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Subject: Vogtle ESP QA Manual Transmittal
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Attached is a pdf of our official transmittal of the subject manual. Hard copies will follow.

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Attached is a pdf of our official transmittal of the subject manual. Hard copies will follow.

Louis B. Long
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Energy to Serve Your WorldSM

AR-05-1947
Project No. 737

November 4, 2005

U. S. Nuclear Regulatory Commission.
ATTN: Document Control Desk
Washington, D. C. 20555-0001

Southern Nuclear Operating Company
Transmittal of Early Site Permit Quality Assurance Manual

Ladies and Gentlemen:

On September 8, 2005, the NRC and Southern Nuclear Operating Company (SNC) held a public meeting to discuss SNC's Early Site Permit (ESP) and Combined License (COL) plans for the Vogtle site in Waynesboro, GA. In that meeting the NRC discussed the ESP pre-application quality assurance controls. SNC agreed to provide the NRC with a copy of the Southern Company Early Site Permit Quality Assurance Manual (ESPQAM) to facilitate early identification of issues.

If you have any questions regarding this review of the ESPQAM, please contact Mr. Charles R. Pierce at (205) 992-7872.

Sincerely,

A handwritten signature in black ink, appearing to read "Louis B. Long". The signature is written over a large, light-colored scribble or stamp.

Louis B. Long
Vice President Technical Support

CRP/JTD/

Enclosures:

cc: U. S. Nuclear Regulatory Commission
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Georgia Power Company

Mr. J. H. Miller III, Senior Vice President and General Counsel w/o

**Southern Nuclear Operating Company
Pre-docketing Phase for Early Site Permit Application**

**AR-05-1947
Enclosure 1**

Southern Company Early Site Permit Quality Assurance Manual



Quality Assurance Manual

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Title: Early Site Permit Quality Assurance Manual

Process/Program Owner: **Project Manager – Early Site Permit Project**

	Version Number	Effective Date
	1	5-11-05

Revision Summary

Prepared by/Date: Jim T. Davis 05/09/2005
Jim T. Davis

Reviewed By/Date:	Reviewed By/Date:	Approved By/Date:
<u>Charles R. Price 5/09/2005</u> Project Manager - ESP	<u>W. N. ... 5/9/05</u> SNC QA Manager	<u>[Signature] 5/14/05</u> Vice President Technical Support

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17.0 Quality Assurance

17.1 Early Site Permit Quality Assurance Program

This manual describes the Southern Company Early Site Permit (ESP) Quality Assurance Program that governs the development of the Southern Nuclear Operating Company (Southern Nuclear or SNC) ESP application and Southern Company preconstruction activities for the addition of new nuclear generation.

The Quality Assurance Program (QA Program) contained in this manual outlines the organization, programs and procedural requirements that will assure that the application is developed in a quality manner and activities allowed under 10 CFR 52.25 are conducted in a quality manner and, where appropriate, in accordance with 10 CFR 50 Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Processing Plants."

In order to simplify the QA process for the Early Site Permit Application development, elements of the Southern Nuclear Operating Company Support Services Quality Assurance Policy Manual (SSQAPM) and the applicable site FSAR chapter 17.2, Operations Quality Assurance Program shall be used. The corporate (SSQAPM) and site operations (FSAR 17.2) QA programs have detailed implementing procedures in place, but the scope of these QA programs does not include construction activities. This Early Site Permit Quality Assurance Manual (ESPQAM) provides details for the QA process for the development of an Early Site Permit application and commits to the use of the processes already in place in the SNC corporate and operations QA programs. Where applicable, items that may or will affect the operating unit or units shall be addressed under the site operations QA program. In selected cases, as stated in this document, the existing corporate and site operations QA programs will govern compliance with this program. Also, procedures and instructions that comply with the corporate and site operations QA programs shall also be used for the development of the ESP application.

SNC is in the process of developing a Quality Assurance Topical Report (QATR) for submittal to the NRC. Upon acceptance by the NRC, the QATR will replace existing SNC corporate and operations QA program descriptions. The QATR will also address construction activities and support the ESP Quality Assurance program implementation.

Control, revision and approval of this manual will be performed in accordance with Section 17.1.19, Issuance and Revision of the Early Site Permit Application Development QA Manual.

17.1.1 Organization

General Description - Early Site Permit Organization

There are several organizations within SNC which could affect the quality of the Early Site Permit Application and could support Early Site Permit development activities. These organizations are the Early Site Permit Project, Technical Support, Corporate Services, Nuclear Fleet Security & Emergency Planning, Environmental Affairs, Site Project, and Quality Assurance. A more specific description of the responsibilities of each group is listed in the following sections. In addition to the SNC organizations, Southern Company Generation Engineering and Construction Services (SCGECS) is the organization responsible for the site preparation activities allowed by 10 CFR 52.25. The Nuclear Organization and the Construction Management Organization are shown in Appendix A, Figures 1 and 2.

17.1.1.1 Early Site Permit Project

The Early Site Permit Project is part of the Technical Support, Special Projects organization and is responsible for developing the Early Site Permit Application, coordinating the technical input required, managing the principal contractors and subcontractors activities and assuring that all licensing requirements are met. The Early Site Permit Project is the design and licensing authority for development of the Early Site Permit.

17.1.1.1.2 Technical Support

Technical Support is responsible for support of the Early Site Permit Project organization by providing engineering, licensing and document control support.

17.1.1.1.3 Corporate Services

The Corporate Services organization is responsible for performing activities related to procurement and information technology in support of the Early Site Permit Project.

Supply Chain Management is responsible for providing material management, procurement, procurement document control and other supply chain functions. Supply Chain Management is part of the Corporate Services organization.

SCS Information Technology is responsible for providing information technology services to the Early Site Permit Project. The SCS Information Technology Group reports functionally to the SNC Vice President Corporate Services.

17.1.1.1.4 Nuclear Fleet Security & Emergency Planning

The Nuclear Fleet Security & Emergency Planning (NFSEP) organization is responsible for managing the nuclear fleet security and emergency planning activities. The NFSEP organization is responsible for providing information and support concerning emergency plans and security to the ESP Project.

17.1.1.1.5 Environmental Affairs

Environmental Affairs is responsible for providing various licensing, engineering and environmental related services in support of the ESP Project.

17.1.1.1.6 Site Project

The Site Project is responsible for operations and maintenance of the respective plant site. The Site Project is responsible for operations quality inspection activities of operations on-site work, including any that support Early Site Permit application development as well as controlling interfaces between the operating units and any new construction activities.

17.1.1.1.7 Quality Assurance

The Quality Assurance organization is responsible for independently planning and performing activities to verify the development and effective implementation of quality assurance programs for engineering, licensing, document control, supplier QA programs, procurement, and construction activities associated with Early Site Permit development.

17.1.1.1.8 Southern Company Generation Engineering and Construction Services

Southern Company Generation Engineering and Construction Services is the organization responsible for performing preconstruction activities allowed by 10 CFR 52.25. SCGECS may also provide engineering and construction inputs supporting the development of the ESP application including those described in the site redress plan.

17.1.1.2 Nuclear Management

17.1.1.2.1 Vice President – Technical Support

The Vice President - Technical Support reports to the President and CEO and is responsible for the administration of the ESP QA Program described in this manual and directs the planning and development of the Special Projects, Early Site Permit Project staff, and organization resources.

17.1.1.2.1.1 General Manager Special Projects

The General Manager Special Projects reports to the Vice President – Technical Support and has specific responsibility for the Early Site Permit Project.

17.1.1.2.1.1.1 Early Site Permit Project Manager

Early Site Permit Project Manager (ESPPM) reports to the Vice President - Technical Support and is responsible for the effective implementation of the ESP QA program for developing the Early Site Permit application and assuring that the application meets all regulatory and licensing requirements. The ESPPM has overall authority, including design and licensing, for all activities supporting development of the ESP application. The ESPPM and his staff are responsible for managing the principal contractors and all contractor-related activities, such as collecting and analyzing data, conducting testing for site suitability, and developing application content. The principal contractors contributing to the development of the ESP application are Bechtel Power Corporation and Tetra Tech NUS Inc. Bechtel Power Corporation is primarily responsible for design related activities supporting the Safety Analysis Report content and application development. Tetra Tech NUS Inc. is primarily responsible for the analyses and evaluations supporting development of the environmental report content for the ESP application. The ESPPM and his staff are responsible for coordinating actions of Southern Company and SNC resources supporting development of the ESP application. The ESPPM is also responsible for managing resources supporting the NRC review of the ESP application.

17.1.1.2.2 Vice President Engineering

The Vice President Engineering reports to the Vice President Technical Support and has corporate responsibility for SNC engineering support required for development of the Early Site Permit Application through Plant Support, and Engineering Services, Design Modifications and Engineering Administrative Services activities.

17.1.1.2.3 Executive Vice President - Nuclear

The Executive Vice President - Nuclear reports to the SNC President and CEO is responsible for the operation of the SNC's Nuclear Plants and Interim Spent Fuel Storage Installations (ISFSIs). The Executive Vice President - Nuclear has overall responsibility for the development and verification of implementation of the ESP, corporate and the operations quality assurance programs for SNC, the three SNC plant sites and the two ISFSIs.

17.1.1.2.3.1 Vice President – Project

The Vice President - Project reports to the Executive Vice President - Nuclear and is responsible for the overall safe and efficient operation of their respective operating plant, and for the implementation of quality assurance requirements in the areas specified by their respective operations Quality Assurance program.

For the purposes of this program, the description of the duties of the Vice President – Project and staff will be limited to those site activities that impact the Early Site Permit application development.

17.1.1.2.3.2 Quality Assurance Manager

The Quality Assurance Manager reports to the Executive Vice President - Nuclear and is responsible for evaluating compliance with the Early Site Permit Quality Assurance Program. The Quality Assurance Manager may make recommendations to the Early Site Permit Project's management regarding improving the quality of work processes. If the Quality Assurance Manager disagrees with any actions taken by the Early Site Permit Project organization and is unable to obtain resolution, the Quality Assurance Manager shall bring the matter to the attention of the Executive Vice President - Nuclear who will determine the final disposition.

17.1.1.2.3.2.1 Quality Assurance Supervisor (Corporate)

The Quality Assurance Supervisor (Corporate) reports to the Quality Assurance Manager and is responsible for evaluating compliance with the established supplier Quality Assurance Programs and for evaluating the quality programs of suppliers and contractors performing ESP activities important to safety. This is accomplished by scheduling and conducting triennial external audits, annual supplier Quality Assurance Program evaluations, reviewing audits conducted by external organizations (e.g. other utilities and NUPIC), and maintenance of the Qualified Suppliers List. In addition, the Quality Assurance Supervisor is responsible to the Quality Assurance Manager for assuring compliance with the corporate Quality Assurance program, administration of the internal audit program, and supervising and interfacing with corporate Quality Assurance personnel.

17.1.1.2.3.2.2 Quality Assurance Supervisor (Site)

The Quality Assurance Supervisor (Site) reports to the Quality Assurance Manager and is responsible for evaluating compliance with the operations Quality Assurance program and for auditing site activities that support the ESP application development. This is accomplished by scheduling and conducting audits of the operations Quality Assurance program activities.

17.1.1.2.3.3 Nuclear Fleet Security & Emergency Planning Manager

Nuclear Fleet Security & Emergency Planning Manager (NFSEPM) reports to the Executive Vice President - Nuclear and is responsible for the SNC Access Authorization Program in compliance with 10 CFR 73.56, NRC Order EA-02-261, dated January 7, 2003, including the implementation guidance of NEI 03-01; 10 CFR 73.57 and 10 CFR 2. In addition the NFSEPM is responsible for the overall management of Nuclear Emergency Planning activities and for supporting the development of the emergency planning sections of the ESP application. Additional responsibilities include coordinating the implementation of nuclear security requirements among the three SNC plants, conducting background investigations and ensuring that construction or ESP activities are consistent with security plans of the operating plants.

17.1.1.2.4 CFO and Vice President Corporate Services

The CFO and Vice President Corporate Services, reports to the President and Chief Executive Officer and is responsible for managing the overall Corporate Services organization including assuring that Supply Chain Management, Southern Company Services Information Technology, and Safety and Health support the ESP application development in accordance with the corporate Quality Assurance program and ESP Quality Assurance Manual.

17.1.1.2.4.1 Supply Chain General Manager

The Supply Chain General Manager reports to the CFO and Vice President Corporate Services and is responsible for the material management, purchasing, and procurement document control functions supporting the ESP application development.

17.1.1.2.4.2 Southern Company Services (SCS) Information Technology (IT) Manager

The SCS IT Manager is responsible for SNC IT activities and reports administratively to the Regional Chief Information Officer Alabama/SNC/SCSB and functionally to the SNC CFO and Vice President Corporate Services for information technology direction and support of SNC, including ESP application development. This responsibility is exercised in a matrixed-reporting relationship. Responsibilities include network infrastructure maintenance and upgrade, network and application security, network operations, automation strategy, application development and support, and automation training. Additional responsibilities include the evaluation of software quality for software utilized within SNC.

17.1.1.2.4.3 Safety and Health

Safety and Health reports to the CFO and Vice President Corporate Services and is responsible for coordinating the overall Fitness-for-Duty (FFD) program among Southern Nuclear management, the corporate staff and the staff at each of the SNC nuclear plants. In this capacity, Safety and Health administers the FFD program's random selection process; performs drug and alcohol testing at the corporate office and at each SNC nuclear plant pursuant to 10 CFR 26; ensures that testing procedures are in place; trains the FFD staff; and maintains associated training records.

17.1.1.2.5 Vice President and General Counsel

The Vice President and General Counsel reports to the President and CEO and has corporate responsibility for providing legal counsel and coordinating outside legal support and directs the Environmental Affairs organization resources.

17.1.1.2.5.1 Environmental Affairs Manager

The Environmental Affairs Manager reports to the Vice President and General Counsel and is responsible for managing environmental issues such as radiological environmental, non-radiological environmental, dose and shielding calculations, and low level radioactive waste functions supporting the ESP application development.

17.1.1.3 Construction Management

17.1.1.3.1 Executive Vice President - Nuclear

The Executive Vice President - Nuclear reports to the SNC President and CEO has overall responsibility for the development and verification of implementation of the ESP, corporate and the operations quality assurance programs for Southern Nuclear.

17.1.1.3.2 Executive Vice President – Engineering and Construction Services

The Executive Vice President – Engineering and Construction Services reports to the President of Southern Company Generation and is responsible for the construction of new generating projects and supporting the ESP application development. For ESP on-site activities that could impact existing facilities or future plant safety-related SSCs, the Executive Vice President – Engineering and Construction Services reports functionally to Southern Nuclear Executive Vice President – Nuclear. Preconstruction activities for which SCGECS is responsible include the following activities as defined by 10 CFR 52.25: (i) Preparation of the site for construction of the facility (including such activities as clearing, grading, construction of temporary access roads and borrow areas); (ii) installation of temporary construction support facilities (including such items as warehouse and shop facilities, utilities, concrete mixing plants, docking and unloading facilities, and construction support buildings); (iii) excavation for facility structures; (iv) construction of service facilities (including such facilities as roadways, paving, railroad spurs, fencing, exterior utility and lighting systems, transmission lines, and sanitary sewerage treatment facilities); and (v) the construction of structures, systems and components which do not prevent or mitigate the consequences of

postulated accidents that could cause undue risk to the health and safety of the public.

17.1.2 Quality Assurance Program

17.1.2.1 General Description

The objective of the Early Site Permit Quality Assurance Program is to comply with the criteria as expressed in 10 CFR 50, Appendix B and to comply with the quality assurance program requirements as described in the corporate and operations Quality Assurance programs. The ESP Quality Assurance Program applies to those quality-related activities that involve the functions of safety-related structures, systems, and components associated with the construction of nuclear power plants as described in the Site Safety Analysis Report. Examples of ESP program safety-related activities include, but are not limited to, site geotechnical investigations, site engineering analysis, seismic analysis, and meteorological analysis.

Portions of the Early Site Permit Application shall be developed under a graded approach to quality, with appropriate controls applied to ensure accuracy of information and conformance/compliance with applicable codes, standards, regulatory requirements, and industry practices. The ESP Project will develop a design criteria document that identifies the graded approach to quality as it applies to the development of the ESP application.

Elements of the corporate and operations Quality Assurance programs shall be used to assure compliance with this ESPQAM, including existing processes and procedures. These programs include a design control process (which also controls engineering supplier and architect-engineer interface) and record retention processes.

Designated activities may be performed under a supplier's Quality Assurance Program that has been approved by the Southern Nuclear corporate or operations Quality Assurance programs. Periodic audits and assessments of supplier QA programs are performed to assure compliance with Southern Nuclear procedures. In addition, routine interfaces with project personnel assure that quality expectations are met.

The goal of this program is to assure the accurate, efficient and detailed development of an Early Site Permit Application in accordance with sound engineering principles.

Site development in preparation for construction will not be performed by the SNC Early Site Permit Project. Southern Company Generation Engineering and

Construction Services (SCGECS) will be responsible for site development in preparation for construction, and in accordance with the ESP Quality Assurance Program for those activities that could affect safety related structures, systems or components (SSCs). Prior to the start of any preconstruction activities that could impact safety-related SSCs, SCGECS and Southern Nuclear will execute an agreement that would allow SCGECS to work under the ESP QA Program. Detailed engineering specifications and construction procedures will be developed to implement this QA program prior to commencement of preconstruction activities. Examples of preconstruction activities that could impact safety-related SSCs would include impacts of construction to existing facilities and for construction of new plants, the design interface between non safety-related and safety-related SSCs and the placement of seismically designed backfill.

This Quality Assurance Program applies to those ESP activities that can affect either directly or indirectly the safety-related site characteristics or analysis of those characteristics. In addition, this plan applies to engineering activities that are used to characterize the site or analyze that characterization.

In general, the requirements specified herein are detailed in implementing procedures that are either Southern Nuclear implementing procedures, or supplier implementing procedures governed by a supplier quality program. Supplier quality programs shall be verified to be in compliance with this QA Program in accordance with SNC procedures.

17.1.2.2 Quality Assurance Program

The Early Site Permit Quality Assurance Program is displayed in a point-by-point comparison to 10 CFR 50, Appendix B in Table 1.

17.1.2.2.1 Identification of Safety Related Design Basis Activities

Safety Related Design Basis Activities are defined as those activities, including sampling, testing, data collection and supporting engineering calculations and reports that will be used to determine the bounding physical parameters of the site. The development of the application will involve site testing, data collection and calculations that may create or bound safety-related design basis data. Site testing and data collection of information pertaining to the physical characteristics of the site that have the potential to affect safety-related design will be considered safety related. In addition, calculations and other engineering data that bounds or characterizes the site will be classified as safety related. The ESP Project will develop an application Design Criteria Document (DCD) identifying the sections of the application that include safety-related design basis

activities. In addition the DCD will identify those sections of the application and supporting analysis that will be treated with special quality requirements.

17.1.2.2.2 Periodic Review of the Quality Assurance Program

Audits of activities required by the Early Site Permit Quality Assurance Program will be conducted at least once per 24 months during the application development and NRC review processes. These audits are performed under the cognizance of the Quality Assurance Manager and shall be scheduled to provide coverage and coordination with ongoing QA program activities.

17.1.2.2.3 Qualification of Quality Assurance Personnel

The qualifications for QA personnel meet the requirements of Regulatory Guide 1.146, Qualification of Quality Assurance Program Audit Personnel for Nuclear Power Plants, as described in section 1.9.

The minimum qualifications for the Quality Assurance Manager is to hold an engineering or related science degree and have a minimum of 5 years experience in the areas of engineering, field construction, or plant operation. Two of these 5 years must involve working under a nuclear quality assurance program.

17.1.2.2.4 Indoctrination and Training

All personnel performing or managing activities affecting quality shall receive indoctrination and training in their job responsibilities and authority, general criteria including applicable codes and standards, regulatory commitments, company procedures and quality assurance program requirements.

A training program shall be established for those individuals responsible for work affecting safety related design basis activities.

Records of required training shall be maintained in accordance with Section 17.1.17 of this program.

17.1.3 Design Control

The Design Control Program (DCP), delineates procedures to assure that design basis, regulatory requirements, codes and standards are correctly translated into specifications, drawings, procedures, or instructions for those items classified as safety-related and that design changes, including field changes, are subject to design control measures commensurate with those applied to the original design and the applicable specified design requirements.

The DCP provides 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 a suitable testing program. The provisions of this section assure that individuals other than those who performed the original design perform the verifying or checking process. These individuals are identified and their authority and responsibility is described in the DCP. The DCP also identifies the design documents that are required to be reviewed and the personnel responsible for their review and revision, to assure that design characteristics can be controlled, inspected and tested, and that inspection and test criteria are identified. Design documents, design change documents and revisions thereto are distributed to responsible individuals. Design documents and reviews, records and changes thereto are collected, stored and maintained in a systematic and controlled manner.

Quality measures are assured through all levels of the design control program by the design organization, supplier design organizations, plant and corporate support organizations. Any errors or deficiencies noted in the design process are documented on design change forms and subsequently corrected. Any non-conforming conditions identified are documented and corrected.

SNC procedures are used to establish the interface between the company and suppliers for design activities. The procedures require that the licensee's program requirements be followed in the preparation, review and approval of design documents such as design changes, specifications and drawings.

The ESP Project Design Criteria Document will identify the safety-related and non safety-related content of the ESP application. This criterion will be applied to the supporting analysis for those portions of the application as appropriate. Examples of safety-related activities for the ESP program include, but are not limited to, site geotechnical investigations, seismic analysis, and meteorological analysis.

17.1.4 Procurement Document Control

Southern Nuclear procedures describe the program for the preparation of procurement documents including review, approval, document control, and change control. In addition, references to procedures that govern the actions of Quality Assurance and Supplier Surveillance are made which include provisions for access to the suppliers' facilities and records, for source inspection or audit, and qualification of suppliers prior to the initiation of quality related actions when the need for such inspection and/or audit has been determined. This program also provides for records to be prepared, maintained, made available for review, or delivered to Southern Nuclear prior to use, such as drawings, specifications, procedures, procurement documents, inspection and test records, personnel and procedure qualifications, material, chemical and physical tests results, and the identification of quality assurance requirements applicable to the items or services purchased, including sub-tier procurement requirements when required.

Procurement documents are prepared, reviewed, and approved as delineated in administrative controls. Copies of procurement documents, or equivalent documents such as Receiving Reports or Purchase Orders, are retained and are available for review. The corporate and operations Quality Assurance program references the standards, requirements or guides from which the procedures implementing this section are based.

Activities described in this section are included in the corporate and operations QA programs. For development of the ESP application, activities subject to this criterion are limited to the procurement of supplier services.

17.1.5 Instructions, Procedures and Drawings

Activities affecting quality of safety-related items within the scope of 10 CFR 50, Appendix B are prescribed by documented instructions, procedures, or drawings of a type appropriate to the circumstances. These activities are accomplished in accordance with these instructions, procedures, or drawings. Applicable instructions, procedures, or drawings include or reference appropriate qualitative and/or quantitative acceptance criteria for determining that important activities have been satisfactorily accomplished.

Administrative procedures describe the requirements for developing, reviewing, approving, and controlling procedures, instructions and drawings used for testing as well as design development, administrative, and other activities performed in support of development of the ESP Application. These requirements include references, prerequisites, precautions, limitations, manufacturer's specifications, check-off lists, and acceptance criteria (as appropriate). When applicable the acceptance limits and requirements contained in the design and procurement documents constitute a portion of the acceptance criteria referenced and contained in written testing procedures.

Detailed written procedures are established, approved, implemented, and maintained to control development of the ESP Application.

17.1.6 Document Control

Measures are established and documented describing the control of documents, such as procedures, instructions, and drawings, to provide for their review, approval, and issue, and changes thereto, prior to release and to assure they are adequate and the quality requirements are stated. Normally changes to documents are reviewed and approved by the same organizations that performed the original review and approval; however, this responsibility may be delegated to other qualified responsible organizations. Approved changes are incorporated into procedures and drawings and other appropriate documents associated with the change. Procedures, drawings and instructions and changes thereto are processed and controlled. SNC maintains an electronic index of all procedures and drawings, listing the current version. Instructions require that a current version of the appropriate procedure be available at the activity location prior to the commencement of that activity. These measures are addressed in the administrative procedures for each plant and the corporate organization. Measures are also set forth for the distribution and control of procedures for design and procurement documents. The corporate and operations Quality Assurance programs contain the standards, requirements or guides from which the procedures implementing this Section are based.

17.1.7 Control of Purchased Material, Equipment and Services

Administrative procedures describe the requirements for controlling purchased material, equipment, and services including commercial grade items for use in safety-related applications.

Inspections and surveillance of suppliers of nuclear safety-related items is performed under the direction of the Executive Vice President – Nuclear. The results of these actions are documented and filed. The periodic inspections assure that applicable material and equipment received at the plant, or services performed on site meet the requirements of the specifications, purchase orders, code, drawings, or other purchasing documents. Inspections also include the review of documentation received, physical inspection, cleanliness, packaging, marking or functional testing, as required.

Continued supplier capability is evaluated through supplier qualification audits in accordance with Quality Assurance procedures.

Documentation concerning the quality of material and services received is reviewed for conformance with the Purchase Order. The corporate and operations Quality Assurance programs contain the standards, requirements or guides from which the procedures implementing this section are based.

17.1.8 Identification and Control of Materials, Parts and Components

No safety-related materials, parts or components will be procured for the development of an Early Site Permit Application.. For this reason, this criterion is not applicable to the development of an Early Site Permit Application. Control of materials, parts and components for preconstruction activities will be governed by approved engineering specifications and procedures.

17.1.9 Control of Special Processes

The safety-related scope of the development of the ESP application will not involve the use of special processes. For this reason, this criterion is not applicable to the development of an Early Site Permit Application. Control of special processes for preconstruction activities will be governed by approved engineering specifications and procedures.

17.1.10 Inspection

Inspection procedures for those activities affecting quality will be established as appropriate, prior to work being performed. Written procedures will be developed as needed to include inspection hold points.

Examinations, measurements, or tests of site characteristics associated with safety-related activities are performed where necessary, to assure quality. If inspection is impossible or inappropriate, indirect control by monitoring methods, equipment, and personnel is provided. Data obtained from the existing plant examinations, measurements, or tests are controlled by the operations QA program implementing procedures.

The inspection program requires that inspectors be assigned as appropriate for the activity being inspected. An inspector may be a member of the organization performing the activity. However, they must be qualified and shall not be the person performing the activity or the supervisor directly responsible for the activity. Personnel so assigned shall become familiar with the procedure being used and other pertinent documents such as technical manuals and drawings prior to performing the inspection.

Activities described in this section are included in the operations and corporate QA program implementing procedures and will be used as appropriate for ESP application development. The performance of site geotechnical investigations is an example of a safety-related activity for the ESP program that may involve inspections to assure compliance with procedures.

17.1.11 Test Control

Testing done in support of the Early Site Permit application development will be controlled by written test procedures. These test procedures will include or reference:

1. The requirements and acceptance limits contained in applicable design and procurement documents.
2. Test prerequisites such as the availability of adequate and appropriate equipment and calibrated instrumentation; trained, qualified, and licensed or certified personnel; the completeness of the item to be tested; suitable and controlled environmental conditions; provisions for data collection and storage.
3. Instructions for performing the test.
4. Inspection points as appropriate.
5. Acceptance and rejection criteria.
6. Methods of documenting or recording test data and results.

Any instrumentation used shall be in a calibration program. This program provides, by the use of equipment history data, status, records, and performance schedules, for the date that calibration is due and indicates the status of calibration. The identity of person(s) performing calibration is provided on the calibration documents. The operations Quality Assurance program contains the standards, requirements or guides from which the procedures implementing this Section are based.

17.1.12 Control of Measuring and Test Equipment

A program has been established and documented in administrative procedures that describes the calibration technique and frequency, maintenance, and control of all "Measuring and Test Equipment" Controls for measuring and test equipment include the transportation, storage, and protection of the equipment; the handling of associated documents giving the status of all items under the calibration system such as maintenance history, calibration test data, and individual log sheets assigned to each device; and the permanent marking of each device by a unique number.

Measuring and test equipment used on ESP activities that could impact safety-related structures, systems or components are calibrated utilizing reference standards whose calibration has a known valid relationship to nationally recognized standards, such as the National Institute of Standards and Technology (NIST), or accepted values of natural physical constants. If no national standard exists, the basis for calibration is documented. Whether the device is calibrated at the power plant or at an NIST traceable outside laboratory, one or more stickers are affixed on a conspicuous surface identifying, but not limited to, date of calibration and next calibration due date.

Implementation of the measuring and test equipment programs is assured through Quality Assurance audits and through inspections by the appropriate line organizations during performance of work. The operations Quality Assurance program contains the standards, requirements or guides from which the procedures implementing this Section are based.

17.1.13 Handling, Storage and Shipping

Measures have been established in administrative procedures to provide adequate methods by qualified personnel for the classification, packaging, cleaning, preservation, shipping, storage, and handling of material and equipment received at the plant.

These measures define responsibility, levels of cleanliness, tagging, and storage levels for categorized items.

The procedures also control cleaning, handling, storage, packaging, shipping, and preservation of materials, components, and systems to preclude damage, loss, or deterioration by environmental conditions such as temperature or humidity.

The operations Quality Assurance program contains the standards, requirements or guides from which the procedures implementing this section are based.

Activities described in this section are included in the operations QA program.. The handling, storage, and potential shipping of soil samples taken during site geotechnical investigations is an example of a safety-related activity for the ESP program that is subject to this criterion.

17.1.14 Inspection, Test and Operating Status

Measures for the identification and documentation of the inspection and test status for items to prevent inadvertent bypassing of specified inspections and tests are established in administrative procedures and in plant operating procedures consistent with the position of Regulatory Guide 1.33 and the operations Quality Assurance program. These measures provide for status identification through the use of tags, markings and labels.

Testing to support the ESP project is controlled by specific SNC or supplier approved test procedures that assure that all evolutions are controlled.

17.1.15 Nonconforming Materials, Parts, or Components

A documented system for controlling non-conformances observed during receipt inspection, storage, fabrication and erection, installation, initial and/or acceptance testing, or initial operation is established and provides for the preparation, issuing, and distribution of condition reports and material deficiency reports in accordance with prescribed procedures.

Due to the scope of the ESP application development project, no parts or materials are expected to be received from offsite sources. This section governs soil and site characterization samples and their storage and shipment (if necessary).

The disposition and approval of site identified non-conformances are the responsibility of the on-site organization. However, the plant general manager has the authority to request assistance as appropriate from corporate support organizations or from Quality Assurance.

Implementation and verification of the procedures for the control of non-conformances are assured through audits and inspections.

Non-conformances found at a supplier's facility during surveillances are controlled by procedures administered by the Quality Assurance organization and engineering.

17.1.16 Corrective Action

Corrective action measures are established as an integral part of the processing and resolving of non-conformances and failures in service. Through these measures, assurance is confirmed that significant adverse quality conditions are identified, documented, their root cause determined, and the corrective actions have been taken that preclude repetition of the adverse quality conditions. Verification of the proper implementation of corrective action measures and close-out of corrective action documentation is assured through the monitoring effort of the staff and the audits conducted by Quality Assurance. Adverse conditions significant to quality, the cause of the conditions, and the initiation of corrective action are reported to appropriate levels of both offsite and onsite management by use of condition reports and audit findings. If further corrective action is required the appropriate management program for performing, tracking and closing the issue will be used. 10 CFR Part 21 Reporting of Defects and Noncompliance shall apply to safety-related activities and services performed by SNC and/or suppliers providing input to the ESP application development.

The corrective action program is controlled in accordance with corporate and operations Quality Assurance programs. These programs will be used to resolve all corrective action items.

17.1.16.1 Authority to Stop Work

Quality Assurance and inspection personnel have the authority, and the responsibility, to stop work in progress which is not being done in accordance with approved procedures or where safety or equipment integrity may be jeopardized. This extends to off-site work performed by suppliers furnishing safety-related materials and services to Southern Nuclear.

17.1.17 Quality Assurance Records

The requirements and responsibilities for quality assurance records transmittal, retention, and maintenance subsequent to completion of work at the power plant and corporate have been established and are documented in Southern Nuclear procedures.

The corporate and operations Quality Assurance programs will govern the requirements and commitments for the retention and storage of quality assurance records.

17.1.18 Audits

Internal audits of selected aspects of construction phase activities are performed with a frequency commensurate with safety significance and in a manner which assures that biennial (2 years) audits of safety-related activities are completed. In addition, due to the relatively short nature of the application development process, an audit will be scheduled of the project prior to application submittal. The audits are scheduled on a formal preplanned audit schedule. The audit system is reviewed periodically and revised as necessary to assure coverage commensurate with current and planned activities. Additional audits may be performed as deemed necessary by management. The scope of the audit is determined by the quality status and safety importance of the activities being performed. These audits are conducted by trained personnel not having direct responsibilities in the area being audited and in accordance with preplanned and approved audit plans or checklists.

The Quality Assurance organization is responsible for conducting periodic internal and external audits. Internal audits are conducted to determine the adequacy of programs and procedures, that they are meaningful, and comply with the overall Quality Assurance program. External audits determine the adequacy of supplier and contractor Quality Assurance programs.

The results of each audit are reported in writing to the ESP Project Manager, the Vice President Technical Support, the Executive Vice President – Nuclear, and the applicable site Vice President as appropriate. Additional internal distribution is made to other concerned management levels in accordance with approved procedures.

Management responds to all audit findings and initiates corrective action where indicated. Where corrective action measures are indicated, documented follow-up of applicable areas through inspections, review, re-audits, or other appropriate means is conducted to verify implementation of assigned corrective action.

The corporate and operations Quality Assurance programs contain the standards, requirements or guides from which the procedures implementing this section are based.

17.1.19 Issuance and Revision of the Early Site Permit QA Manual

The administrative control of this manual will be the responsibility of the Early Site Permit Project Manager. This manual shall be revised as appropriate to incorporate additional commitments as they are established during the application development process. New revisions to the manual will be reviewed, at a minimum, by the Early Site Permit Project Manager, and the Quality Assurance Manager and approved by the Vice President Technical Support.

Distribution of this manual will be controlled in accordance with Section 17.1.6.

**Appendix A – Nuclear Organization and Construction
Organization
FIGURES**

Figure 1
NUCLEAR ORGANIZATION

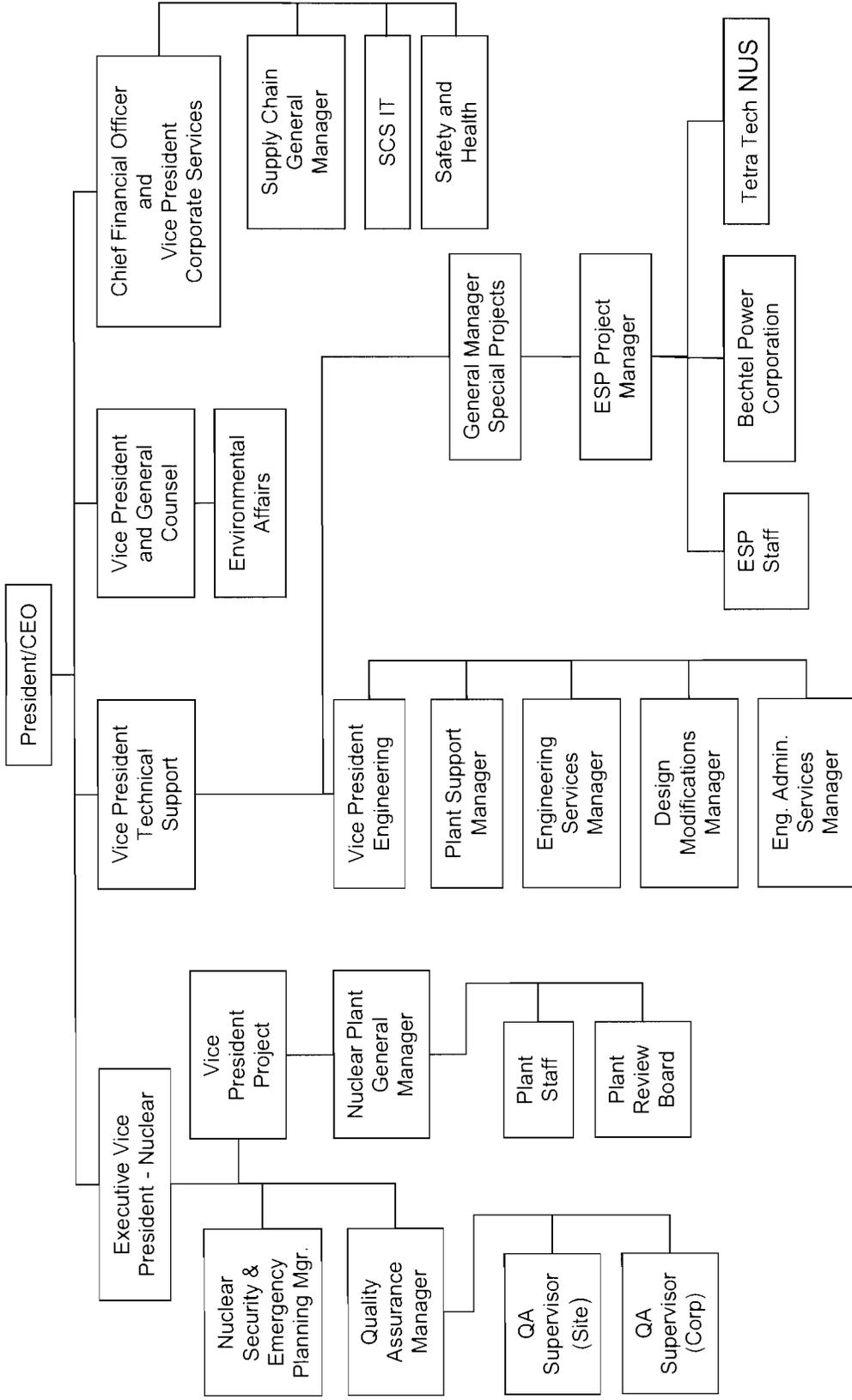
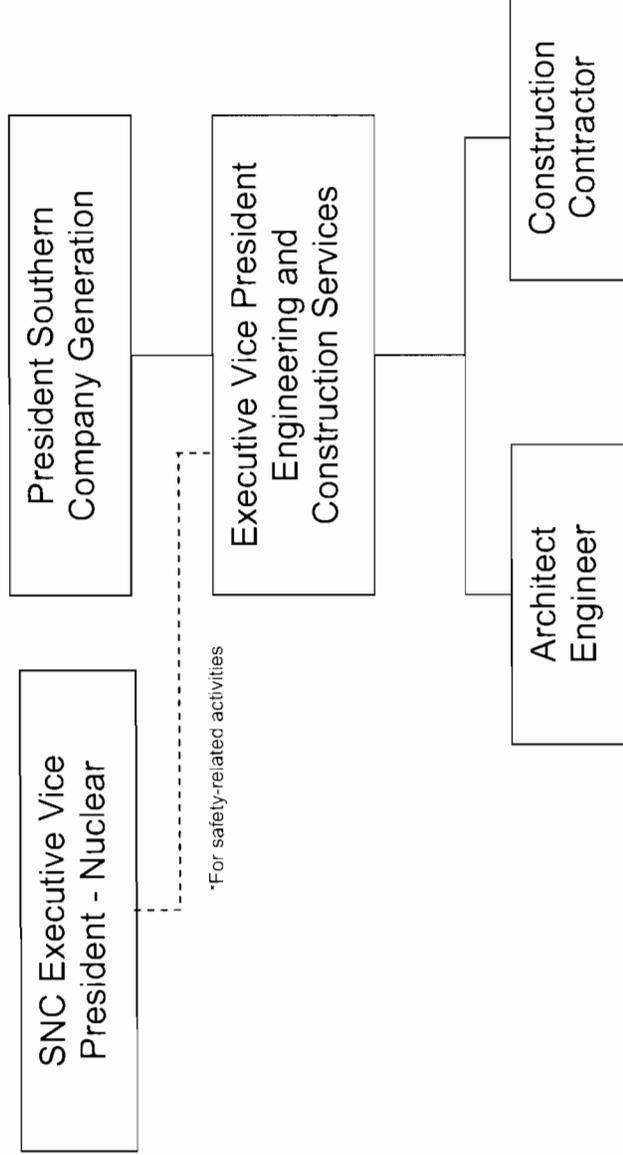


Figure 2
CONSTRUCTION ORGANIZATION



Appendix B – ESP QA Manual relationship to 10 CFR 50
Appendix B
TABLES

Table 1
Relationship of the Early Site Permit QA Manual to Appendix B, 10 CFR 50

Appendix B 10 CFR 50 Criterion	QA Manual Section	Title	Abstract
I	17.1.1	Organization	Defines the relationship of departments to the quality assurance effort associated with the development of an ESP
II	17.1.2	Quality Assurance Program	Defines the Quality Assurance program, its overall responsibility and provisions.
III	17.1.3	Design Control	Defines the policy, responsibility and procedures for exercising design control
IV	17.1.4	Procurement Document Control	Establishes the policy for procurement control
V	17.1.5	Instructions, Procedures and Drawings	Establishes guidelines for preparing instructions, procedures and drawings
VI	17.1.6	Document Control	Establishes policy for control of procedures, documents and instructions
VII	17.1.7	Control of Purchased Material, Equipment and Services	Establishes methods for assuring that purchased items conform to the specified quality requirements
VIII	17.1.8	Identification and Control of Material, Parts and Components	Not applicable to ESP Development
IX	17.1.9	Control of Special Processes	Not applicable to ESP Development
X	17.1.10	Inspection	Establishes a program for inspection activities affecting quality

Table 1 (continued)

Relationship of the Early Site Permit Application Development QA Manual to Appendix B, 10 CFR 50

Appendix B 10 CFR 50 Criterion	QA Manual Section	Title	Abstract
XI	17.1.11	Test Control	Establishes a program to control testing through written test procedures
XII	17.1.12	Control of Measuring and Test Equipment	Establishes a policy for control and calibration of test and measuring equipment
XIII	17.1.13	Handling, Storage and Shipment	Establishes policy for this function as related to material and equipment.
XIV	17.1.14	Inspection, Test, and Operating Status	Makes reference to appropriate administrative procedures which govern this function.
XV	17.1.15	Non-Conforming Material, Parts and Services	Establishes policy for reporting and controlling non-conforming materials, parts, or components.
XVI	17.1.16	Corrective Action	Establishes the policy for identifying, documenting, notifying, determining causes and preventing defects from occurring
XVII	17.1.17	Quality Assurance Records	Assures maintenance, identification, and retrieveability of records
XVIII	17.1.18	Audits	Defines policy and procedures for audit programs