FSAR).
- Other licensing documents.
- Major Material Inventory Lists

The design change package is reviewed and approved by the A/E, and transmitted to the site for implementation.

Use of VEGP Design Manual

The VEGP Design Manual is the cornerstone for assuring that structures, systems and components remain consistent with the design bases of the plant. The VEGP Design Manual was created for original design and construction purposes by the original architect engineer, and revisions and distribution of the VEGP Design Manual are controlled by the architect engineer. The VEGP Design Manual provides a convenient cross reference between the design and licensing bases of structures, systems and components.

The importance of accurately maintaining the original plant design philosophy and bases throughout the life of the plant was recognized early in the design and operating life for VEGP. Therefore the VEGP Design Manual has been maintained current and accurate by utilizing a proceduralized design criteria update and change control process. The VEGP Design Manual provides a convenient and consolidated "road map" to some of the most strategic design and licensing bases documents utilized during a design, licensing, or operational change process. The design criteria found in the VEGP Design Manual

provides a foundation for locating design requirements, whether for operational clarification or plant modification purposes. From this foundation, the Vogtle design process provides reasonable assurance that design requirements are implemented accurately into structures, systems, and components and also incorporated into appropriate documentation. When fully integrated into the design and operating process, the design requirements, in conjunction with regulatory requirements, ensure the continued safe design and operation of the plant.

The VEGP Design Manual consists of :

- Six (6) general or discipline oriented Design Criteria: Architectural, Civil/Structural, Electrical, Mechanical, Instrumentation and Controls, and Nuclear.

- Twenty-one (21) interdiscipline Design Criteria: Separation, Fire, Flooding, Tornado, Seismic, Missiles, Environment, Station Blackout, Plant - Single Failure Criteria, Project Classification List, Inservice Inspection, Noise Abatement, ALARA, Pipe Stress and Pipe Supports, Pipe Break Criteria, Containment Building Polar Bridge Crane, Spent Fuel Cask Bridge Crane, Miscellaneous Cranes and Hoists

- Approximately two hundred (200) system Design Criteria: [Individual system design criteria list available upon request]

Applicable codes and standards are identified in the specific design criteria, which provide the design bases for each VEGP system. These industry guidelines are often endorsed by the Nuclear Regulatory Commission (NRC) and specified by Engineering as design requirements for procurement, fabrication, and installation of structures, systems, and components. The design criteria also identify primary input documents (drawings, calculations, correspondence, and other documents and references) which support the Vogtle design bases.

Applicable regulatory requirements and reference documents are also identified in each design criteria, such as the applicable sections of the Code of Federal Regulations, Regulatory Guides, Branch Technical Positions, NUREGs, Notices, Bulletins, Circulars, and Generic Letters. Applicable sections of the Final Safety Analysis Report (FSAR) are also referenced in each Design Criteria, along with applicable sections of the

Safety Evaluation Report (SER). The applicable Technical Specifications for each VEGP system are also identified in each of the applicable Design Criteria. Technical Specifications contain the operating limits, operating conditions, and other requirements imposed by the NRC upon facility operation for the protection of the health and safety of the public. The Technical Specifications include safety features and describe the type, capacity, and number of surveillance activities required for continued safe operation and public protection.

Along with the use of the consolidated "road map" of licensing and design bases information that the VEGP Design Manual provides, it along with other licensing and design bases documents are electronically retrievable and have automatic search capability. These computerized data bases may be utilized to identify the location of other documents, commitments, and procedures which may be affected by a proposed change.

A.1.3 Design Change Implementation Package Preparation

Upon receipt of the approved design change package on site, the responsible implementation personnel obtain the appropriate reviews and approvals, e.g., plant review board and plant management. During the preparation of the implementation package, the design change package and additional information, if appropriate, are routed to affected departments for review. The Plant Review Board reviews safety related design changes and their 10 CFR 50.59 safety evaluations. Additional actions in this review process include:

- Identifying testing requirements, training requirements and functional tests to be performed on the installed modification.
- Writing maintenance work orders to perform the installation, including an implementation plan if required.
- Identifying revisions to programs, processes and documents required as the result of the design change.

In accordance with approved procedures, each site department is responsible for identifying the necessary revisions to their programs, processes, and procedures as the result of the design change to provide reasonable assurance that plant structures, systems, and components are installed and operated in accordance with established design

requirements and plant documentation. The results of the departmental reviews identify the procedures that must be revised prior to placing the modified structure, system, or component in service after design change implementation. Plant procedures require the identification of necessary procedure revisions prior to the initiation of design change implementation. (Reference section A.5 and B.2 for a description of the procedure control process.)

A.1.4. Design Change Implementation

Plant modifications are scheduled and implemented according to the implementation package instructions and requirements using proceduralized work control processes, such as clearances, tagging, work orders, and housekeeping. After the modifications are complete, appropriate functional tests are performed. Appropriate procedures identified in the affected department review are prepared or revised prior to placing the equipment/system into service in accordance with plant procedures.

Vogtle Electric Generating Plant also has a dedicated design implementation group, Plant Modifications and Maintenance Support (PMMS) whose responsibilities include:

- Ensuring activities related to modifications, including design, procurement, installation, testing, and close-out, are effectively coordinated among responsible groups

- Providing liaison between other departments and architect/engineers in matters of plant design

- Providing engineering expertise dedicated to system modifications to perform a review of system design changes, and coordinate the review of system procedures for implementation of design intent

- Ensuring administrative systems and controls are in place for timely completion of required special tests and DCP functional tests

- Ensuring modification requests are reviewed for inclusion in the modification program and that approved requests are identified, scheduled and tracked. Engineering personnel are responsible for prioritizing modifications.

- Ensuring the effectiveness of modification programs are periodically evaluated, and the results are used to make program improvements.

The VEGP design change package closure procedure requires the completion of a "return-to-service checklist" which must be approved by both the responsible engineer and an Operations Department Shift Supervisor, or designee. A "return-to-service checklist" requires a walkdown and review of implementing work orders to assure the following:

- Modification is complete.
- Work is satisfactory and critical drawings are updated
- Testing required to place the system back into operation is complete.
- Procedure changes required to operate the system are complete.
- Functional testing is complete.
- Required training is complete or scheduled.

A.1.5 Documentation Updates

The plant notifies the A/E or the appropriate site organization of the implementation of a design change and requests revision to affected active documents in order to ensure that documentation changes are made as required by procedures. The types of documentation that may be revised include:

- Domestic drawings.
- Vendor drawings.
- Vendor instruction manuals.
- Databases.
- Indices.
- Calculations.

- Design criteria.
- Equipment specifications.
- System specifications.
- Final Safety Analysis Report (FSAR).
- Other licensing documents.
- Major Material Inventory Lists

Updating of documentation needed in the control room is expedited and given top priority. The remaining documentation is updated in accordance with approved procedures that may define a required time frame within which the update process must be completed. Each organization is aware of the documentation for which they have update responsibility.

A.1.6 Temporary Modifications

Changes to the physical design of inservice plant equipment, systems, components, or structures implemented on a temporary basis are referred to as temporary modifications and are governed by plant procedures. Temporary modifications are reviewed in accordance with 10 CFR 50.59 as appropriate, and approved to ensure the licensing and design bases of the plant are not adversely affected during the period in which the temporary modifications are in place.

Documentation for a temporary modification includes a description of the change and its effect on plant operations. The description should be of sufficient detail that Operations personnel are provided a level of technical detail consistent with the level of detail provided for a permanent plant design. The temporary modification description, the assigned number, the equipment involved (master parts list/tag no.), the name of the responsible engineer, and the drawings associated with the temporary modification are included in the documentation.

Plant personnel maintain a log indicating the status of active temporary modifications. Operations personnel ensure the installation and removal of temporary modifications are authorized. Engineering personnel periodically review the status of active temporary modifications to maintain awareness of their effect on plant status.

A.1.7 Minor Modifications

Minor Modifications at VEGP include minor design changes of limited scope, parts equivalency determinations, and some dispositions to requests for engineering review. Procedures provide controls, including reviews and approvals which are commensurate with the scope, complexity, and safety significance of the minor modification. Design documents are revised, as necessary, and 10 CFR 50.59 reviews are required, as described in section A.3 below for these minor modifications.

A.1.8 Modifications in Progress

Modifications in progress, whether permanent or temporary, are governed by work control processes, such as work orders, clearance and tagging, independent verification requirements, functional testing, and stringent release requirements. Prior to equipment or a system being released for service, appropriate functional tests are performed if necessary to determine whether the structures, systems, and components function in accordance with predetermined specifications. Functional tests are performed in accordance with appropriate procedures and may include:

- Surveillance tests
- ISI tests
- ASME Section XI requirements
- IEEE Standards tests
- Inspections

A.2 10 CFR 50.59 Implementation Process

Georgia Power Company has established procedures consistent with NSAC-125, "Guidelines for 10 CFR 50.59 Safety Evaluations," June 1989. For each proposed modification, a 10 CFR 50.59 evaluation of the change is prepared to determine whether a Technical Specifications change or an unreviewed safety question is involved. The evaluation includes a determination of whether or not the activity being evaluated requires a change to the FSAR.

The 10 CFR 50.59 evaluation process applies to applicable engineering, administrative, and operational change processes, and includes a screening

process to determine whether a 10 CFR 50.59 safety evaluation is required for a proposed activity. The screening process involves evaluating the activity against the description of the plant in the FSAR, Technical Requirements Manual (TRM), and the Technical Specifications. If the screening process indicates the proposed change or activity constitutes a change to the plant or procedures as described in the FSAR, or represents a new test or experiment, a 10 CFR 50.59 safety evaluation is prepared to determine whether an unreviewed safety question is involved.

A proposed activity that either constitutes a change to the plant as described in the FSAR, the TRM, or requires a change to the Technical Specifications is documented and forwarded to appropriate personnel to ensure licensing document changes are made or license amendments are obtained. A change that requires the issuance of an amendment to the Technical Specifications is not implemented until NRC acceptance is obtained.

NSAC-125 guidelines are utilized for 10 CFR 50.59 evaluations prepared by plant, corporate, A/E, and vendor personnel. Activities for which 10 CFR 50.59 evaluations must be prepared include, but are not necessarily limited to, the following:

- New procedures, and procedure revisions and deletions.
- Temporary modifications.
- Design changes, revisions to design changes that impact the original safety evaluation, as-built evaluations, and licensing document changes.
- Changes to plans/programs such as the Inservice Inspection Plan.

Requirements stated in 10 CFR 50.59 establish the conditions under which an operating license holder may make changes, including tests and experiments, without prior NRC approval. NSAC-125 provides guidance for developing programs that consistently implement 10 CFR 50.59 requirements.

Documented responses to a series of questions explained in NSAC-125 and based on 10 CFR 50.59 are required by procedure. The responses to these questions determine whether or not the activity requires prior NRC review or approval. Georgia Power Company utilizes NSAC-125 guidance, training of personnel performing the evaluations, and independent reviews to assure these judgments are consistently applied.

The NRC is informed of the evaluation of changes to the plant or procedures as described in the FSAR in a periodic report. This allows the NRC to monitor the effectiveness of the engineering judgment being applied to these evaluations. Though the NRC has not endorsed the use of NSAC-125, it remains as the guidance to be used when screening changes or evaluating changes to determine whether prior NRC approval is required. NSAC-125 has proven to be a useful tool that results in conservative decisions relative to nuclear safety.

Each organization preparing 10 CFR 50.59 evaluations implements control through written procedures that include requirements for the participation of management and supervisory-level personnel in the 10 CFR 50.59 evaluation process. Department managers assure that appropriate personnel within their departments are qualified to prepare and review safety evaluations to support activities under their responsibility and that 10 CFR 50.59 evaluations prepared within their department receive adequate reviews.

The process for performing 10 CFR 50.59 evaluations is extensively controlled by procedures and requires several levels of review for those changes involving a change to the plant as described in the FSAR. Key requirements that assure adequate performance of the evaluations include:

a. The 10 CFR 50.59 evaluation preparer has an understanding of the safety design bases of the plant and applicable regulatory requirements, and is familiar with the concepts and terminology intrinsic to the 10 CFR 50.59 process. The design change under consideration should fall within the preparer's field of expertise.

b. The safety evaluation reviewer meets the same qualifications that are applicable to the safety evaluation preparer. The reviewer does not participate in the preparation of the 10 CFR 50.59 evaluation. The reviewer concurs with and endorses the safety evaluations.

c. A plant review board, composed of management personnel representing the various functional areas of the plant (i.e., a multi-discipline representation), reviews selected evaluations prepared according to 10 CFR 50.59 guidelines and concurs with the determination that an unreviewed safety question is not involved.

d. An offsite safety review board, composed of officers, managers, and/or specialists in design, operation, safety analysis or related activities with extensive nuclear plant expertise reviews evaluations prepared according to 10 CFR 50.59 guidelines. The purpose of the review is to confirm the change does not constitute an unreviewed safety question.

e. Periodic audits of organizations involved in the 10 CFR 50.59 evaluation process are performed to verify compliance with established requirements and determine the effectiveness of the evaluations. Audit results are documented and reviewed by management having responsibility in the specific areas audited. Follow-up action, including reaudit of deficient areas, is taken as necessary.

f. During design and construction the normal interface with the NRC was through the SCS Licensing group. Currently, that interface is through the Corporate SNC licensing group. In order to assure that the most recent regulatory concerns are considered in design changes and to assure that the licensing group is aware of design issues, the SNC licensing group now reviews 10 CFR 50.59 evaluations prepared by SCS. These reviews have been in effect since early 1996.

A.3 10 CFR 50.71(e) Implementation Process

The FSAR was originally submitted to the NRC as part of the operating license application. The Readiness Review Program, conducted prior to initial plant operation confirmed that the plant was prepared to operate in accordance with the FSAR and that it was consistent with the FSAR. Since that time the FSAR has been maintained and updated in accordance with the requirements of 10 CFR 50.71(e), and plant, corporate, and A/E procedural guidance. This guidance ensures the periodic revisions, as required in 10 CFR 50.71(e)(3)(i), include the effects of:

- Safety evaluations performed either in support of requested license amendments or conclusions that changes did not involve an unreviewed safety question.

- Analyses of new safety issues.

The FSAR as submitted to the NRC in accordance with 10 CFR 50.71 (e) is available to plant, technical support staff and design personnel for general use

and application. The FSAR is also electronically retrievable for reference purposes. Changes to the FSAR during the interim between revision submittals are available for access upon request. A data base of licensing document change requests (LDCR) to the FSAR is available for review to assure the latest version of the FSAR is being utilized.

In addition to the FSAR, other licensing documents, including but not limited to those listed below, are maintained and updated in accordance with plant, corporate, and A/E procedural guidance and submitted to the NRC in fulfillment of a requirement for holding an operating license:

- Technical Specifications.
- Emergency Plan.
- Physical Security and Contingency Plan.
- Security Training and Qualification Plan.
- Offsite Dose Calculation Manual.
- Process Control Program.
- Core Operating Limits Report.
- Environmental Protection Plan

The organization responsible for evaluating the FSAR change determines whether the change will result in the revision of these documents. Changes to licensing documents can result from design changes, as-found condition evaluations, procedure revisions, and NRC requirements.

A.4 10 CFR 50, Appendix B Implementation Process

Organizations involved in the design and configuration control processes described above have developed and implemented quality assurance programs that meet the requirements of 10 CFR 50, Appendix B. The elements of such programs are documented in a quality assurance policy manual or document that specifies the program requirements necessary for 10 CFR 50, Appendix B compliance, and in procedures that translate these program requirements into day–to–day working guidance.

As required by 10 CFR 50, Appendix B, these implementing procedures provide for the indoctrination and training of personnel performing activities affecting quality as necessary to assure that suitable proficiency is achieved and maintained. Procedures among participating design organizations detail the

review, approval, release, distribution and revision of documents involving design interfaces.

Implementing procedures provide for verifying or checking the adequacy of design, such as by the performance of design reviews, by the use of alternate or simplified calculation methods, or by the performance of suitable testing programs. Design changes, including field changes, are subject to design control measures commensurate with those applied to the original design and are generally approved by the organization that performed the original design, unless otherwise specified in approved procedures.

A comprehensive system of planned and periodic audits ensures the continuing effectiveness and adequacy of the design and configuration control processes. These audits review the programs' continuing compliance with 10 CFR 50, Appendix B, as well as effective implementation of the program elements.

Other 10 CFR 50, Appendix B requirements, such as corrective action measures, control of procurement, etc. are discussed elsewhere in this document. In addition to 10 CFR 50, Appendix B, the design and configuration control processes meet the requirements of ANSI N45.2, "Quality Assurance Program Requirements for Nuclear Power Plants", and ANSI N45.2.11, "Quality Assurance Requirements for the Design of Nuclear Power Plants".

A comprehensive system of audits ensures the design control system is properly functioning. These audits are the responsibility of the Safety Audit and Engineering Review (SAER) group. Audits are regularly scheduled and performed under the direction of SAER. Audits of engineering functions include auditing the technical adequacy of the work performed, compliance with procedures, and the effectiveness of the process/programmatic aspects of engineering activities.

A.5 Plant Procedure Control Process

The plant procedure control process provides the method by which appropriate reviews are performed, and design and licensing bases information is accurately incorporated into plant procedures. Procedure control measures are in place to ensure procedures used for performing plant activities are evaluated for impact on affected processes, documents, commitments, and organizations, and are approved by appropriate management. The procedure control process includes the controls and methods used for procedure development, revision, review, validation, and approval, as discussed in section B.2. Development of new procedures and the revision of existing procedures are necessitated by activities

such as design changes, vendor manual updates, operating experience, and industry feedback.

A.6 Commitment Tracking Process

The VEGP commitment tracking process has been in use since initial plant operation. The FSAR was reviewed to assure that operational commitments contained in the FSAR are in the commitment tracking system. Revisions to the FSAR as well as correspondence to the NRC are reviewed to assure that the commitment tracking system includes new or revised operational commitments. The system tracks commitments to assure that they are met. It also records the documents, such as procedures, that implement the commitments.

Vogtle Electric Generating Plant has a reasoned management process for maintaining commitments to the NRC. Commitments are documented in submittals to the NRC. Submittals undergo an established review process culminating in the signature by a designated person or persons who have authority to commit resources. Commitments are only recognized following their submittal to the NRC. Submittals to the NRC are reviewed for the identification of commitments which are entered into the tracking system to ensure that they are implemented. The tracking program identifies the commitment, the source of the commitment and the document (typically a procedure) by which the commitment is implemented or fulfilled. Commitments are considered as lifetime requirements and are usually implemented through procedures or other programmatic documents. If these commitment implementing documents are later changed, they require a review of the commitments and an Unreviewed Safety Question determination (10 CFR 50.59 evaluation) prior to change implementation. If a subsequent change to a document by which a commitment was implemented results in a change to the commitment, records are maintained that allow the association of the 50.59 evaluation with the changed commitment.

Commitments are generally based on FSAR, Technical Specification or other programmatic submittals to the NRC. Changes to these documents require specific 50.59 evaluations or NRC review prior to revision.

Those items identified as "Open Items' (OI's) come from such documents as LER's, violation responses, generic letter/ IE bulletin responses or other operating experience program documents such as internal audit findings, and other responses not necessarily implemented for the life of the plant.

A.7 Procurement Process

The procurement process is another means by which fidelity of the plant to the design bases is preserved. Procurement of safety-related items and services meets the requirements of 10 CFR 50, Appendix B , ANSI N45.2 "Quality Assurance Program Requirements for Nuclear Power Plants," and ANSI N45.2.13 "Quality Assurance Requirements for Control of Procurement of Items and Services for Nuclear Power Plants." A Material Engineering organization, knowledgeable in these requirements, reviews proposed purchases which are subject to this regulation and standard.

Requirements for items and services are incorporated (or referenced) in procurement documents to ensure that critical characteristics required for design bases considerations are incorporated into the item or service received. The A/E may be required to develop detailed specification documents and define engineering and technical requirements applicable to the item/service. The item or service purchased is classified with regard to its safety significance and appropriate quality assurance program requirements are imposed on the supplier. When required, procurement documents require that the item/service be supplied in accordance with a supplier quality assurance program that has been reviewed and accepted. This review and acceptance verifies that the supplier has adequate procedures and controls to provide reasonable assurance that the requisite critical characteristics are incorporated into items/services produced.

Upon receipt of items, or accomplishment of purchased services, reviews and inspections are accomplished to ensure that items/services meet the requirements of procurement documents.

Periodic audits ensure the continuing effectiveness and adequacy of the procurement control process.

A.8 Document Control Process

Documentation control includes the preparation, issuance, and revision of design bases documents, licensing documents, and plant documents that specify quality requirements or define activities affecting quality. Document control processes assure that documents, including changes, are reviewed, approved for release by authorized personnel, and distributed to the responsible individuals/organizations for implementation and use as appropriate.

The term "documentation" as used in this paragraph, refers to plant records, documents which provide guidance, and are subject to revision, and as such must be maintained to assure that only the most current revision is used. Categories of such documents include domestic design drawings, vendor drawings, plant procedures, plant curves, vendor manuals, plant manuals, etc. Databases that identify the most recent approved revision of documents are maintained. Controls that prevent the inadvertent use of obsolete or superseded documents are provided. Document control responsibilities include identifying, storing, updating, and retrieving appropriate documents throughout the life of the plant.

The design and documentation control processes described above work in conjunction with the plant's work control processes to assure that plant configurations are maintained within the envelopes defined by the safety licensing requirements. Controlled documents are used to indicate allowed plant configuration that are in accordance with plant design.

A.9 Work Control Process

Processes are in place to control work which might otherwise change the plant design or operating configuration. The work is appropriately reviewed, tagged (i.e. clearance), and tracked to assure that the licensing and design bases of the plant are maintained. Some examples of this type of work are maintenance, surveillances, tests, inspections, and modifications. These activities are performed to procedural requirements that specify or describe how the activity is to be performed, the plant condition required to perform the work, the methods to be employed, equipment or materials to be used, and the sequence of operations. Work Orders are the official documentation used to document work performed on plant equipment or systems and utilized to assure the work history is maintained for tracking and trending purposes. Work orders are also a critical component in implementation of 10 CFR 50.65 requirements (the Maintenance Rule), and provide a mechanism for tracking and trending plant equipment performance.

Work orders are prioritized, planned, tracked, scheduled for work and implemented by qualified individuals who review the change for overall impact to the plant prior to, during, and after completion of the work. Individuals also review the work for operability or reportability requirements, ensure personnel safety precautions are identified, and consider the design and licensing bases of the plant by following plant procedures, system operating requirements, and the necessary valve and/or breaker line-ups. Granting clearances, and tagging

equipment and components with the proper nomenclature to designate its status is integral to the work control process. Tags may be used to provide special operating instructions for equipment that may be out of its normal alignment, out of service, or not within its operating mode, either by design or for some type of troubleshooting or maintenance activity. The tagging process provides a mechanism to assure configuration control of plant equipment during this time. Work control tags which may be utilized are CAUTION, HOLD, FUNCTIONAL RELEASE, etc..., each with its own stringent requirements for origination, approval and removal.

A.10 Core Reload Design and Licensing

Prior to each cycle and as a normal part of the reload core design and licensing process, an evaluation is made to determine or confirm fuel-related safety and operating limits. The design and licensing bases for this process is described in the FSAR and its references. Plant changes that could affect reload design and licensing are required to be evaluated by Nuclear Fuel Department procedures. Prior to each cycle, planned plant design changes are reviewed for their impact and inclusion in the next cycle's reload core design and licensing calculations. Plant changes that would affect reload design and licensing are provided to the fuel vendor using a pre-established process. This process provides reasonable assurance the plant configuration is consistent with the reload core design and licensing bases and plant operating limits.

B. TRANSLATION OF DESIGN BASES REQUIREMENTS INTO PROCEDURES

NRC Request

"Rationale for concluding that design bases requirements are translated into operating, maintenance and testing procedures."

Georgia Power Company Response

The rationale for concluding that design bases requirements are translated into procedures is based upon the following:

1. The procedures were verified to be consistent with design, the as-built plant and the FSAR prior to initial operation as part of the VEGP Readiness Review Program.

2. The plant design, procedures and FSAR have been controlled by procedures since initial operation.

3. Audits and inspections are utilized as a means for checking the effectiveness of these processes for maintaining consistency, and in some cases result in deficiencies being written and programmatic or procedural improvements. (Audits in accordance with the Quality assurance plan provide a means of checking that the procedures are being followed, and periodic special programs such as functional inspections, responses to Generic Letters, or implementation of major changes such as the Improved Technical Specifications provide reasonable assurance that design bases, FSAR and procedures are being maintained consistent with each other.)

B.1 Initial Design and Licensing Process

The original design process produced design documents such as drawings, specifications, evaluations, and analyses necessary to support construction, testing, operation and licensing of the plant. The design documents produced by this process were used as the bases for construction acceptance tests, preoperational testing, and startup testing. The design and construction process included various inspections, audits and documentation requirements to assure consistency between design, procedures and the as-constructed plant.

The Final Safety Analysis Report was produced as part of the design and construction process and submitted to the NRC with the application for an operating license. The FSAR includes sufficient descriptions of the plant

design to document compliance with regulatory requirements, regulatory guidance, and most specific Nuclear Regulatory issues identified during the review of the license application. The plant Technical Specifications were developed in conjunction with the NRC review, and identify functional requirements, controlling parameters, and surveillance and testing requirements that are significant to the safe operation of the plant.

In order to gain added assurance of operational readiness of the Vogtle Electric Generating Plant, Georgia Power Company conducted a Readiness Review Program. It consisted of an in-depth self- assessment of work processes and verification of compliance with regulatory commitments. The work processes and regulatory commitments were divided into about 20 modules. Module 7 included Nuclear Operations, plant maintenance, and plant engineering programs. The review encompassed a total of 3346 individual program elements. Module 7 also included a review to ascertain whether commitments were incorporated into approved procedures, were specifically identified for inclusion in planned procedures, or were contained in the Nuclear Operations commitment tracking system. The review included 1266 commitments. In addition, a review of plant operations and support activities and records was performed to ascertain whether the activities satisfy requirements.

As a result of these reviews and the resulting corrective actions, the readiness review team concluded no safety issues existed and that adequate work controls were in place to ensure the quality of work and implementation of licensing commitments when the operational quality assurance program was implemented.

These programs verified consistency between the as-built plant and the design. They verified that procedures for plant operation were consistent with the FSAR and Technical Specifications. This included a review of the FSAR to identify programmatic or operational commitments. These commitments were recorded in the commitment tracking (CT) system and it was verified that they were appropriately implemented in various operating procedures or plant programs.

In addition to verifying consistency between the as-built plant, the FSAR and design, the preoperational reviews such as the Readiness Review Program and the Walkdown Program also demonstrated the effectiveness of the design control processes and procedures that were used for initial design and construction.

These licensing and design reviews, conducted in conjunction with the initial startup of the plant, confirmed that commitments as described in the FSAR had been appropriately translated into procedures.

The processes for control of design changes following initial operation are based on the same processes that were shown to be successful for controlling design during initial design and construction. These processes have evolved into those that are described above, in the response to question A. Since initial operation, many design changes, FSAR changes, Technical Specifications changes and procedural changes have been implemented. The change control processes are designed to assure that consistency is maintained between procedures, essential design documents, the Technical Specifications and the FSAR. Periodic audits and evaluations monitor the performance of these processes and, when necessary, result in corrective actions for problems. As discrepancies are discovered, they are evaluated and the procedures, FSAR or design documents are updated as needed.

To assure that the processes are being appropriately followed and are being successful in maintaining consistency between design, FSAR and procedures, various inspection programs have been conducted since initial operation. These inspections include items such as the Electrical Distribution System Functional Inspection (EDSFI), the Station Blackout Inspection and the Motor Operated Valve program in response to Generic Letter 89-10. Details of these inspections and programs are discussed in the response to item B.

B.2 Current Procedure Control Process

The significant steps in the procedure control process are the request for procedure development (new procedure) or procedure revision, procedure review, procedure validation, and procedure approval. Each of these steps is discussed in detail below.

The development of new procedures and existing procedure revisions becomes necessary due to activities such as design changes, vendor manual updates, operating experience, and industry feedback. Procedure control processes are in place to ensure procedures used for performing plant activities are evaluated for impact on affected processes, documents, commitments, and organizations, and are approved by appropriate management. The procedure control processes include the controls and methods used for procedure development, revision, review, validation, and approval. The procedure control processes provide the method by which appropriate reviews are performed, and design and licensing bases information is accurately incorporated into plant procedures.

B.2.1 Request for Procedure Development or Revision

Individuals may initiate a request for development of a new procedure, a procedure revision, temporary change, editorial change or deletion. Each department is responsible for their own respective procedures and tracks the status of these procedures and coordinates procedure distribution for review and approval in the development and revision process. Each department performs reviews of procedures to ensure consistent format, accuracy and completeness. A request for procedure development or revision is normally assigned to the department most affected by the procedure. Someone within the department is responsible for sponsoring the procedure during the development and revision process and preparing the necessary documentation.

B.2.2 Procedure Review and Approval

Currently VEGP maintains a matrix of the departments required to review a procedure when the procedure is revised. The types of reviews that may be applicable to procedure changes include ALARA, ISI/IST, nuclear safety and compliance, emergency planning, environmental qualification, fire protection, engineering, management, quality control, reactivity management, quality assurance, or security reviews. The results of these reviews are documented in the procedure development/review package along with the results of system inspections, other procedures affected, and the assignment of applicable action items necessary to assure successful implementation. The individual responsible for the procedure origination or revision determines if licensing document revisions are necessary prior to procedure implementation and if procedure validation is necessary and also identifies training requirements. If the procedure does not require Plant Review Board review the department manager is responsible for final approval prior to implementation. The Plant Review Board reviews selected procedures and recommends approval by the General Manager. The General Manager has final approval of these procedures prior to implementation.

B.2.3 Procedure Validation

The procedure change originator, responsible department manager, or Plant Review Board may identify procedure changes requiring validation during the review process discussed in section B.2.2. When practical, validation of the procedure may be accomplished by actual performance of the procedure. Other methods of validation are simulated procedure performance, talk-through, walk-through, comparison with an approved similar procedure, or a combination of these methods. The method and results of the validation are documented in the procedure change package. If major changes are necessary to the procedure or the 10 CFR 50.59 is revised due to occurrences during this process, another Plant Review Board review may have to be obtained.

B.2.4 Procedure Approval and Implementation

After the necessary reviews and assigned open items, as discussed in section B.2.2, are complete, and comments are incorporated, the procedure is approved for implementation by the responsible department manager or applicable plant management. The latest revision of most plant procedures is electronically retrievable for general use by plant personnel and the latest revision and record copy of procedures is maintained in Document Control.

B.2.5 Maintenance of Procedures

An ongoing dynamic process is inherently required in maintaining procedures in an accurate and useful condition. This process requires that procedural controls be in place for procedure changes as the plant design, regulatory or operational requirements change.

In addition, many of these procedures are used frequently by plant personnel. As plant personnel use the procedures, problems are identified and resolved through various internal programs, some of which are listed below. Further, a significant portion of the normal, abnormal and emergency operating procedures are frequently used through various simulator training programs. Once identified, procedural issues are addressed.

Vogtle Electric Generating Plant personnel evaluate procedures, and controls are in place to ensure that a potential procedural impact is assessed and revisions are made based on input from a number of different prog ams. The following programs adequately provide input to procedure revisions and changes:

B.2.5.1 Plant Design Control Program

The plant design control program requires an interface review of modifications by groups which are potentially affected by the modification. This interface review requires that procedures potentially affected by the modification be identified and changes and revisions be ready to be implemented upon completion of the modification. Affected managers must indicate that revisions to plant procedures have been issued or an action has been assigned to revise within a time frame which does not impact modification package implementation, before the modification package can be considered complete.

B.2.5.2 Operating Experience Program

The operating experience program requires the review of NRC bulletins, notices, and generic letters; Westinghouse technical bulletins and information, INPO significant operating event reports (SOERs), significant event reports (SERs), and operation and maintenance reminders (O&MRs); controlled vendor technical information; unsolicited vendor technical information; and various internally generated reports such as a deficiency report. This review includes an evaluation of applicable procedures and the initiation of required procedure changes.

B.2.5.3 Licensed Operator Requalification/Simulator Training Program

As potential deficiencies are identified in the procedures, processes are in place to identify and resolve them. This includes procedure revisions, if appropriate.

B.2.5.4 Deficiency Control Program

A deficiency control program is in place that requires an individual on-site who identifies a potential deficiency to report it to the Shift Supervisor, or designee. As potential deficiencies are identified, formal processes are in place to resolve them. This includes procedure revisions, if appropriate.

B.2.5.5 Licensing Document Changes (e.g., Technical Specification and FSAR Revisions)

Revisions to Technical Specifications, the FSAR or other licensing documents require evaluation for impact on procedures and result in the initiation of procedure changes, if appropriate.

B.2.5.6 Surveillance Test Program

The surveillance test program provides direction to evaluate the need for a procedure change that is identified through the performance of a procedure. These changes may be required prior to continuation of the performance of the tests, or after completion of the tests, depending on the nature of the discrepancies.

B.2.5.7 Vendor Documents Review Program

The vendor documents review program requires the review of vendor manuals and revisions to vendor manuals. This review includes an evaluation of applicable procedures and the initiation of required procedure changes.

B.2.5.8 Plant Personnel Feedback

Plant personnel, including operators, are trained and directed by procedures to report to supervisors procedural deficiencies or concerns which may prevent or impact their implementation. Feedback into the procedure revision process may be initiated through such programs as the operating experience program.

B.2.5.9 Biennial Reviews

For the first few years following initial plant operation, many plant procedures were reviewed on a biennial basis. Now that the procedures and programs to assure procedural revisions consistent with plant design, operational and regulatory requirements have matured, biennial Quality Assurance audits of procedural development and maintenance programs are conducted. Biennial reviews continue to be performed on selected procedures requiring the signature of the plant General Manager, such as Emergency Operating Procedures (EOPs) and Abnormal Operating Procedures (AOPs).

B.3 Routine Audits and Inspections

The Quality Assurance Program includes a review of procedures as part of the audit and surveillance process (which is based on a two year cycle). The Quality Assurance Program assigns the responsibility to the Safety Audit and Engineering Review (SAER) group to audit the procedural process on a periodic basis. The Plant Review Board also performs oversight including a review of many plant procedures. Input into the procedure revision process may be provided by either of these two avenues.

B.4 Procedure Use Process

Although there are strict guidelines for procedure origination and adherence, the VEGP philosophy also maintains a "thinking compliance" with regard to procedures. This philosophy recognizes that procedures cannot be written to cover all situations. Plant personnel rely on the combination of training, procedures, and peer/supervisor review to successfully accomplish their assigned responsibilities. As such, VEGP personnel are expected to consider the intent, and desired end result, of procedure usage and provide recommendations for improvement.

During the last few years VEGP has maintained a strong emphasis regarding strict procedural adherence because of recurring problems and violations in this area. In response, plant management has emphasized procedural adherence from individuals and coached individuals to pursue the "personal initiative and mind-set" that is required for compliance. Procedural compliance makes the configuration control programs and processes effective. Procedure users are

sensitized for STAR (Stop, Think, Act, and Review) techniques when performing procedures, trained to identify problems and discrepancies, and are encouraged to get issues resolved. Currently the VEGP Major Problems List includes procedural adherence as an item needing improvement. Plant management is focusing specifically on improving the quality of maintenance procedures, and procedure adherence by maintenance personnel.

B.5 Summary

Discrepancies in documentation have been identified in the past, the most significant of which have been documented by licensee event reports and/or violations. Additional discrepancies have been identified as a result of the assessments in accordance with NEI 96-05 as documented in section F. The significance of these is currently being evaluated. The majority of discrepancies indicate the identification and correction of problems before they evolve into circumstances with significant safety consequences. Therefore, Georgia Power Company maintains reasonable assurance that the processes described above provide adequate rationale for concluding that procedures are consistent with design and that discrepancies between design documents, the FSAR, and procedures are not significant to safety, based on the following:

a. The initial verification of consistency between the plant, procedures and design with the Readiness Review Program.

b. The processes that have maintained this consistency.

c. The relative insignificance of discrepancies identified by various audits and inspections that have addressed consistency of design and procedures.

Processes are in place to develop and revise procedures to provide reasonable assurance of consistency with the design bases. Processes for identification, evaluation and correction of discrepancies between design documents, the FSAR and procedures are in place and being followed. Discrepancies between documentation and design or actual plant conditions are evaluated and resolved as they are discovered. Plant experience, evaluations and audits of these processes indicate that the desired results are being achieved.

C. CONSISTENCY OF SYSTEM, STRUCTURES, AND COMPONENT CONFIGURATION AND PERFORMANCE WITH DESIGN BASES

NRC Request

"Rationale for concluding that system, structure, and component configuration and performance are consistent with the design bases."

Georgia Power Company Response

Georgia Power Company is confident that system, structure, and component configuration and performance are consistent with the design bases requirements based on the following:

1. The plant configuration was verified to be consistent with design information and the FSAR prior to initial operation.

2. Plant changes have been under procedural control to assure consistency with the design bases since initial operation.

3. Operating experience reflects VEGP plant performance with no significant major equipment deficiencies or degradation in the material condition.

4. The plant is operated and maintained in accordance with procedures that incorporate design bases requirements (as explained in question B).

5. Routine surveillances, audits and special inspections check that the processes for maintaining consistency are effective and provide reasonable assurance that plant configuration is being maintained.

The activities described below provide reasonable assurance that the plant configuration and design bases are consistent.

C.1 Initial Design and Licensing

Since original VEGP design, construction and operation, no new significant rulemaking or industry milestones have occurred that required major changes to the design, operation or maintenance of VEGP. The major design and operational changes due to the accident at Three Mile Island (NUREG 0737) were incorporated into the plant design and procedures prior to initial operation and were extensively verified during initial licensing by the Readiness Review Program.

C.2 Configuration Control Processes Evolution

VEGP follows industry initiatives and regulatory processes as they evolve and incorporates them into configuration control processes as applicable. By following these configuration control processes GPC maintains reasonable assurance that the SSCs configuration and performance is consistent with the design bases. A description of the current engineering design and configuration control processes can be found in section A.

C.3 Plant Performance

Each VEGP unit has experienced an excellent operating record of high capacity factors, increasingly shortened refueling outages, reduced numbers of unplanned reactor trips, improved SALP and INPO ratings, and no significant major equipment deficiencies or decreasing material conditions in the plant. The operating and maintenance history of Vogtle Electric Generating Plant gives reasonable assurance in concluding that the system, structure, and component configuration and performance are consistent with the design bases.

C.4 Routine Operations

C.4.1 Surveillances

Surveillance testing provides a means to verify the operability of systems and components, and ensure variables are within specified design and licensing bases limits. Surveillance requirements are obtained from Technical Specifications, applicable codes and standards, ISI/IST requirements, and other criteria specified by management as necessary. Programs are in place to assure failed or missed surveillances are appropriately evaluated for reportability and corrective actions are implemented if necessary.

C.4.2 Design Change Controls

Proposed plant modifications are screened to determine if a safety evaluation is required per 10 CFR 50.59. Current plant design control processes and the associated safety evaluations provide assurance that systems, structures and components remain in agreement with the design and licensing bases of the plant. Change control processes require the plant's system, structure and component design bases information to be accurately reflected in design and operating

procedures. For further information on the design change process, see section A.1.

C.4.3 Conduct of Operations

The normal conduct of operations is also in accordance with a philosophy that preserves the integrity of the plant design and licensing bases. The VEGP conduct of operations and general work practices include the following:

- Do not bypass, reset bypasses, defeat safety systems or interlocks, or remove safety instruments from service unless allowed to do so by an approved procedure.
- Conduct plant operations in accordance with approved procedures.
- Be attentive to the condition of the plant at all times.
- Take action to report and prevent progress toward a condition that might be unsafe.
- Believe and respond to instrument indications until they are proven to be incorrect.

C.5 Significant Inspections

To assure that the processes are being appropriately followed and are being successful in maintaining consistency between design, FSAR and procedures, various inspection programs have been conducted since initial operation. These inspections include the following.

C.5.1 NRC Electrical Distribution System Functional Inspection (EDSFI) - May 10 - June 11, 1993

The NRC conducted an EDSFI for VEGP with the objective of assessing the adequacy of the electrical distribution system (EDS) and the capability and performance of GPC's engineering and technical support in this area. [Reference NRC Inspection Report No. 50-424,425/93-11, dated July 23, 1993, and GPC responses to NOV and IFIs dated August 19, 1993, and September 15, 1993, respectively.] The NRC considered the EDS to include all emergency sources of power and associated equipment providing power to systems relied on to function during design basis events. The scope of the inspection included the adequacy of onsite and offsite power sources for EDS equipment, undervoltage protection, electrical load study, regulation of voltage to essential loads, fault current protection, and coordination of the interrupting capability of protective devices. The NRC also reviewed mechanical systems supporting the EDS, including diesel generator air start, lube oil, and cooling systems. Installed EDS equipment was inspected to determine conformance to configuration control and design documents. Engineering and technical support was evaluated on topics such as organization, timely and adequate root-cause analysis, and engineering involvement in design changes and operations.

The inspection team concluded the following:

1. The design of the EDS was adequate to perform its intended functions.

2. The design evaluation review and approval processes are adequate and comprehensive.

3. The engineering design and modification control processes are well proceduralized.

4. Design changes were reviewed and approved in accordance with established quality assurance/quality control criteria

5. Procedures controlling documentation records and modification work are generally complete and comprehensive.

Strengths were identified regarding VEGP's comprehensive design criteria, good housekeeping and configuration control, capability to readily provide documentation references in calculations, well documented engineering support activities, and clearly defined interfaces between plant and engineering organizations. Comprehensive safety evaluations and screenings for plant modifications were demonstrated in support documentation. An extensive self assessment that resulted in many improvements was conducted prior to the NRC's inspection. The NRC also noted overall simplicity of the Electrical Distribution System, absence of design deficiencies in the HVAC and EDG starting air system, good cable separation, good coordination of protection, EDG maintenance program, and absence of short circuit or voltage deficiencies in the medium voltage design.

Deficiencies identified in the EDSFI resulted in two violations.

1. Design control deficiencies involving errors in calculations, environmental qualifications, and the FSAR. The violation involved incorrect calculation assumptions, inadequate equipment qualification file data, and examples of incorrect FSAR information. For example, voltage drop calculations incorrectly assumed negligible cable length; and the correct service factor for large safety related motors was not reflected in EQ files, the FSAR or EDG loading calculations.

   In response to the violation, an audit and broadness review was conducted that determined that the existing procedures and design criteria were adequate. The inaccurate calculation assumptions and resulting documentation discrepancies resulted from an originator's misunderstanding of design documentation and unfamiliarity with plant configuration. Secondly, the errors occurred because the checker failed to independently verify assumptions. The calculations were corrected and documentation discrepancies resolved. VEGP's design architect engineers were counseled on requirements to properly utilize and verify information in performing and checking design calculations.

2. Inadequate post maintenance test following breaker replacement. In response to the violation, Georgia Power Company considered the violation to be an isolated incident, and that it was a case of improper documentation of the post maintenance test which had been performed. As a result of the violation, a review of policies and procedures that provide guidance for the documentation of post maintenance tests was performed with the appropriate corrective action taken. Training and re-emphasis was also provided to operating personnel to ensure they are cognizant of procedural requirements for documenting post maintenance tests.

Overall the results of the EDSFI provide reasonable assurance that design bases information is available and easily accessible.

C.5.2 NRC Station Blackout Pilot Inspection - December 6-10, 1993

The NRC conducted a pilot Station Blackout (SBO) Inspection of VEGP with the objective of verifying the adequacy of GPC's programs, procedures, training, equipment and systems, and supporting documentation for implementation of the SBO Rule, 10 CFR Part 50.63. In the areas inspected no violations or deviations were identified [Reference NRC Inspection Report No. 50-424,425/93-28, dated January 24, 1994, and GPC response to Inspection Report dated March 23, 1994.]

The NRC specifically reviewed VEGP's SBO analyses supporting an AC independent four hour SBO coping capability, evaluated SBO plant and individual system performances, e.g. battery systems, auxiliary feedwater and steam relief, condensate inventory, effects of loss of ventilation, containment isolation, compressed air, reactor coolant inventory, EDG reliability, emergency lighting and communications, and heat tracing. Station Blackout procedures, such as EOPs, AOPs, severe weather procedures, and recovery procedures were reviewed to verify they provided adequate instructions to mitigate an SBO and that they were consistent with regulatory guidelines and supported by analysis. Operator training, applicable modification implementation, and SBO equipment quality assurance program requirements were also verified to be adequate.

During the SBO inspection, two items were noted as items of concern and required a formal response. Those items involved were:

1. The adequacy of design calculation assumptions and supporting data.

2. A perceived weakness in the transmission grid recovery procedure.

In response to these concerns the following actions were taken.

1. Although the calculation weaknesses were not safety significant and had no impact on the overall results of the analysis, a better method of documenting DC panel loading for battery sizing capability was implemented and design engineering management issued a policy statement clarifying the expectations of utilizing adequate design bases information; and

2. Georgia Power Company enhanced the procedures containing pre-determined routes and switching orders for increased flexibility and timeliness in restoration of AC power for safe shut down purposes for VEGP.

Overall, the successful SBO inspection at VEGP gives further reasonable assurance in the configuration control process. The SBO inspection verified implementation of design and licensing requirements internally within the plant and supporting organizations, as well as the ability for both processes and personnel to interact with non-nuclear utility organizations, such as Transmission and Distribution, to assure that the public safety and health is protected.

C.5.3 Motor Operated Valve Program (GL 89-10) 1989-1995

Per the recommendations of Generic Letter 89-10, a program was implemented that provides the necessary assurance that safety-related motor operated valves will be able to function when subjected to the maximum differential pressure across the valve. The maximum differential pressure could occur during normal operation or during abnormal events within the design bases of the plant. Plant motor operated valve functions were reviewed, and a scope for the program was established. New calculations were prepared to determine the worst case differential pressure for valves during normal operation and accident conditions. Derated motor and voltage calculations for accident and normal conditions were also prepared. Static and selected dynamic testing of the valves is a basic part of the program. Dynamic testing was performed as close to the calculated maximum differential pressure as was possible for allowable plant operating conditions. The objectives of this program provide assurance that safety-related motor operated valves will perform their design functions.

C.6 Normal Updates and Reconciliation of Structures, Systems, and Components (SSCs) Configuration/Design Bases

The normal conduct of design, maintenance and operations of VEGP is also in accordance with emphasis on maintaining the consistency of SSCs with design bases, in that processes are provided to address normal updates and reconcile cases where the SSC configuration is found to be inconsistent with the design and/or licensing bases. Discrepancies between documentation and "as-built" plant conditions are corrected with "as-built-notices (ABN)", i.e. drawing change notices, licensing document change requests (LDCR) and modification implementation changes "field change requests (FCRs)." For example in 1996 approximately 4600 drawing change notices, 250 LDCRs, and 70 FCRs were initiated as part of the ongoing process for identification and reconciliation of SSC configuration with the design and licensing bases of VEGP, or as a result of the design change program. Drawing change notices, LDCRs, and FCRs may be caused for a number of reasons: an as found condition in the plant, a plant maintenance activity/work order requiring generation of an equivalency determination, implementation of design or procedural changes, or simply editorial changes to documents. These are examples of current plant configuration control processes. The associated screening 10 CFR 50.59 evaluations assure that the SSCs remain in agreement with the design and licensing bases of the plant. These processes for changing the design bases of the plant require the plant SSCs be accurately reflected into design documents and operating procedures. The processes assure that discrepancies in design documentation and the plant as found condition receive appropriate review and approval with an evaluation in accordance with 10 CFR 50.59. These reviews also provide assurance that the discrepancies are resolved and that other affected design and licensing bases documentation is updated. Request for Engineering Review (RER), Request for Engineering Assistance (REA), and Deficiency Control (DC) programs also provide methods for evaluating discrepancies between SSC configuration and the design and licensing bases. The A/E and/or vendor is often consulted to assist in resolving these issues.

C.7 Summary

The activities described above involve a relatively broad scope verification effort. Other activities, such as design and procedure changes, performed while implementing the existing change control processes involve a smaller scope of verification. In the aggregate, these efforts continually check that the design bases of the plant is consistent with the plant configuration. The number of drawing change notices, LDCRs, and FCRs is relatively large. The number of FSAR discrepancies identified as a result of the recent FSAR review, discussed in section F, is also relatively large. However, the effects of these items have not caused a loss of confidence in the processes. The activity of these programs, as shown by the numbers of document changes, is an indication that they are causing documents to be maintained.

Adequate rationale for concluding that plant configuration is consistent with design and that discrepancies between design documents and the plant configuration are appropriately identified and resolved is based on the following:

- Extensive initial licensing reviews, such as Readiness Review.
- The effectiveness of processes in place for maintaining consistency of the plant and the design bases.
- Routine surveillances, audits and inspections that verify the consistency of design and plant configuration.
- The results of special programs, such as the programs described above, indicate that the design bases and plant configuration are being maintained consistent with each other.

Processes are in place to monitor and maintain the consistency between the plant configuration, performance and the design bases. When discrepancies are identified, there are processes for evaluating and correcting discrepancies. Discrepancies between configuration and design are evaluated and resolved as they are discovered. Plant experience, evaluations, and audits of these processes indicate the desired results are being achieved.

D. PROBLEM IDENTIFICATION AND CORRECTIVE ACTION IMPLEMENTATION PROCESSES

NRC Request

"Processes for identification of problems and implementation of corrective actions, including actions to determine the extent of problems, action to prevent recurrence and reporting to NRC."

Georgia Power Company Response

D.1 Problem Identification and Resolution

The primary processes for identification, resolution and determining reportability of problems are:

D.1.1 Deficiency Control Program

The deficiency control system can be initiated by employees. An adverse condition related to plant equipment, documentation, procedure, human performance, is normally documented as a deficiency. The threshold for documenting deficiencies is conservative.

Deficiencies are reviewed for safety significance, compliance to Technical Specifications, and reportability. A deficiency determined to be significant with respect to plant safety or operation receives additional review requiring a root cause analysis and identification of corrective actions. The investigation of deficiencies may be augmented by establishing an event review team if warranted by the importance or complexity of the problem. When a deficiency requires corrective action beyond a simple maintenance request or documentation change, corrective actions are typically assigned to individuals in the appropriate department, scheduled, and tracked to closure. Deficiencies are utilized in developing trend reports so that recurring problems can be identified.

D.1.2 Review of Potential Defects and Non-Compliances

The review of potential defects and noncompliances provides a method of identifying items reportable under 10 CFR 21. Nuclear Steam Supply System (NSSS) vendor correspondence, other vendor correspondence, and deficiencies documented on new equipment prior

to installation are reviewed for potential 10 CFR 21 reportability. The reportability evaluations are maintained in document control.

D.1.3 Operating Experience and Feedback Program

The operating experience and feedback program assures operating information pertinent to plant safety is reviewed and distributed in a timely manner to operators and other plant personnel. The information is provided to the training department for incorporation into the training program as appropriate. The type of information reviewed for the operating experience and feedback program consists of industry information including NRC bulletins, generic letters, information notices; INPO significant occurrence reports; and NSSS supplier information letters. The information is evaluated to determine if an event is applicable to the plant. The review is documented and if corrective actions are necessary, they are identified and tracked to closure.

D.1.4 Concerns Program

The concerns program provides a method by which permanent and contractor employees associated with the plant can report an activity or event that the employee feels should be addressed by plant management. Concerns issues can include nuclear or industrial safety, or other work related problems. The submitter's identity is maintained confidential if provided, or a submitter may choose to remain anonymous. A response to the concern is provided to the submitter if they provide identification.

Employees are trained on the concerns program as part of initial employee training and acknowledge their awareness of the existence and goals of the program. It is made clear the concerns program does not affect an individual's right to pursue concerns to governmental or regulatory agencies. Concerns are investigated, evaluated for reportability, and documented. The concern is closed after management review and approval.

D.1.5 Safety Audit and Engineering Review Program

The safety audit and engineering review program conducts audits of plant activities in accordance with the FSAR and regulations. Design change and modification control are included in these audits. Audit frequency may increase based on significant changes in the QA

program or performance. In addition, special audits may be conducted of important industry issues, areas of management interest or other activities not specifically required by the FSAR.

The audit staff has technical experience in many plant functions and, when technical expertise is not available on staff, the audit teams are often augmented by technical experts from other organizations. The audit results are reported to the plant Vice President and appropriate plant managers. If the audit identifies noncompliances with requirements, the line organization prepares a corrective action response, including root cause determination, broadness reviews and action to prevent recurrence. The response is submitted to the Vice President for approval. Upon completion of corrective actions, the audit staff reviews the actions to determine their effectiveness.

D.1.6 Event Review Team Program

An event review team is normally formed to investigate events that are significant or complex enough to warrant an augmented investigation for determining the root cause and developing recommended corrective action to prevent recurrence, as discussed in section D1.7. An event report includes a description of corrective actions in accordance with the four elements of the corrective action program 1) correction of the deficiency, 2) investigation of similar conditions, 3) determination of root cause of the event and 4) development of long term corrective action to prevent recurrence. Open items for corrective actions are issued and tracked to completion. The effectiveness of the event investigation program is periodically reviewed. This effectiveness review includes indicators such as the number, severity and recurrence rate of events, unimplemented corrective actions and verification that previously implemented corrective actions remain incorporated in plant procedures, training or design. Event review team reports are maintained as records in plant document control.

D.1.7 Root Cause and Corrective Action Program

Problems or events that are required to be investigated for root cause determinations are: NRC violations, LERs, 10 CFR Appendix B - Quality Assurance audit findings, equipment/system failures categorized as maintenance preventable functional failures, unplanned reactor trips, reportable engineered safety features actuations, significant radiological events, and items deemed necessary at plant management's discretion.

When determining a root cause, a root cause and corrective action (RCCA) evaluator utilizes procedural guidelines to determine the RCCA and also investigates the broadness of the problem. A broadness review is conducted by evaluating similar processes or similar items for the same type of problem, and is directed towards preventing a new occurrence in a different area or a recurrence in the same area. A broadness review includes a review of the deficiency card (DC) database, LER files, and/or other applicable databases for prior or similar occurrences as appropriate. Where applicable and/or practical, industry-wide operating experience is also consulted. For each root cause (or contributing cause as appropriate), a recommended corrective action(s), including action(s) to prevent recurrence, is developed for management review and approval. Recommended corrective actions meet as many of the following criteria as possible:

- implementation will prevent recurrence of the event or similar events.
- have a specific, well defined and measurable end-point or product.
- are worded as unambiguously as possible to ensure the desired corrective action is taken.
- do not increase the complexity and costs of work processes.
- can reasonably be achieved with available resources.
- implementation will maintain or improve safety.

Root cause and corrective actions are tracked to assure completion by utilizing the commitment tracking database and must be approved by management prior to the corrective action item being considered closed, i.e., satisfactorily implemented.

D.2 Reportability Determinations

Items identified as discrepancies in the programs described above are evaluated for applicable reportability requirements per 10 CFR 50.72 and 10 CFR 73. Reporting requirements for periodic and non-periodic reports are documented in plant procedures. The majority of problems requiring reporting to the NRC per 10 CFR 50.72 and 10 CFR 73 are identified in programs such as, deficiency control, discussed in section D.1.1; however, items identified by the other programs are evaluated for reportability. The operations shift supervisor reviews deficiencies for prompt reporting criteria. Nuclear Safety and Compliance Department personnel normally perform a daily review of deficiencies for reportability under 10 CFR 50.73.

Trending is performed on the root cause of plant deficiencies, which includes Licensee Event Reports, and adverse trends are identified along with recommended corrective action. Trend reports are prepared periodically and are distributed to the Nuclear Plant General Manager and to other management as appropriate.

Events or conditions that do not clearly meet requirements for reportability require documentation of a reportability determination. Offsite engineering assistance may be requested for evaluating the deficient condition to determine its reportability. These evaluations are undertaken in a timely manner. A reasonable time is allowed for an engineering evaluation to determine whether or not a condition is reportable. The time may vary according to the potential significance of the condition and the potential for success of the evaluation.

E. OVERALL EFFECTIVENESS OF CURRENT PROCESSES AND PROGRAMS

NRC Request

"The overall effectiveness of your current processes and programs in concluding that the configuration of your plant(s) is consistent with the design bases."

Georgia Power Company Response

Georgia Power Company concludes that there is reasonable assurance that the current processes and programs are effective in ensuring that Vogtle Electric Generating Plant design and configuration are consistent with the design bases based upon the following:

1. The plant design change process provides reasonable assurance that the plant physical and functional characteristics are compatible with the design bases and plant documentation. Changes are evaluated and reviewed to determine the impact of each change on other systems and documents and ensure adherence to established requirements. (Reference section A.1 for a detailed discussion of the design change process.)

2. The initial plant verification process, continued consistency control processes, and inspections that check for consistency of plant design and procedures, previously performed design bases verification efforts, such as SSFI-type inspections and related reviews, supports the conclusion that there is reasonable assurance in the consistency between the plant, plant procedures, and the design bases. Additionally, the NEI 96-05 licensing bases assessment has provided initial results and as a result of these reviews, no significant programmatic breakdowns were identified, thereby providing assurance that system, structure, and component configuration and performance are consistent with the design bases. (Reference section F.1.2 for a detailed discussion of the NEI 96-05 assessment.)

3. The processes for identification, resolution, and determining reportability of problems include the deficiency control system, the review of potential defects and noncompliances, the concerns program, the event review team process, the departmental self assessments, the trending program and the safety audit and engineering review program. A process is in place to provide assurance that problems are identified, appropriate root cause analyses are performed and, if necessary, corrective actions are implemented. Discrepancies in licensing documents such as the FSAR are evaluated and resolved as they are discovered. Past deficiencies have not been substantial enough to cause a lack of confidence in the overall processes and program effectiveness.

4. Each VEGP unit has experienced an excellent operating record of high capacity factors, increasingly shortened refueling outages, reduced numbers of unplanned reactor trips, improved SALP and INPO ratings, and no significant major equipment deficiencies or decreasing material conditions in the plant. The operating and maintenance history of Vogtle Electric Generating Plant indicates an overall effectiveness of processes and programs, and provides reasonable assurance in concluding that the configuration of VEGP is consistent with the design bases.

Based upon the information presented in sections A through D of this enclosure, it can be concluded that the control processes described in this letter provide reasonable assurance that the plant is being operated and maintained within its design bases in a manner that does not adversely impact the health and safety of the public. The validity of the current configuration control processes is continually confirmed by safe and reliable plant operation, on going surveillances and walkdowns, self initiated examinations, as well as INPO and NRC assessments of plant performance.

F. DESIGN REVIEW/RECONSTITUTION PROGRAMS

NRC Request

Supplemental request for information on design review/reconstitution programs.

Georgia Power Company Response

As stated in our cover letter, Georgia Power Company fully agrees with the NRC position that licensee's programs should be designed to provide configuration control sufficient to provide reasonable assurance that the plant's physical and functional characteristics are consistent with, and are maintained in accordance with, the plant's design bases. Georgia Power Company also agrees with the NRC position that licensees are responsible for knowing the plant's licensing bases, having the appropriate documentation that defines the design bases, and providing formal guidance for assessing plant and/or procedure changes required by NRC regulations. Georgia Power Company believes that maintaining the design integrity of Vogtle Electric Generating Plant in a reasonable manner, while integrating the design function with operations, maintenance, and license requirements, is consistent with ensuring safe, efficient plant operation, and providing reasonable assurance of protecting the health and safety of the public. To support these concepts, a constant focus on detecting and resolving existing problems or potential problems before they become significant is maintained.

To implement these concepts, various programs are underway to provide reasonable assurance that the plant's physical and functional characteristics are consistent with, and are maintained in accordance with, the plant's design bases. Activities that provide additional assurance are discussed in this section.

F.1 Design/Licensing Review Programs

F.1.1 VEGP Design Manual Upgrade Program (NUMARC 90-12)

VEGP Design Manual Upgrade Program was initiated in response to the concerns raised in NUMARC 90-12, "Design Basis Program Guidelines." It was determined that VEGP did not need to implement a design bases reconstitution effort as outlined in NUMARC 90-12 due to the vintage of the plant and the recognition that a similar design bases document already existed for VEGP. (See section A.1.2 d for a discussion on the use of the VEGP Design Manual). However, VEGP did choose to implement a Design Manual Upgrade/Enhancement program to capture and include primary design and licensing bases input document references, (e.g. calculations, specifications, SER

references, and applicable correspondence), in each individual Design Criteria where possible.

F.1.2 Design/Licensing Bases Assessments

In response to NRC Information Notice 96-17, "Reactor Operation Inconsistent with the Updated Final Safety Analysis Report," dated March 18, 1996, and NEI 96-05, "Guidelines for Assessing Programs for Maintaining the Licensing Basis," an assessment similar to that outlined in NEI 96-05 is being performed. An FSAR verification effort is included in this activity. However, in contrast to NEI 96-05, the scope of review has been broadened to include the entire FSAR,(excluding specified historical sections such as pre-operational testing).

GPC has conducted an assessment of the programs in place to reaffirm that VEGP is being maintained in conformance with its licensing bases. The program met the intent of the program described in NEI 96-05 which was also included in attachment 3 of the NRC's letter. The program was accomplished by

- Reviewing the FSAR.
- Sampling programs in place for processing changes to procedures and the plant that may impact the FSAR.
- Reviewing changes that may not be governed by licensee programs.

The programmatic reviews per NEI-96-05 provide assurance that programs are in place and are functioning to identify and correct design and operability problems. However the programmatic reviews did not include an in-depth vertical slice review of actual supplementary design bases documentation and a comparison of "as-built" and "as-operated conditions. This type of review was conducted as part of the EDSFI in 1993, and is discussed in the response to item C.

The assessments proposed by NEI 96-05 have been completed, and final reports are being processed. Georgia Power Company has conducted a preliminary evaluation of the results. Specific findings resulting from the audits and reviews are being evaluated and proposed actions resulting from the lessons learned are being developed. Each of the 3 areas audited or reviewed are discussed below.

Review guidelines for verifying the information contained in the FSAR were developed, and a division of responsibility was established for reviewing the individual FSAR sections. Personnel determined to be cognizant of the information contained in specific FSAR sections were assigned those sections to review for accuracy. Responsible individuals were directed to focus their reviews on identifying discrepancies between the FSAR and the existing plant design, as-built condition, and operating practices.

The thoroughness of the review was consistent with the level of detail needed to provide reasonable assurance that the fundamental plant design, as-built condition, and operating practices are properly described in the FSAR. For example, the review did not require verification of every parameter, such as an instrument setpoint, to determine whether it is supported by a calculation. However, if a particular parameter was determined to be suspect based upon the reviewer's familiarity and knowledge of the system, structure, or component, the scope of the investigation was appropriately expanded to seek resolution.

FSAR discrepancies are being corrected in accordance with 10 CFR 50.59 to assure no unreviewed safety question exists and no Technical Specifications changes are required. Currently, no safety significant deficiencies affecting operability or requiring a report have been identified. Accordingly, safety evaluations will be prepared as required by procedures, to support the identified changes needed to achieve consistency between the FSAR description of the plant, and the as-built and as-operated condition of the plant. The revisions will be incorporated into the FSAR as part of the normal update process required by 10 CFR 50.71(e).

As outlined in NEI 96-05, a programmatic sampling of activities that involved changes to the Security Plan, Emergency Plan, plant procedures, Technical Specifications, and FSAR was performed to ensure that the appropriate licensing bases documents accurately reflect the changes. Based upon the preliminary results of this review, no programmatic deficiencies that would be considered significant to jeopardize the accurate incorporation of information into the licensing bases have been identified.

In accordance with NEI 96-05, additional sampling of potential changes that may occur separately from programmatic or procedure changes, such as work arounds, standing orders, old tag-outs, old

temporary modifications, was performed to evaluate the impact on appropriate licensing bases documents. Based upon the preliminary results of this review, no programmatic deficiencies that would be considered significant to jeopardize the accurate incorporation of information into the licensing bases have been identified.

The preliminary results of the NEI 96-05 Initiative assessments are outlined below:

F.1.2.1 FSAR Review

Prior to the decision to perform the assessments of NEI 96-05, GPC had already committed to an FSAR review program. The program was broader in scope than the program recommended by NEI 96-05 in that it involved the review of the entire FSAR rather than a selected sample. The review was conducted by assigning each of approximately 600 sub-sections of the FSAR to a cognizant reviewer (in many cases 2 independent reviews were assigned). Reviewers were chosen from plant operating staff, SNC, SCS and Westinghouse. They were assigned sections for review that were relevant to their positions, experience, responsibilities or projects. They were requested to review the FSAR section, identify discrepancies and to initiate Licensing Document Change Requests (LDCRs) to correct the discrepancies, in conjunction with the appropriate 10 CFR 50.59 evaluations. Deficiencies cards (DCs) were written when appropriate. Approximately 125 LDCRs and 100 deficiencies are currently being processed as a result of these reviews. An assessment team was formed to determine the lessons learned from this work and to determine the significance of the changes as well as make recommendations based on the reviews.

Of the approximately 125 LDCRs and 100 DCs reviewed, the team identified 8 that need additional review for determination of elevated significance.

The most common causes for discrepancies include:

1. Incomplete identification of all FSAR sections affected by a change.

2. Inadequate identification of the personnel most suited to review the change or to identify all other affected documents.

3. Inadequate 10 CFR 50.59 evaluations that did not address all potential issues, or recognize affected FSAR sections and explain why they were or were not affected.

4. Excessive lag time between FSAR updates and change implementation.

5. Minor original errors in the FSAR.

The significance of the discrepancies is currently being evaluated and recommendations for improving performance are under development.

F.1.2.2 NEI 96-05 Initiative - Programmatic Sampling

This audit examined changes to the plant, procedures, quality assurance program, Emergency Plan and Security Plan. It included FSAR changes and changes that were made that required NRC approval. Since these types of changes are screened to determine the degree of applicability of 10 CFR 50.59, the audit specifically included examples of changes that involved a screening that determined that the change did not involve an FSAR or license change, as well as those that did require an FSAR change. Approximately 49 items were audited. The primary questions addressed were:

1. Should the change have appeared in a licensing bases document?

2. Does the licensing bases accurately reflect the plant condition?

3. If the answer to 2 is no, was the reason: A failure to follow existing procedures? Or a lack of a procedure?

This audit resulted in one audit finding and 4 comments which are currently being resolved. The audit finding involved a 10 CFR 50.59 evaluation that was performed in accordance with the procedure but did not appear to address all of the issues that should have been considered. It is being evaluated for reportability, broadness and to determine appropriate corrective action. The audit comments represented areas of potential weakness that are being considered for procedural improvements, but did not indicate a failure to meet the requirements.

F.1.2.3 NEI 96-05 Initiative - Sampling of Potential Changes that May Occur Separate from Programmatic or Procedural Changes

The purpose of this sampling and evaluation was to assess the potential for changes that may occur through avenues that bypass or circumvent the programs that are in place to control the implementation of changes. The following items were reviewed:

- A list of "Equipment Out of Service/Degraded" (a form of workaround list) as included in the Daily Status Report
- Operations Standing Orders
- Technical Specification clarifications
- Several procedures with the potential for "not applicable (N/A)" of steps
- Equipment being operated in manual
- Temporary modifications that were over one year old
- Non-conformances (open action items for Deficiency Cards) that were over one year old
- Equipment/systems out of service or tagged-out for over one year.

A sampling of the items above was selected and reviewed in detail. Research was then conducted to determine whether an impact on the design bases existed, and if so, whether the current design bases/FSAR had been updated to reflect the current condition or practice. Some of the more significant observations of the sampling were:

1. VEGP does not currently maintain a list of workarounds although an equipment out of service/degraded list is published in the daily status report. No examples of unknown workarounds were identified.

2. The review of 13 recently completed procedures revealed minor problems with adherence to the procedure guidelines for marking and justifying steps "N/A".

3. It was noted that permanently disabled annunciators were treated as minor modifications and thus did not bypass established procedures for review of changes.

4. Caution tags were being used on valves with disconnected reach rods or valves that were positioned out of normal position.

These reviews did not reveal instances judged to involve a licensing bases violation. The observations are currently being evaluated to determine if they indicate the need for additional administrative guidance, training, or procedural revisions.

F.1.2.4 NEI 96-05 Initiative - Evaluation

The "Evaluation Phase" of NEI 96-05 will be performed by Corporate Licensing personnel and an Independent Safety and Engineering Group (ISEG) assessment review team. These evaluations will indicate the number of differences that are characterized as being:

- Safety significant
- Regulatory significant
- Examples where 10 CFR 50.59 was incorrectly applied

- Examples where licensing bases information was always inaccurate

In addition the review team will:

- Define contributing programmatic weaknesses.
- Provide rationale for a possible broadening of scope.
- Recommend immediate and long term corrective actions.

The final evaluation of the audits/assessments per NEI 96-05, including the FSAR review, and FSAR updates as needed, will be prioritized and implemented in a timely manner.

F.2 Specific Commitments

This Enclosure contains much general discussion with the intent of providing information relative to Vogtle Electric Generating Plant design ba[illegible] and configuration management control systems to promote a clear understanding of those systems and programs. To ensure a complete understanding of the commitments included herein, the following compendium of commitments is provided.

1. Two vertical slice system assessments and one programmatic assessment will be performed. At least one assessment will be performed in 1997, and the others performed by the end of 1998. These assessments will include a sampling of the following: conformance to design and licensing requirements, accuracy of controlled documents - e.g. drawings and procedures, equipment walkdowns, operational practices, and maintenance and testing activities. Following these reviews, the results will be evaluated and a determination will be made by the end of 1998, whether further system or programmatic reviews are warranted.

2. Georgia Power Company is currently conducting an accuracy verification of the VEGP FSAR as described herein. Corrective actions will be identified and resolved as previously described. Further reviews will be performed if determined necessary based on the verification results.

As with other businesses, Georgia Power Company is constantly evaluating the effectiveness and continuing need for many of the programs and systems as described herein. In this regard, this Enclosure represents the current state of such programs and systems, with additional historical perspective provided. While compliance with regulatory requirements will be maintained, no information presented herein should be construed as a commitment to maintain such programs and systems in place.

F.3 Summary

There is reasonable assurance that Vogtle Electric Generating Plant will continue to be operated and maintained in a configuration that is within the limitations demonstrated by design, analyses, and industry standards, and consistent with safe operation and license requirements. Modification, procurement, operation, and maintenance activities are conducted in accordance with applicable design and licensing documentation, and such information will be maintained correct, accessible, and current. The configuration control processes are designed to assure this policy is being properly implemented.