FPLTQAR 1-76A

(FPL-NQA-100A)
REVISION 11
MAY 10, 1988

Topical Quality Assurance Report

FLORIDA POWER & LIGHT COMPANY

ABSTRACT

Florida Power & Light Company (FPL) has established and implemented a Quality Assurance Program to provide assurance that the design, procurement, modification and operation of nuclear power plants conforms with applicable regulatory requirements. The FPL Quality Assurance Program described in this Topical Report is in compliance with the requirements of Appendix B to 10 CFR Part 50.

The FPL Quality Assurance Program meets the requirements provided by the NRC Regulatory Guidance and Industry Standards as listed in Appendix C of this Topical Quality Assurance Report.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

July 28, 1987

Florida Power and Light Company
ATTN: Mr. C. O. Woody
Group Vice President
Nuclear Energy Department
P. O. Box 14000
Juno Beach, FL 33408

Gentlemen:

SUBJECT: FLORIDA POWER AND LIGHT (FPL) QUALITY ASSURANCE PROGRAM UPDATE

Your letter dated June 10, 1987, (L-87-241) transmitted FPL's Topical Quality Assurance Report (FPL TQAR 1-76A) Revision 10, in accordance with 10 CFR 50.54(a). This report provides the current quality assurance program description for Turkey Point and St. Lucie (Docket Nos. 50-250, 50-251, 50-335, and 50-389). Your letter dated July 7, 1987, (L-87-283) provided clarifications to Revision 10 as discussed between FPL and NRC Region II personnel during a telephone conversation conducted on July 1, 1987. Our review of this information indicates that your quality assurance program continues to meet the requirements of 10 CFR 50 Appendix B and is therefore acceptable.

Please contact me if you have any questions concerning this letter. We appreciate your timely submittal and prompt response to our questions regarding the information required by 10 CFR 50.54(a).

Sincerely,

Caudle A. Julian

Caudle A. Julian, Chief
Operations Branch
Division of Reactor Safety

cc: K. N. Harris, Vice President
St. Lucie Nuclear Plant
C. M. Wethy, Vice President
Turkey Point Nuclear Plant
C. J. Baker, Plant Manager
Turkey Point Nuclear Plant
J. G. Boissy, Plant Manager
St. Lucie Nuclear Plant
J. B. Harper, Site QA Superintendent
L. W. Bladow, Plant QA Superintendent
J. Arias, Jr., Regulatory and Compliance
Supervisor

NEED FOR POLICY

To avoid undue risk to the health and safety of the public and company employees, it is necessary to design, construct, operate and modify nuclear power plants with a high degree of functional integrity, quality and reliability.

STATEMENT OF POLICY

It is the policy of Florida Power & Light to design, construct, operate and modify nuclear power plants of a quality level that will meet or exceed government regulations and will merit public confidence by providing electricity in a reliable, efficient and safe manner.

RESPONSIBILITY

The President of Florida Power & Light Company is responsible for the execution of the Quality Assurance Program for Florida Power & Light Company nuclear power plants. The authority for developing and verifying execution of the Program is delegated to the Director of Quality Assurance, through the Vice President of Nuclear Energy, the Senior Vice President Nuclear and the Executive Vice President responsible for power generation and delivery.

The head of each organization performing quality-related activities is responsible for: identifying those activities within his organization which are quality related as defined by the QA Program; establishing and clearly defining the duties and responsibilities of personnel within his organization who execute those quality-related activities; and planning, selecting, and training personnel to meet the requirements of the QA Program.

R. E. Tallon, President
Florida Power & Light Company

The Topical Quality Assurance Report (FPLTQAR 1-76A) contains the description of the Florida Power & Light Company (FPL) Quality Assurance Program relative to its nuclear power plants. This report consists of three parts: The Introduction, which delineates the purpose and summarizes the scope and applicability of the Topical QA Report. The second part, Topical Quality Requirements (TQRs), which delineate QA Program requirements and summarizes the FPL approach to activities related to materials, parts, components, systems, and services included in the Quality Assurance Program. The third part, Appendices, which provide supporting statements, tabulations, and technical analyses or deviations which are not, in themselves, the subject of the report.

The Topical QA Report shall be an integral part of the corporate Quality Assurance Manual (FPL-NQA-100A), and shall delineate the generic requirements and responsibilities by which FPL implements the corporate QA Program. Revisions and changes to this Report will be made in accordance with a Quality Procedure as outlined in TQR 2.0. The remainder of the QA Manual is comprised of Quality Procedures (QPs) which serve as the documents which describe how the interfacing of tasks between departments or organizations is achieved. The Quality Procedures also cover those technical elements which require a common corporate position for interfaces or resolution of problem areas.

In addition to the Quality Assurance Manual, Quality Instructions (QIs) are developed as required by each of the implementing plants and departments. Quality Instructions describe the measures to be used to implement the quality requirements of the QA Manual. The Quality Instructions describe actions and responsibilities to be performed within a department or organization and address the requirements of the appropriate Topical Quality Requirements, and Quality Procedures.

The FPL Quality Assurance Program meets the requirements provided by the NRC Regulatory Guidance and Industry Standards as listed in Appendix C of this Topical Quality Assurance Report.

The requirements of this Topical QA Report apply to safety related materials, parts, components, systems and structures; and to services employed for design, procurement, construction, operation, maintenance, refueling, repair, and modification. The safety related systems for each plant are specified in the respective plant Safety Analysis Report.

The FPL Quality Assurance Program fully addresses the requirements of Appendix B to 10 CFR Part 50. The Topical QA Report shall be applicable to all existing nuclear plants, those under construction, and supporting FPL departments, and will be referenced in the Safety Analysis Report (SAR). For future plants, the description of activities, requirements, and organizational structures that are unique to a particular plant shall be addressed in the respective SAR document.

R. J. Acosta

Director of Quality Assurance

1.1 GENERAL REQUIREMENTS

The FPL organizational structure shall be defined such that the responsibilities for establishment and implementation of the Quality Assurance Program are clearly identified. The authority and duties of individuals and organizations performing quality assurance and quality control functions shall be described, and shall illustrate the organizational independence and authority necessary to identify problems; to initiate, recommend, or provide solutions; and to verify implementation of solutions. In addition, the description shall illustrate that persons or groups responsible for verifying the correct performance of an activity are independent of the person or groups responsible for performing the activity.

1.2 IMPLEMENTATION

The President of Florida Power & Light is ultimately responsible for the execution of the Quality Assurance Program for Florida Power & Light Company (FPL) nuclear power plants. The authority for developing and verifying execution of the program is delegated to the Director of Quality Assurance, through the Vice President of Nuclear Energy , the Senior Vice President Nuclear and the Executive Vice President. The reporting relationship of each department involved with the Quality Assurance Program is shown in Appendix A, Figure 1-1.

To provide for a review and evaluation of QA Program policies and activities, the President has established the QA Committee, chaired by the Executive Vice President. This organization's responsibilities are defined in Section 1.2.1.

1.2 IMPLEMENTATION: (Cont'd)

In addition, a Quality Assurance Program Review Committee (QAPRC) (formerly the QA/QC Coordinators) has been established to review changes to the QA Program and to provide an interface for quality matters in each department affecting quality. This organization's responsibilities are defined in Section 1.2.2.

The head of each department or organization performing quality related activities is responsible for: a) identifying those activities within the organization which are quality related as defined by the QA Program; b) establishing and clearly defining the duties and responsibilities of personnel within his organization who execute those quality related activities; and c) planning, selecting, and training personnel to meet the requirements of the QA Program. The responsibility, authority, and organizational relationship for performing quality related activities within each organization shall be established and delineated in organizational charts and written job or functional descriptions.

A QA Program Review Committee (QAPRC) Member shall be designated by the head of each department or organization except for the Quality Assurance Committee, since this committee is a policy forming body (of which the Director of Quality Assurance is a member). The QAPRC Member is the prime interface for coordination of quality related matters within the member's department, with the QA Department, and with other departments.

The organization chart, Appendix A, Figure 1-1, illustrates the lines of authority and areas of responsibility for each of the organizations that are involved in quality related activities. The

1.2 IMPLEMENTATION (Cont'd)

Project Management organization shown in this figure is applicable during design, procurement, construction, repairs and preoperational start-up and testing of power plant and modifications of power plants (determined by management on a case-by-case basis) as described in Section 1.2.4. Below are listed the departments and organizations that have Quality Assurance responsibilities. Specific organizational responsibilities for implementation of the Quality Assurance Program are described in the corresponding section numbers.

1.2.1 Quality Assurance Committee
1.2.2 Quality Assurance Program Review Committee
1.2.3 Nuclear Energy Department
-Nuclear Power Generation
-Nuclear Corporate Staff
1.2.4 Project Management Department
1.2.5 Corporate Contracts Department
1.2.6 Environmental Affairs
1.2.7 Power Plant Engineering
1.2.8 Purchasing
1.2.9 Construction
1.2.10 Power Supply
1.2.11 Inventory Resources
1.2.12 Company Nuclear Review Board
1.2.13 Nuclear Fuel
1.2.14 Corporate Records Services
1.2.15 Documentary Files

1.2.1 Quality Assurance Committee

The Quality Assurance Committee, chaired by the Executive Vice President, is comprised of executive level members of management with responsibilities for the execution of the Quality Assurance Program within their responsibilities. This

1.2.1 Quality Assurance Committee (Cont'd)

Committiee's composition is delineated in its current charter and it's reporting relationship is shown in Appendix A, Figure 1-1.

The Quality Assurance Committee is responsible for reviewing and evaluating QA Program policies and activities. Policy changes shall be initiated when Committee findings indicate the necessity. Quality Assurance Program status reports shall be periodically prepared by the QA Department and routed to the members of the QA Committee for their review.

In addition, QA Committee meetings shall be held by the Executive Vice President to keep members apprised of conditions including significant problems that require management attention. The Quality Assurance Committee shall be the final authority for resolution of contested quality policies, differences of opinion, and stop-work or other corrective action requests when lower level agreement cannot be reached between QA or QC and other departments. Periodic audits of the Quality Assurance Department shall be performed by a team independent of the QA Department, which is selected and approved by the Chairman of the Quality Assurance committee. The results of this audit are presented to the QA Committee.

1.2.2 Quality Assurance Program Review Committee (QAPRC)

The QAPRC (formerly the QA/QC Coordinators) was formed as an organization with the responsibility to review and resolve recommended changes to the QA Program. This committee is administered by the QA Services group. QA Program changes reviewed by the QAPRC are reviewed and signed by the department

1.2.3 Nuclear Energy Department

heads or individuals listed on each Quality Procedure.Nuclear Energy responsibility for the plant begins with the Department's acceptance of a system or portion thereof from FPL Project Management. Throughout the remainder of plant life, Nuclear Energy maintains control of and responsibility for any plant modifications coordinated by Nuclear Energy and for the preoperational and start-up testing, operation, maintenance, refueling, and modification of the plant in accordance with written and approved procedures.

The organizational structure of Nuclear Energy is shown in Appendix A, Figure 1-1. The Senior Vice President Nuclear has overall responsibility for Nuclear Energy's activities. The Senior Vice President Nuclear is designated as the Senior Corporate Nuclear Officer of Section 6.0, Administrative Controls, of each Unit's Technical Specifications.

Reporting to the Senior Vice President Nuclear are: The Site Vice President - St. Lucie, the Site Vice President - Turkey Point and the Vice President Nuclear Energy.

1.2.3.1 Nuclear Power Generation

The Site Vice President-St. Lucie and Site Vice President-Turkey Point are accountable for the operation, maintenance, and modification of their respective nuclear plant, as well as the selection, development and direction of the assigned staff. They will act as liaison between the plants and corporate headquarters, and are accountable for ensuring that company policies and procedures are properly implemented and continued at the nuclear site.

1.2.3.1 Nuclear Power Generation (Cont'd)

The Plant Manager (Plant Manager Nuclear at PTN) through the Vice Presidents - Turkey Point and St. Lucie Plants (as applicable) is responsible for the operation of the nuclear plant. The plant manager is additionally responsible for the establishment and implementation of plant QC policy which implements the quality control aspects of the Quality Assurance Program.

Reporting directly to the Plant Manager is the plant Quality Control Supervisor who has the authority and freedom to administer the plant Quality Control program and, when necessary, to stop activities adverse to quality. The QC Supervisor, his staff, and personnel performing QC inspection functions are required to be independent of groups or persons performing activities that they may be required to verify or inspect. QC effort includes preparation and review of plant procedures, PCMs, quality related instructions and procurement documents; QC personnel are also responsible for inspection, monitoring, surveillance, and review of plant activities to verify compliance with the provisions of the facility operating license and the Quality Assurance Manual. The QC Supervisor shall take corrective action for deficiencies identified, where applicable, and shall follow up on corrective action taken by other organizations until close out. He shall receive quality program direction from the Director of Quality Assurance.

The Plant Nuclear Safety Committee (PNSC) at Turkey Point Plant or the Facility Review Group (FRG) at the St. Lucie Plant is comprised of key plant management and staff personnel as des-

1.2.3.1 Nuclear Power Generation (Cont'd)

cribed in the plant Technical Specifications. The PNSC/FRG serves the plant manager in a technical advisory capacity for the review of all safety related procedures and activities that impact on plant safety and the facility operating license.

1.2.3.2 Nuclear Corporate Staff

The Vice President Nuclear Energy is responsible for the selection, staffing, training and development of personnel required for supervisory and operating continuity of staff groups supporting nuclear power generation. Reporting to the Vice President Nuclear Energy are the Maintenance Manager Nuclear, Manager Nuclear Energy Services, the Manager of Nuclear Training, the Director of Quality Assurance, the Director of Nuclear Licensing and the Manager of Planning and Control.

The Maintenance Manager Nuclear is responsible for directing activities in support of major plant maintenance projects, modifications and upgradings, as well as the development of work methods, specifications and systems to promote increased productivity.

The Manager · Nuclear Energy Services is accountable for technical staff support to the generating department and certain centralized special functions. This group consists of section supervisors and technical specialists, with functions including Health Physics, Chemistry, Radiological Waste, Emergency Planning, Plant Support, and Materials, Codes and Inspections.

1.2.3.2 Nuclear Corporate Staff (Cont'd)

The Manager of Nuclear Training establishes company policy regarding nuclear training and secure the necessary resources to ensure that Nuclear Energy personnel are adequately trained. They must have adequate technical and job related skills to provide safe and efficient operation while complying with NRC requirements.

The Quality Assurance Department shall be responsible for administering the FPL Quality Assurance Program. This includes developing and verifying implementation of corporate policies, plans, requirements, and procedures affecting quality. This is accomplished through the Quality Assurance Department. The Quality Assurance Department retains responsibility for delegated portions of the QA Program by performing initial evaluation and subsequent periodic audits of the contractors' QA Programs. The QA Program responsibility further extends to the performance of audits within the Company to assure management that the established requirements and procedures are being implemented, and that the Program complies with the baseline document requirements.

The organizational freedom of the QA function is accomplished through the corporate structure, illustrated in Appendix A, which provides independence from those departments responsible for design, procurement, engineering, construction and operation. With Quality Assurance as the sole function of this organizationally independent department, the Director of Quality Assurance and his staff, both on-site and offsite, are completely free from the cost and scheduling pressures of

1.2.3.2 Nuclear Corporate Staff (Cont'd)

design, procurement, construction and operation. The Quality Assurance Department has the freedom and authority to: a) identify quality problems; b) initiate, recommend or provide corrective action; c) verify implementation of the corrective action; and d) recommend the stoppage of work or operations adverse to quality, when necessary.

The Director of Quality Assurance reports to the Vice President Nuclear Energy with direct communication access to the Senior Vice President Nuclear. He is responsible for the technical direction and the administrative control (e.g., performance appraisal, salary review, hire/fire, position assignment) of all members of the Quality Assurance Department.

The Manager of Quality Assurance Services, the Manager of Quality Assurance Procurement & Reliability, the Superintendent of Quality Assurance - St. Lucie and the Superintendent of Quality Assurance - Turkey Point report administratively and functionally to the Director of Quality Assurance. The Superintendents of QA receive technical direction from the Manager of QA Services.

The Director of Quality Assurance, the Senior Vice President Nuclear, and the Vice President Nuclear Energy are each members of the Quality Assurance Committee. This reporting relationship and memberships on the QA Committee assure that the QA Department has direct access to the levels of management necessary to assure effective implementation of the QA Program. Further, the Operations QC Supervisors of both Turkey

1.2.3.2 Nuclear Corporate Staff (Cont'd)

Point and St. Lucie receive quality program direction from the Director of QA.

The Manager of QA Services directs and administers the Corporate Quality Assurance Program, including developing and verifying implementation of policies, plans, requirements, procedures and audits which assure compliance with the baseline documents listed in Appendix C of this Topical Quality Assurance Report.

The duties, responsibilities, and authorities of each Quality Assurance group are described in the sections which follow.

a. Quality Assurance Services Group

Quality Assurance Services is responsible for the development and maintenance of the overall QA Program, including the following:

- o Develop and maintain the QA Department Quality Instructions, QA Department Training & Organization Manual, and the corporate QA Manual; including the administration of the QA Program Review Committee (QAPRC)
- o Assist other departments in the development of Quality Instructions by review and comment and through interpretation of corporate Quality Assurance requirements;
- o Develop and implement a Quality Assurance indoctrination program for FPL supervisory personnel,

1.2.3.2 Nuclear Corporate Staff (Cont'd)

and a training program for the Quality Assurance Department;

- o Prepare reports on Quality Assurance Program activities for presentation to the Quality Assurance Committee by the Manager of Quality Assurance Services;
- o Maintain a file system for documentation of quality assurance activities performed by the QA Department;
- o Review Regulatory Guides, Codes, SAR Document Commitments and Standards for impact on the Quality Assurance Program and recommend appropriate program changes;
- o Review documents submitted to the Company Nuclear Review Board (CNRB) as requested by the QA Department CNRB member;
- o Plan, coordinate and implement a comprehensive system of periodic internal audits with support from the other Quality Assurance groups, when necessary;
- o Initiate, recommend or provide solutions and verify implementation of solutions for quality problems identified;
- o Review FPL originated design specifications for inclusion of appropriate quality requirements.

b. Quality Assurance Procurement and Reliability Group

The Manager of Procurement and Reliability is responsible for assuring the quality of safety related items and services, and their vendors, including the following:

1.2.3.2 Nuclear Corporate Staff (Cont'd)

- Assist in the development and implementation of policies, plans, requirements and procedures for the requisition and purchase of materials, equipment and services related to nuclear power plants and to the acceptance and storage of equipment and material;
- Perform appropriate surveillance of hardware during manufacture;
- Develop and implement a program for auditing of supplier QA/QC programs including architect/engineer/ NSSS Suppliers;
- Review and approve FPL procurement documents and changes to these documents to assure that the necessary quality requirements are imposed;
- Assist other FPL departments in the identification of quality problems associated with procurement and storage; initiate, recommend, or provide solution; and verify implementation of solutions;
- Review, approve and periodically audit the execution of FPL contractor quality assurance programs;
- Maintain a file system for documentation of quality assurance activities performed by the QA Procurement group;
- Evaluate the Quality Assurance capability of suppliers requested by Purchasing and Corporate Contracts and maintain the Quality Assurance Department "Approved Suppliers List".

The responsibility of this group, in terms of phases of procurement, begins with the preparation of the procurement document, extends through bid evaluation,

1.2.3.2 Nuclear Corporate Staff (Cont'd)

vendor selection, fabrication and shipment; and ends upon receipt of shipment at the operating plant or warehouse. This group, through audits and surveillances, assures that the contractor's organizations performing QA functions have sufficient authority and organizational freedom to implement effective QA programs.

c. Quality Assurance Group - Turkey Point

The Superintendent of QA-Turkey Point has responsibility for on-site development and implementation of the Quality Assurance Program, including the following:

- o Coordinate in the development and implementation of policies, plans, requirements, and procedures for portions of the quality assurance program related to the operation and modification of nuclear power plants at Turkey Point Units 3 and 4 (PTN);
- o Perform audits, assessments and other observations at PTN to verify compliance with QA Program commitments, identify quality problems and ensure timely corrective actions are taken in the areas of plant operation, system turnover, modification and maintenance; including such areas as refueling, inservice inspection and testing, procurement of spare/replacement parts, material storage, health physics, chemistry, plant security and fire protection;

1.2.3.2 Nuclear Corporate Staff (Cont'd)

- Identify requirements, ensure inclusion of commitments in documents and verify implementation of the Quality Assurance Program during the backfit activities at PTN through audits of FPL and contractor organizations;
- Recommend stoppage of work or operations adverse to quality at PTN in accordance with the appropriate Quality Procedures;
- Review and comment on Quality Instructions or equivalent quality related administrative procedures prior to issue, with respect to the requirements of the FPL Quality Assurance Program, the PTN Final Safety Analysis Report, and the PTN Technical Specifications;
- Assure that the status is tracked for all PTN open items identified by the FPL QA Turkey Point group, and inform appropriate management when there is an indication that a commitment will not be met on time;
- Maintain a file system for documentation of quality assurance activities performed by the Turkey Point group;
- Assure design related activities performed by the Architect/Engineer meet the quality aspects of the contract;
- Review backfit procedures with respect to the FPL QA Program (for procedure review requirements see TQR 5.0);
- Review site generated FPL procurement documents and changes to procurement documents in accordance with the appropriate Quality Procedures;

1.2.3.2 Nuclear Corporate Staff (Cont'd)

- o Perform audits of PTN architect engineer and NSSS suppliers both on-site and off-site, in conjunction with QAP&R.

The interface with the QA Procurement & Reliability group ends with the receipt of a shipment of nuclear safety related equipment at the plant site. The Quality Assurance program for the shipment is then within the purview of the QA Turkey Point group.

Off-site interfaces for the resolution of quality related problems and NRC items are with Project Management, Power Plant Engineering, Nuclear Corporate Staff and the architect engineer and NSSS Quality Assurance Department. This group is called upon to audit the Turkey Point operating plant. The Turkey Point group interfaces with the Site Vice President and his staff on-site by assisting in the resolution of quality related problems.

d. Quality Assurance Group - St. Lucie (PSL)

The Superintendent of QA St. Lucie has responsibility for on-site development and implementation of the Quality Assurance Program, including the following:

- o Coordinate in the development and implementation of policies, plans, requirements and procedures for portions of the quality assurance program related to the operation or modification of St. Lucie Unit 1 & Unit 2 (PSL);

1.2.3.2 Nuclear Corporate Staff (Cont'd)

- Perform audits, assessments and other observations at PSL to verify compliance with QA Program commitments, identify quality problems and ensure timely corrective action are taken in the areas of plant operation, system turnover, modification and maintenance; including such areas as refueling, inservice inspection and testing, procurement of spare/replacement parts, material storage, health physics, chemistry, plant security and fire protection;
- Identify requirements, ensure inclusion of commitments in documents and verify implementation of the Quality Assurance Program during the backfit activities at PSL through audits of FPL and contractor organizations;
- Maintain a file system for documentation of quality assurance activities performed by the St. Lucie Projects-QA group;
- Assure design related activities performed by the Architect Engineer meet the quality aspects of the contract;
- Review backfit procedures with respect to the FPL QA Program (for procedure review requirements see TQR 5.0);
- Review site generated FPL procurement documents and changes thereto, in accordance with appropriate Quality Procedures;
- Perform audits of PSL architect/engineer/NSSS suppliers both on-site and off-site, in conjunction with QAP&R;

1.2.3.2 Nuclear Corporate Staff (Cont'd)

- Recommend stoppage of work or operations adverse to quality at PSL in accordance with the appropriate Quality Procedures;
- Review and comment on Quality Instructions or equivalent quality related administrative procedures prior to issue, with respect to the requirements of the FPL Quality Assurance Program, the PSL Final Safety Analysis Reports and the plant Technical Specifications;
- Assure that the status is tracked for all PSL open items identified by FPL St. Lucie Projects QA group, and inform appropriate management when there is an indication that a commitment will not be met on time;

The interface with the QA Procurement & Reliability group ends with the receipt of a shipment of nuclear safety related equipment at the plant site. The Quality Assurance program for the shipment is then within the purview of the St. Lucie Projects QA group.

Off-site interfaces for the resolution of quality related problems and NRC items are with Project Management, Power Plant Engineering, Nuclear Corporate Staff and the architect engineer and NSSS Quality Assurance Department. This group is called upon to audit the St. Lucie operating plant. The St. Lucie Projects QA group interfaces with the Site Vice President and his staff on-site by assisting in the resolution of quality related problems.

1.2.3.2 Nuclear Corporate Staff (Cont'd)

The Director of Nuclear Licensing is responsible for coordinating the NRC interface, distributing NRC documents requiring actions, evaluating potential impact and responding to all NRC action items. He is also responsible for assuring that the status is tracked for all open items identified by the NRC or other federal, local and state agencies and for informing appropriate management when there is an indication that a commitment will not be met on time.

1.2.4 Project Management Department

The Project Management Department, through the Project General Manager, exercises management control of assigned projects. This management control begins when a Project is assigned to the Project Management Department and continues until the facility is accepted for operation or the project is complete. This management control includes the responsibility for coordination of specifications and requisitions, repair, construction and may include preoperational start-up and testing of power plant modifications. The Project Management Department organization is shown in Appendix A, Figure 1-1.

The Director of Projects, reporting to the Senior Vice President, has overall responsibility for the activities of the Project Management Department. A Project General Manager, reporting to the Director of Projects, is responsible for completing the assigned project in compliance with technical

1.2.4 Project Management (Cont'd)

and other project specifications, and for the application of the provisions of the Quality Assurance Manual during the project. The Project General Manager is responsible for obtaining corrective action from any contractor's management when corrective action cannot be obtained at the project site management level and, when necessary, can exercise his authority to stop work on project activities adverse to quality.

The overall responsibility for Plant Changes and Modifications to operating plants is defined in each plant's Technical Specifications. However, frequently the work of installation and administration of Plant Changes and Modifications is assigned to FPL Project Management Department. The Project Site Manager will report to the appropriate nuclear site Vice President but will also receive guidance and advice from the Project General Manager. The Project Site Manager is additionally responsible for the functional direction of construction QC for the purpose of coordinating inspection activities which implement the quality control aspects of the quality assurance program for modifications of projects assigned to project management. Activities affecting quality may be performed by FPL or contracted. Should any of these functions be contracted, the contractor may perform the activities under his own Quality Assurance Program, which must have prior approval by FPL Quality Assurance, or the contractor may directly adopt the requirements of the FPL Quality Assurance Manual. If the contractor implements the Quality Control function directly to the FPL QA Manual requirements,

1.2.4 Project Management (Cont'd)

the contractor's Quality Control Supervisor shall have the authority and freedom to administer the Quality Control program.

Project Team Members are appointed by their home department heads as the departmental representative on the respective project, when requested by the Project General Manager. Team Members, other than Quality Assurance and Stores Department, report functionally to the Project General Manager, or the Project Site Manager, but continue to receive administrative support and technical direction from their home department. Team members are responsible to the Project General Manager for home department support to the Project.

1.2.5 Corporate Contracts Department

The Corporate Contracts Department is responsible for generation, negotiation and issuance of Contracts over specified time periods and dollar limits for turbine generators, steam generators, nuclear steam supply systems (NSSS), new items, repairs, constructors, construction managers, and Architect Engineer (A/E) and consulting services. Corporate Contracts is also responsible for assuring that technical and quality requirements developed by others are incorporated in such contracts, as appropriate, and that these contracts have the required approvals. Details of the activities of the department in fulfilling this responsibility shall be delineated in the appropriate Quality Procedures. The Manager of Corporate Contracts reports to the Director of Corporate Contracts. The Corporate Contracts Organization is shown in Appendix A, Figure 1-1.

1.2.6 Environmental Affairs

Environmental Affairs is responsible for obtaining the federal and state environmental permits required for FPL facilities and operations. Environmental Affairs is responsible for overall coordination of non-radiological environmental monitoring (federal and state) programs at the nuclear power plant sites.

The Manager of Environmental Technical Services, the Manager of Environmental Resources and Planning and the Manager of Environmental Permitting and Programs report to the Director of Environmental Affairs as illustrated in Appendix A, Figure 1-1. The Director of Environmental Affairs has overall responsibility for implementation of the Environmental Technical Specifications and Environmental Protection Plans at nuclear power plant sites.

The Environmental Affairs Department through its management of the Company Environmental Review Group (CERG) is responsible for overall coordination of environmental monitoring programs and requirements related to the Environmental Technical Specifications and Environmental Protection Plans. The CERG provides review of proposed changes to the Environmental Technical Specifications and Environmental Protection Plans, review of any violations of monitoring and/or limitation requirements and review of proposed plant changes and modifications for environmental impact effects as requested by the plant manager(s).

1.2.6 Environmental Affairs (Cont'd)

The CERG provides information to the Director of Environmental Affairs and the Chairman of the CNRB on environmental matters for which requirements are included in the Environmental Technical Specifications and Environmental Protection Plans.

1.2.7 Power Plant Engineering

The Power Plant Engineering Department (JPE) is responsible for power plant design related aspects of the FPL QA Program throughout all phases of plant life except as specified for the Fuel Resources Department in Section 1.2.13. This responsibility extends from initial engineering evaluations of plant design related site characteristics, through preliminary and detailed design, construction, operation and decommissioning.

JPE performs design related activities and delegates design related activities to qualified contractors. For activities performed by JPE, the work is governed by FPL's QA Program, and JPE is responsible for approval of the design output. Delegated activities are performed in accordance with an FPL approved QA Program and the contractor is responsible for approval of design output. JPE is responsible for defining the scope of delegated activities and the responsibilities of the contractor. Prior to the release of design outputs by contractor organizations, JPE ensures that the contractor is technically qualified to perform the design related activity.

1.2.7 Power Plant Engineering (Cont'd)

JPE is responsible for development and maintenance of the design control program governing design related activities performed by JPE and for providing technical support to the Quality Assurance Department for assessing the adequacy, implementation and effectiveness of contractor design control programs.

JPE is responsible for the preparation, revision, approval and distribution of plant design drawings that are identified to be maintained as "asconstructed" drawings during plant operation.

The Chief Engineer - Power Plants reports to the Senior Vice President as shown in Appendix A, Figure 1-1.

1.2.8 Purchasing

The Purchasing Department is responsible for the purchase of materials and services by FPL for its nuclear power plants with the exception of those materials and services secured by Corporate Contracts and Nuclear Fuels. Materials and services for nuclear safety related application are secured only from approved suppliers, or as commercial grade, as applicable.

The Department is responsible for assuring that technical and quality requirements developed by others are reviewed and approved by the designated quality departments, as applicable, are incorporated in the procurement document which the departments authorizes. It is responsible for maintaining

1.2.8 Purchasing (Cont'd)

traceability of purchase records from acceptance of requisitions through payment of the purchase order invoices.

The Manager of Purchasing reports to the Director of Procurement and Materials Management who reports to the Vice President of Corporate Services, Chief Financial Officer as shown in Appendix A, Figure 1-1.

1.2.9 Construction

The Juno Construction Management Department (JCM) is responsible for providing direction and coordination regarding construction, supervision and management, equipment utilization, quality control, welding, NDE and other construction support activities.

The Director of Construction reports directly to the Vice President of Engineering, Projects and Construction. He is responsible for directing and administering effective management of the department to ensure compliance to the corporate policies, practices and procedures. Reporting to the Director of Construction Management are the Manager of Plant Construction and the Manager of Construction QC, Welding and NDE.

The Manager of Plant Construction is responsible for providing qualified construction support personnel to the Project Site Manager. Reporting administratively to the Manager of Plant Construction are the Construction Superintendents.

1.2.9 Construction (Cont'd)

The Construction Superintendent is responsible for conformance of project construction activities to the requirements of specifications, codes, regulations and site procedures. He supervises the construction personnel assigned to the project, coordinates construction activities including the scheduling of construction personnel requested by the Project Site Manager.

The Manager of Construction Quality Control, Welding and NDE is responsible for directing and administering the Construction QC and Welding Programs and for the technical direction and administrative control of all personnel within the Construction QC and Welding organizations. This includes the development and implementation of policies, plans and procedures to meet the requirements of the QA program, codes and standards.

Reporting to the Manager of Construction QC, Welding and NDE are the site Project QC Supervisors, NDE Level III Supervisor, FPL Welding Superintendent and a staff of QC Coordinators.

Construction QC is responsible for providing inspections as required, to assure that backfit activities meet the requirements of engineering drawings, specifications, codes and standards. This responsibility extends from receipt inspections of material on-site to acceptance of the installed items prior to turnover to the Nuclear Energy Department. It also includes verification of conformance of an item or activity accomplished during this period to quality requirements (e.g., records review, NDE, inspections).

1.2.9 Construction (Cont'd)

Each nuclear power plant is assigned a Project Quality Control Supervisor, who directs the on-site backfit QC organization. The Project QC Supervisor reports administratively and technically to the Manager of Construction Quality Control, Welding and NDE, however, he also reports functionally to the Project Site Manager for the purpose of coordinating and scheduling inspection activities. The functional/ administrative reporting roles provide the necessary independence of the site Construction Quality Control organization and also maximizes the communication between the Construction staff, the QC staff and the Nuclear Energy staff.

The Project QC Supervisor is responsible for first line verification of the conformance of backfit activities to quality requirements, specifications, codes and local, State and Federal regulations. He directs on-site implementation of the Construction QC Program which includes supervision, and daily coordination, and scheduling of inspection activities, and review of inspection results. The freedom and independence of the on-site QC organization to assure the effectiveness of the QC Program from pressures of cost and scheduling is derived from the Project QC Supervisors administrative and technical reporting relationship to the Manager of Construction QC, Welding and NDE. Both the Manager of Construction Quality Control, Welding and NDE, and the Project Quality Control Supervisor have the authority to stop work or operations adverse to quality if the need arises.

1.2.9 Construction (Cont'd)

The NDE Level III Supervisor is responsible for directing and monitoring the NDE activities performed under the control of the Construction Management Department. He is responsible for preparation, revision and implementation of NDE procedures, and the training, testing and qualification of the NDE personnel performing these activities. He is also responsible for providing the programs and direction for performance of NDE activities meeting the ASME, AWS and other NDE code requirements.

The Quality Control Coordinators provide staff technical and administrative support to the Manager of Construction QC, Welding and NDE in the preparation, review, issue and monitoring of the Construction QC program to ensure effective implementation.

The FPL Welding Superintendent reports to the Manager of Construction QC, Welding and NDE. His responsibilities are to develop, maintain and control the FPL Welding Control Manual, with assistance from Power Plant Engineering, to originate and qualify welding procedure specifications and qualification of welders and welding operators to meet the applicable code requirements. He provides administrative and technical direction to the personnel within the FPL welding control program to meet engineering welding standards and code requirements. Reporting to the FPL Welding Superintendent are the Welding Supervisors at each Nuclear site.

The organization structure of the Construction Management Department is illustrated in Appendix A, Figure 1-1.

1.2.10 Power Supply

Within the Power Supply Department only equipment and services provided by the System Protection Group and Power Supply Technical Services are subject to the requirements of the Quality Assurance Program. Appendix A Figure 1-1 illustrates the reporting relationship.

System Protection is responsible for test, calibration and maintenance of certain high voltage electrical protective relays for safety related systems of the nuclear plant. Activities of System Protection include final wiring connection checks, preoperational check-out and test of system protection devices and providing inspection of equipment under their cognizance.

Power Supply Technical Services is responsible for providing to System Protection certain setpoint and checkpoint values for protective devices.

1.2.11 Inventory Resources

The Inventory Resources Department is responsible for the receipt, handling, storage, shipping and issue of items received at the plant site for control by Inventory Resources. This responsibility encompasses spare and replacement parts and components for plant equipment through all phases of plant life.

1.2.11 Inventory Resources (Cont'd)

During operations, Inventory Resources also performs additional quality related activities such as handling and segregation for nonconforming items received for stores control. The Manager of Power Plant Stores reports to the Manager of Inventory Resources who reports to the Director of Procurement and Material Management as shown in Appendix A, Figure 1-1.

1.2.12 Company Nuclear Review Board

The Company Nuclear Review Board (CNRB) reviews or directs the performance of reviews of activities concerning the technical aspects of the operating nuclear power plant insofar as they impact on plant safety, the health and safety of the public, and laws, regulations and licensing commitments. In addition, audits of these areas are performed under the cognizance of the CNRB. Where necessary, the Board may use consulting services to perform required reviews. The management level to which the CNRB reports is illustrated in Appendix A, Figure 1-1. Its composition is delineated in Section 6.0 of each facility's Technical Specifications. The Senior Vice President responsible for Power Delivery, Construction, Power Plant Engineering, and Projects will perform his CNRB membership duties as Acting Group Vice President.

Subjects within the purview of the Board are listed in the appropriate plant Technical Specifications. The CNRB has the authority to carry out its responsibilities by way of written action letters, verbal direction, minutes of meetings or appointed subcommittees.

1.2.13 Nuclear Fuel

The Nuclear Fuel Section (FRN) of the Fuel Resources Department is responsible for the procurement, management, and accountability of FPL's nuclear fuel assets, and for providing technical support to fuel users within FPL. The Nuclear Fuel Section is under the direction of the Manager of Nuclear Fuel who has the responsibilities described below:

- Forecasting FPL's nuclear fuel requirements and the availability and price of nuclear fuel;
- Preparing the procurement specifications for components of the nuclear fuel cycle;
- Determining sources of supply and evaluating alternatives;
- Making commercial arrangements, including contract negotiations with vendors for acquisition, processing and delivery of nuclear fuel and related services for the nuclear fuel cycle;
- Assuring that technical and quality requirements including inputs from other FPL departments are incorporated in fuel contracts and letters of authorization and that these documents have the necessary approvals;
- Administering and managing contracts for nuclear fuel and related services to assure that contractual obligations are met, and serving as FPL liaison in all matters of nuclear fuel and fuel related contracts;
- Performing audits and coordinating accountability reporting on all nuclear fuel;
- Providing support to the QA Department for their auditing of nuclear fuel design and fuel assembly manufacturing;

1.2.13 Nuclear Fuel (Cont'd)

- o Performing fuel management and safety analyses of nuclear cores to support plant licensing;
- o Development and/or review of fuel and nuclear physics design;
- o Performing the project management function with respect to nuclear fuel;
- o Provide and maintain benchmarked computer codes and procedures available for Fuel Resources line functions and other departments for daily use in maintaining records, performing safety analysis and core design, reporting of off-site nuclear fuel management activities and providing economic data;
- o Maintain effective and controlled computer access to Nuclear applications systems;
- o Develop and provide, to appropriate FPL groups, information necessary to determine FPL's fuel related costs and to finance fuel related expenditures;
- o Reviewing core related changes to Safety Analysis Reports and Technical Specifications for compliance with design criteria and regulatory requirements;
- o Participating in start-up physics tests and providing other technical support for operating nuclear power plants;
- o Planning, maintenance and implementation of the Corporate Special Nuclear Materials program.

The Manager of Nuclear Fuel reports to the Director of Fuels as shown in Appendix A, Figure 1-1.

1.2.14 Corporate Records Services

The Manager of Corporate Records Services is responsible for: ensuring the QA records program activities are managed in accordance with applicable laws and regulations; assisting with the development and implementation of effective and compatible records and micrographics programs; developing, approving and maintaining record retention schedules; establishing parameters for indexing in the corporate records computerized Record Management System (RMS); locating acceptable record storage areas when requested; storage, retrieval and control of records/documents as reqested by other departments; leading the evaluation of specially designated "QA approved" storage facilities and maintaining the records of this evaluation. The Corporate Records Services organization is shown in Appendix A, Figure 1-1.

1.2.15 Documentary Files

The Supervisor of Documentary Files is responsible for receiving, maintaining, retrieving and storing the QA records in connection with licenses and contracts received from other departments. The Documentary Files organization is shown in Appendix A, Figure 1-1.

2.1 GENERAL REQUIREMENTS

Florida Power & Light Company has established a Quality Assurance Program which complies with the criteria of 10 CFR 50 Appendix B, and meets the requirements of Regulatory Guides and Industry Standards referenced in Appendix C of this report. The Topical Quality Requirements and attached Policy Statement, together with the Quality Procedures and Quality Instructions document the Program and the FPL policy with regard to Quality Assurance. This Program shall be instituted for each plant site in a schedule consistent with accomplishing the required activity and shall be carried out throughout the life of FPL nuclear plants.

The requirements of the FPL Quality Assurance Program shall only apply to nuclear safety related structures, systems, and components as identified in the Safety Analysis Report for each nuclear unit. Additionally, the requirements of the FPL Quality Assurance Program shall apply to all FPL, contractor, or consultant organizations performing activities affecting the quality of safety related structures, systems, and components of FPL nuclear power plants.

Documented procedures shall require and define indoctrination and training of personnel performing activities affecting quality as necessary to assure that suitable proficiency is achieved and maintained.

Periodic program reviews of the status and adequacy of the FPL Quality Assurance Program shall be accomplished by the independent audit team described in Section 1.2.1 and by QA Department audits.

2.1 General Requirements (Cont'd)

Management of organizations outside Florida Power & Light Company participating in the Program shall be required to regularly review the status and adequacy of that part of the FPL Quality Assurance Program which they are executing. The FPL Quality Assurance Department shall review and concur in the QA Program of contractors.

2.2 IMPLEMENTATION

2.2.1 Goals and Objectives

As stated in the Policy Statement of the President of Florida Power & Light Company, the goal of the FPL Quality Assurance Program is to maintain quality levels in an effective and efficient manner, and to assure the high degree of functional integrity and reliability of nuclear safety related structures, systems, and components. To meet this goal, the following objectives of the FPL Quality Assurance Program have been defined:

a. Define through documented procedures and instructions the quality activities that apply to the design, fabrication, procurement, modification, testing, operation, refueling, maintenance, and repair of nuclear power plants;
b. Establish, assign, and document the responsibilities for those activities affecting quality of safety related structures, systems, and components;
c. Establish confidence that the design, fabrication, modification, and operation of nuclear power generation facilities are performed in a manner consistent with FPL policies by assuring quality related activities are performed by responsible personnel;

2.2.1 Goals and Objectives (Cont'd)

d. Apprise management of unresolved problems and trends which could have a significant effect on nuclear power plant safety; and

e. Prevent schedule delays and high cost due to poor quality.

2.2.2 Program Documentation

The Topical Quality Assurance Report, which defines the policy, goals, and objectives regarding the Quality Assurance Program, shall be contained in the FPL Quality Assurance Manual, and used as guidance for the development of corporate level Quality Procedures which are also contained in the Quality Assurance Manual. Revisions to the Topical Quality Assurance Report will be made, as needed, to reflect current FPL program requirements and descriptions of activities. These revisions shall be made in accordance with a Quality Procedure. If a program revision reflects a reduction of the commitments from the baseline documents contained in Appendix C, the revision shall be submitted to and approved by the NRC prior to implementation. In all other cases, amendments to the Topical QA Report will be submitted to the NRC to reflect implemented program revisions on an annual or more frequent basis.

Quality Procedures shall be written by the department with major responsibilities for an activity, or by the Quality Assurance Department when requested. These procedures shall be reviewed by all the departments with responsibility for some portion of that procedure, and shall be approved by the major implementing departments with co-approval by the Director of Quality Assurance. A listing of corporate level Quality Procedures is contained in Appendix E.

2.2.2 Program Description (Cont'd)

Each Quality Procedure shall be written to further address criteria contained in the Topical Quality Requirements and to further define the FPL QA policies, plans, and program where action is required by more than one department.

Each department head shall have the responsibility for implementation of the Quality Assurance Program, which includes compliance with procedure requirements applicable to his department. In addition, he shall be responsible for the preparation, approval, and distribution of Quality Instructions, operating procedures, testing procedures, or other instructions where further guidance is necessary for implementation of the QA Program requirements within his department. Quality Instructions shall be reviewed by the Quality Assurance Department at each revision.

2.2.3 Structures, Systems, and Components

The requirements of the FPL Quality Assurance Program shall apply to nuclear safety related structures, systems, and components, as defined in the SAR. Safety related structures, systems, and components are listed as those necessary to assure the integrity of the reactor coolant boundary, the capability to shutdown the reactor and maintain it in a safe shutdown condition, or the capability to prevent or mitigate the consequences of accidents which could result in off-site exposures comparable to the guideline exposures of 10 CFR 100.

2.2.3 Structures, Systems and Components (Cont'd)

Control over activities affecting the quality of safety related structures, systems, and components shall be to the extent consistent with their importance to safety. Such control shall include use of appropriate equipment, establishment of suitable environmental conditions, and assurance that all prerequisites for a given activity have been satisfied. The Program shall provide for controls over special processes and skills necessary to attain the required quality, and the need for verification of quality by inspection and test.

Advance planning is required, for the control of management and technical interfaces between FPL and contractors, during the phase-out of design and construction and during preoperational testing and plant turnover. This is achieved through periodic meetings of concerned organizations and the development of procedures which define responsibilities and interfaces, and control the testing and turnover of plant systems to FPL.

2.2.4 Participating Organizations

The FPL organizations with responsibilities for activities affecting quality of nuclear safety related structures, systems, and components are identified in TQR 1.0, which also briefly describes their assigned responsibilities.

Florida Power & Light Company may delegate activities to contractor organizations and equipment vendors. Delegated activities are subject to the external organization's FPL approved QA Program or the FPL QA Program, or some FPL approved combination thereof.

2.2.4 Participating Organizations (Cont'd)

However, FPL shall retain overall responsibilities for the QA Program. Procurement documents shall define the scope of delegated activities, as well as QA Program requirements that shall govern these activities.

The Quality Assurance Department shall review and approve the QA Program governing contracted activities prior to award of contract except for activities for which the output is of a conceptual and/or prototype nature. In all cases, final approval shall occur at a point in the process to ensure that the output complies with the requirements of the FPL approved QA Program. The object of this review shall be to verify that the program is in compliance with the applicable requirements of Appendix B, 10CFR50, and ANSI N45.2. Audits shall be conducted periodically to verify the acceptable implementation of the contractor's FPL approved QA Program governing delegated activities. The Quality Assurance Department is responsible for conducting these audits. The initial review and periodic audits shall be performed by qualified Quality Assurance Department personnel, and as appropriate, by technical specialists from other FPL departments and contractor organizations.

2.2.5 Indoctrination and Training

A program shall be established and maintained for quality assurance indoctrination, and for training which assures that the required level of personnel competence and skill is achieved and maintained in the performance of quality related activities. Quality Procedures shall delineate the requirements for an indoctrination program to assure that personnel responsible for performing quality activities are instructed in the purpose, scope, and implementation of the quality related manuals, instructions, and procedures and that compliance to these documents is a mandatory requirement.

2.2.5 Indoctrination and Training (Cont'd)

Quality Procedures shall also require the head of each department (including the QA Department) to be responsible for a training plan which assures that personnel performing quality related activities are trained in the principles and techniques of the activity being performed. This training shall maintain the proficiency of personnel in the skills necessary for the quality related activities through retraining, requalification or reexamination, as appropriate. When personnel are assigned to perform their functions under the direction of personnel from other than their home department, the department head of the organization providing direction is responsible for the indoctrinaton and training of personnel who perform quality related activities under his direction.

Quality Procedures shall specify the requirements for documenting indoctrination and training sessions, including a course description, attendance, location, and date.

2.2.6 Management Participation

In addition to the involvement of department heads in implementing the QA Program within their departments and the involvement of the Director of Quality Assurance and the Manager of QA Services in the development, coordination, and review of the Program, the Quality Assurance Committee shall be apprised of the status and adequacy of the Quality Assurance Program on a periodic basis. The following

2.2.6 Management Participation (Cont'd)

actions shall be instituted to assure that the Quality Assurance Committee remains informed and meets its Program responsibilities:

a. The Committee shall review a summary of the results of management level QA audits of FPL Departments.

b. The Quality Assurance Department shall circulate monthly reports of quality related activities to members of the QA Committee and affected department heads. The monthly reports may include such items as the status of audits, a summary of audit findings, the status of development projects, and descriptions of policy matters or problems requiring management attention.

c. The Quality Assurance Committee shall review the status of the QA Program on a semiannual basis. The review will include assessment of the Program goals, objectives, and accomplishments.

d. Periodic audits of the QA Department and Program shall be conducted by an independent audit group under the direction of the Chairman of the Quality Assurance Committee. This audit group shall employ FPL audit procedures and shall distribute the audit report to the QA Department, and to the Quality Assurance Committee for review of findings and corrective action. Auditor certifications of independent audit teams will be retained by the Quality Assurance Department.

The programs of contractor organizations that perform quality related activities shall be reviewed by Quality Assurance to assure that their management regularly reviews the status and adequacy of that part of the FPL Quality Assurance Program which they are executing.

3.1 GENERAL REQUIREMENTS

A Quality Assurance Program shall be established for design related activities. This design control program shall ensure that the design is defined, controlled and verified; that applicable design inputs are specified and correctly translated into design output documents; that design interfaces are identified and controlled; that design adequacy is verified by persons other than those who designed the item; and that design changes, including field changes, are governed by control measures commensurate with those applied to the original design.

Design records shall be developed to provide evidence that the design process and design verification were performed in accordance with the requirements of FPL's Quality Assurance Program. The design organization (the Power Plant Engineering Department, the Fuel Resources Department or designated contractor organization) shall be responsible for the content of these records.

Design records shall include design output documents and the important steps in the design effort. The intent of this documentation is to allow a technically qualified person to understand how the design was developed, and to allow that person to verify the design based on the design documentation and engineering data sources referenced therein.

3.2 IMPLEMENTATION

The design organization's Quality Assurance Program for design control shall be approved by the FPL Quality Assurance Department prior to the release of approved design output by the design organization. The design organization is the organization responsible for approval of design output.

3.2 Implementation (Cont'd)

Quality Procedures and Quality Instructions shall be developed to delineate design control requirements governing design related activities performed by the Power Plant Engineering Department and the Fuel Resources Department and for their delegating activities to contractor organizations.

3.2.1 Design Process

The design organization shall specify and document its design activities to the level of detail necessary to permit the design to be developed in a correct manner and to permit verification that design output documents satisfy design input requirements.

Design methods, materials, parts, equipment and processes, including those associated with commercial grade items that are essential to the function of the structure, system or component shall be selected, reviewed and approved for suitability of application by the design organization.

Design inputs shall be identified, documented, reviewed and approved by the design organization. They shall be specified to the level of detail necessary to permit the design activity to be carried out in a correct manner, and to provide a consistent basis for making design related decisions, performing design verification and evaluating design changes. Changes to approved design inputs, including the reason for the changes, shall be approved, documented and controlled by the design organization.

The design organization shall identify aspects of manufacture, construction, inspection and testing critical to achieving the function of the structure, system or component. Quality standards and quality requirements shall be specified on design output or procurement documents. Changes from

3.2.1 Design Process (Cont'd)

approved quality related requirements specified in design output, including the reason for the changes, shall be approved, documented and controlled by the design organization.

Design analyses shall be controlled and documented. Approved design output documents and approved changes thereto shall be relatable to the design input by documentation in sufficient detail to permit verification. The design organization shall establish procedures to review industry design experience. As appropriate, this experience shall be made available to cognizant design personnel.

3.2.2 Design Change Control

Changes to approved design output documents, including field changes, shall be justified, subjected to control measures commensurate with those applied to the original design, and shall be reviewed and approved by the same design organization that approved the original design unless other organizations are specifically designated.

Where a significant design change is necessary because of an incorrect design, as appropriate, Power Plant Engineering or Fuel Resources shall determine the cause of the incorrect design. As necessary, design and verification procedures shall be reviewed and modified to correct the cause of the incorrect design.

During the operations phase, design changes shall also be reviewed by operating plant management including plant Quality Control. The intent of this review is to ensure that implementation of the design change is coordinated with any necessary changes to operating procedures and practices, and required QC Surveillance activities. In accordance with plant

3.2.3 Design Change Control (Cont'd)

technical specification requirements, nuclear safety related design changes are reviewed by the Plant Nuclear Safety Committee (PNSC) or Facility Review Group (FRG) and the Company Nuclear Review Board (CNRB).

3.2.3 Design Interface Control

The design organization shall be responsible for identification, control, resolution and documentation of design interface requirements. Procedures shall establish interface controls between participating organizations and between the various technical disciplines within the design organization. These procedures shall include the assignment of responsibility, and be in sufficient detail to cover the preparation, review, approval, release, distribution and revision of design output documents.

For interdisciplinary design, approval documentation of each involved discipline of the design organization shall appear on the design output document or on a separate document directly traceable to the design output. The design organization shall designate a discipline(s) responsible for resolution of the comments of participating organizations. The designated discipline(s) approval of a design output shall also document resolution of the comments of participating organizations.

3.2.4 Design Verification

Design control measures shall be established to independently verify the design inputs, design process, and that design inputs are correctly incorporated into design output. The design organization shall develop procedures that govern design verification. These procedures shall require that the design organization identify and document the verification method utilized and that the documentation clearly identify those individuals performing the design verification.

3.2.4 Design Verification (Cont'd)

Design verification shall be performed by technically qualified individual(s) or group(s) other than those who performed the design. The original designers and verifiers may both be from the design organization. Design verification by the designer's immediate supervisor shall be limited to those instances where the supervisor is the only qualified individual available within the design organization. These instances are further restricted to designs where the supervisor did not specify a singular design approach, or did not restrict design methods or alternatives, or did not specify design inputs (unless the specified design inputs have already been independently verified). Justification for verification by the designer's immediate supervisor should be documented along with the extent of the supervisor's involvement in the design.

The design organization shall be responsible for determining the extent of design verification and methods to be employed. The methods may include one or more of the following: the performance of design reviews, the use of alternate calculations, or the performance of qualification tests. This shall apply to original design and to changes to approved design output. Where reverification is not required for a design change the bases shall be documented by the design organization. Cursory supervisory reviews and mathematical checks for calculation accuracy do not satisfy the independent design verification requirement.

Design verification shall normally be completed prior to release of design output for procurement, manufacture or release by the design organization for use in design activities by a participating organization. Verification shall be conducted based on the status of design at the time of release of design documents. Where this timing cannot be met, verification may be deferred provided that the unverified portion of the design output, and all design output

3.2.4 Design Verification (Cont'd)

documents, structures, systems and components based on the unverified portion of design are identified and controlled. In all cases verification shall be completed prior to relying on any affected items to perform their design functions.

3.2.5 Computer Codes

Organizations utilizing computer codes as a method for design shall maintain instructions or procedures to effect the following:

1. That such codes are verified for their particular use using benchmark problems, alternate calculations, comparison with other code or experimental results, design review or similar methods,

2. That such codes have been qualified for their specific application sufficient to ensure valid results,

3. That such codes are provided with user instructions sufficient for a technically competent individual to follow,

4. That configuration controls are provided to assure that such code changes or modifications are documented and controlled.

4.1 GENERAL REQUIREMENTS

Procurement of items and services shall be performed in accordance with procedures which assure that applicable regulatory requirements, design bases, code requirements, and other requirements necessary to assure quality shall be included or invoked by reference in the procurement document. These procedures shall delineate the sequence of actions to be accomplished in the preparation, review, approval, and control of procurement documents. Changes to procurement documents shall be subjected to the same degree of control as utilized in the preparation of the original documents.

4.2 IMPLEMENTATION

4.2.1 Procurement Document Provisions

Quality Procedures and Quality Instructions shall identify the responsibilities and actions required of the organizations originating, reviewing, approving, and controlling procurement documents. These procedures shall require the procurement documents to specify:

a. The scope of work to be performed.

b. Technical requirements (by specifying or referencing) which shall include the applicable components and materials identification requirements, drawings, specifications, procedures, instructions, codes, and regulations and provide for identification of applicable test, inspection and acceptance requirements, or special process instructions.

c. QA Program requirements to be imposed on contractors which shall include the applicable portions of 10 CFR 50, Appendix B.

d. Right of access which provides, as appropriate, for access to contractor facilities and records for inspection or audit by FPL or its designated representative, and to access for events such as witness and hold points.

4.2.1 Procurement Document Provisions (Cont'd)

e. The documentation required to be prepared, maintained, and/or submitted to FPL or its representative for review, approval, or historical record. The time of submittal of this documentation and the retention and disposition of quality assurance records which will not be delivered to FPL shall be prescribed.

Consideration shall be given to the need for special requirements in the preparation and review of procurement documents. Procedures and instructions shall be prepared and implemented for special on-site handling or storage requirements. The receiving department shall be responsible for on-site implementation of the special handling, shipping, and storage requirements for items received and controlled by their organization.

Special handling, preservation, storage, cleaning, packaging, and shipping requirements shall be specified, as appropriate, in the design documents or purchase orders. The requirements established in the design documents or purchase orders shall be consistent with industry accepted standards, the importance of equipment or material to nuclear safety, and the material or equipment's sensitivity to damage. The preparation of these design documents or purchase orders may be delegated by FPL to other organizations. The preparation and control of design documents and purchase orders is described in TQR 3.0.

4.2.2 Procurement Document Review

Procurement documents shall be reviewed for correctness, and inspectability and controllability of quality requirements in accordance with Quality Procedures and Quality Instructions to assure that the appropriate provisions

4.2.2 Procurement Document Review (Cont'd)

of Section 4.2.1 are included. This review shall be documented and performed by designated technical and quality evaluators, and shall assure that the procurement document was prepared, reviewed and approved as required. Spare or replacement parts for safety related structures, systems, and components are subject to technical or quality requirements equivalent to or better than those used for the original equipment.

Changes to procurement documents, whether initiated by FPL or their representative, are subjected to the same degree of control as that utilized in the preparation of the original document.

4.2.3 Selection of Procurement Sources

The Purchasing, Fuel Resources or Corporate Contracts Department, as applicable, shall verify that the procurement document has been reviewed and approved, and that the supplier has been approved prior to issuing the purchase order for safety related materials or services. Supplier approval is not necessary if the important characteristics of the item can be verified by inspection or test.

The overall procurement requirements including those related to planning, bid evaluation, and review and concurrence of suppliers QA programs are described in Quality Procedures and Quality Instructions.

5.1 GENERAL REQUIREMENTS

Activities affecting quality of nuclear safety related structures, systems, and components shall be prescribed by documented instructions, procedures, or drawings of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. These documents shall include appropriate quantitative criteria such as dimensions, tolerances, and operating limits, and qualitative criteria such as comparative workmanship samples, to assure that the quality assurance activity has been satisfactorily accomplished.

5.2 IMPLEMENTATION

5.2.1 Quality Assurance Program Documents

The FPL Quality Assurance Manual described in TQR 2.0 contains corporate Quality Procedures which comply with the criteria of 10 CFR 50, Appendix B. Quality Procedures and department level Quality Instructions provide direction for activities affecting quality. The Quality Assurance Department reviews and comments on Quality Instructions written by other departments. Comments concerning compliance with corporate QA commitments and requlatory requirements are resolved prior to issuance. The Quality Assurance Department receives controlled copies of Quality Instructions issued by other departments.

5.2.2 Procedures and Instructions

Instructions and procedures for activities affecting quality shall be prepared, reviewed, and approved in accordance with written Quality Procedures or Quality Instructions.

5.2.2 Procedures and Instructions (Cont'd)

For plant operations, on-site plant procedures shall be prepared, reviewed, and approved in accordance with written instructions which includes a review for concurrence by Quality Assurance or Quality Control personnel. These plant procedures include operating procedures, off-normal and emergency procedures, test procedures, and calibration procedures. Also included are maintenance and repair procedures for subcontracted maintenance and repair activities which are outside the normal scope of plant craft capability.

For backfit activities, contractors shall be required to have Quality Assurance Programs which contain written instructions for preparation, review, and approval of procedures, instructions, and drawings affecting quality. In addition, Contractor's site procedures and Quality Control inspection procedures shall be approved by FPL Project Site Manager, or his designee, following reviews by Quality Assurance or Quality Control personnel to assure compliance with Corporate commitment and regulatory requirements.

During the design, modification, and procurement phases, the Architect/Engineer or other contractors may be delegated responsibility for maintaining, issuing and verifying the implementation of appropriate program documents. In this case, Quality Assurance Department audit and/or Construction Quality Control surveillance activities shall assure that such measures are established and implemented. Contractor programs shall clearly delineate the actions to be accomplished in the preparation, review and control of instructions, procedures and drawings, and the methods for complying with the appropriate criteria of 10 CFR 50, Appendix B. A plant change or modification of a magnitude requiring the assignment of a Project General Manager - Nuclear shall be subject to the QA Program as discussed in above.

5.2.3 Drawings

The design organization is responsible for review and approval of drawings. For delegated design activities, as appropriate, the Power Plant Engineering Department or the Nuclear Fuel Department may approve changes to drawings. The technical control of drawings, i.e., review and approval of the drawing and all changes thereto shall be governed by procedures. A means shall be developed and updated as required to identify approved drawings and revisions thereto. A Master Drawing List is the normal means used for this.

5.2.4 Acceptance Criteria

Quality Procedures and Quality Instructions require that quality related instructions, procedures, and drawings include adequate quantitative and qualitative acceptance criteria, as appropriate, for determining satisfactory work performance and quality compliance. These acceptance criteria requirements apply to important activities such as design, operations, test control, inspection, and plant modifications.

6.1 GENERAL REQUIREMENTS

The distribution of documents such as instructions, procedures, and drawings which provide guidance, specifications, or requirements affecting the quality of nuclear safety related structures, systems, and components shall be controlled. These documents shall be prepared, reviewed for adequacy, and approved for release by authorized personnel in the effected organization. These documents shall be distributed to locations where the activity is performed.

Changes to controlled documents shall be so identified and shall be reviewed and approved by the same organization that performed the original review and approval unless otherwise specified in the implementing procedures. In addition, procedures shall provide for controlling obsolete documents to preclude the possibility of use of outdated documents.

6.2 IMPLEMENTATION

6.2.1 Responsibility

Quality Procedures shall delineate the control measures for controlled documents including direction for the review for adequacy, approval by authorized personnel, distribution of controlled documents and verification that changes are received. These control measures shall apply to documents affecting the quality of nuclear safety related structures, systems, and components such as:

a. design specifications;

b. design, manufacturing, construction, and installation drawings;

c. quality program manuals, procedures, and instructions;

6.2.1 Responsibility (Cont'd)

d. inspection, manufacturing, and test procedures and instructions;

e. plant operating and maintenance procedures;

f. plant Safety Analysis Reports and related design criteria documents.

The requirements for control of procurement documents are contained in TQR 4.0.

During all phases of the plant life, it shall be the responsibility of each organization issuing and using controlled documents to use document control procedures. Procedures shall document the responsibility for review, approval, maintenance and distribution of documents including assuring revisions are initiated to interfacing documents within their organization.

During the design and construction phase and for operating plant changes under their cognizance, the Architect/Engineer, Nuclear Steam Supply System vendor, and other contractors shall be responsible for assuring that all revisions required as a result of FPL comments, nonconformances, or engineering work are incorporated into revised documents.

6.2.2 Distribution of Controlled Documents

Quality Procedures shall specify that controlled documents and revisions be distributed to locations where the activity is performed.

6.2.3 Drawing Control

FPL assumes control of the drawings and Master Drawing List after initial operation of the facility or delegates this activity to a qualified contractor. The Power Plant Engineering Department shall require that participating design organizations update the drawings and Master Drawing List to reflect the as-built conditions of the facility prior to FPL's acceptance of these documents.

Maintenance, distribution and control of the drawings and the Master Drawing List by FPL during the operation phase shall be assigned to a drawing custodian. Revision to drawings shall be approved prior to release by the drawing custodian, approval shall be by, as appropriate, Power Plant Engineering, Nuclear Fuel, or a design organization designated by one of these departments.

During the operation phase a system shall be established to provide ready access and availability of drawings to engineering and operations personnel; to identify drawings affected by approved plant design changes; and to update drawings and the Master Drawing List to reflect implemented design changes.

6.2.4 Instruction & Procedure Control

Participating organizations shall be responsible for development, maintenance and control of those documents identified in paragraph 6.2.1 issued by them as controlled documents. Each organization shall be responsible for the adequacy of their procedures.

6.2.5 Obsolete Documents

Controls established by Quality Procedures and Quality Instructions shall assure that outdated copies of controlled documents are not inadvertently used.

7.1 GENERAL REQUIREMENTS

Measures shall be established to assure that safety related items or services purchased by or for FPL conform to the requirements of the procurement document. These measures shall include documented evidence of source selection, verification activities and examination of items or services to assure compliance with the procurement document. The effectiveness of the control of quality by contractors and subcontractors shall be assessed at intervals consistent with the importance, complexity, and quantity of the product or service.

7.2 IMPLEMENTATION

7.2.1 Initial Evaluation of Suppliers

Procurement source evaluation and selection measures shall be specified in Quality Procedures and Quality Instructions which shall identify the responsibility of qualified individuals for determining supplier capability. The evaluation may require integrated action involving Quality Assurance and one or more organizations (e.g., Engineering, Construction, Fuel Resources or Purchasing) based upon the item or service being procured. This evaluation is to ensure that the FPL contractors comply with the applicable portions of 10 CFR 50, Appendix B. Documented evidence of the evaluation, and the acceptance of the contractor's quality program and procedures shall be retained in the Quality Assurance Department files. The determination of supplier approval shall be based on such factors as prior performance, historical quality performance data, source surveys or audits, and evaluation of the supplier's QA Program. The basis shall be consistent with the importance, complexity, and quality required for the items or services involved.

7.2.2 Verification Activities

Quality Procedures shall define the requirements for verification activities such as surveillance, inspection, or audit to assure conformance of procured items and services to identified requirements. These verification activities shall be performed in accordance with written procedures, procurement documents and their references, which specify the documentation required and the characteristic or process to be witnessed, inspected, verified, or accepted. FPL verification activities shall be accomplished by qualified personnel to verify that the supplier complies with quality requirements, and depending on the importance/complexity, shall be performed on those items where verification of procurement requirements cannot be determined upon receipt.

7.2.3 Receiving Inspection

Quality Procedures and Quality Instructions shall delineate requirements and responsibilities for the performance of receiving inspection. This inspection shall verify that suppliers have fulfilled their contractual obligation and that the procured items meet the appropriate quality requirements. Receiving inspection shall include, as appropriate:

a. Measures for verifying that the shipment is complete, properly identified, undamaged, and corresponds with the purchase order documentation;
b. Measures for inspection of the item and review of supporting documentation (e.g., mill test reports, NDE reports) as required by the purchase documents;
c. Measures for disposition of items to inspection instructions;
d. Measures for identifying and controlling items including identification of inspection status prior to release from the receiving inspection area;

7.2.3 Receiving Inspection (Cont'd)

e. Measures to ascertain that inspection records or Certificates of Conformance are available prior to release.

7.2.4 Supplier Furnished Records

Records required to be furnished by the supplier shall be specified in the procurement document. Certifications or documentation verifying conformance provided by the supplier shall identify the specific procurement requirements met (either by reference to the purchase order or by referenced requirements therein). Such certification shall identify any procurement requirements which have not been met and provide a description of those nonconformances dispositioned "accept as is" or "repair".

8.1 GENERAL REQUIREMENTS

Materials, parts, and components, including partially fabricated assemblies, shall be identified and controlled as required throughout fabrication, receipt, handling, storage, installation, and use of the item. The identification of the item shall be maintained by heat number, part number, serial number, FPL M&S number, or other suitable means, and shall be physically marked on the item or on records traceable to the item. The object of these controls shall be to prevent the use of incorrect or defective materials, parts, and components. (The FPL Material and Supplies -- M&S number is a number given to each unique type of item in inventory to distinguish it from each other type of item in inventory).

8.2 IMPLEMENTATION

Quality Procedures and Quality Instructions shall establish the responsibilities and requirements for the identification and control of materials, parts and components. The procedures and instructions used by all organizations shall assure that identification and control is maintained throughout fabrication, receipt, handling, storage, installation and use of items. Provisions include:

a. Requirements for traceability to appropriate documentation, such as: procurement documents, manufacturing documents, drawings, specifications, inspection and test records, and nonconformance reports.

b. Controls to assure that the correct identification of an item is verified and documented prior to fabrication, receipt, handling, storage, installation and use.

c. Requirements which assure that the method or location of markings do not affect the function or quality of an item.

d. Establishment of identification requirements by specifications, drawings, procurement documents, instructions or procedures during initial planning.

8.2 Implementation (Cont'd)

FPL may delegate any portion of the implementation of the identification and control program to the Architect/Engineer, Constructor, Nuclear Steam Supply System vendor or other contractors. If delegated, contracts shall require that the contractor establish an identification and control program which meets the requirements of this TQR.

9.1 GENERAL REQUIREMENTS

Measures shall be established to assure that special processes such as welding, heat treating, and nondestructive examination, are controlled and accomplished by qualified personnel using qualified procedures and equipment in accordance with applicable codes, standards, specifications, criteria, and other special requirements.

9.2 IMPLEMENTATION

The Power Plant Engineering Department, or the Fuel Resources Department or the delegated contractor organization, as appropriate, shall include special process requirements in their design outputs and changes thereto. Special processes used during plant operations shall be the responsibility of the plant manager, who shall ensure that procedures are developed, reviewed, approved and controlled, and that personnel and equipment are qualified.

9.2.1 Identification of Special Processes

Special processes are those processes which must be qualified and controlled where quality is highly dependent on close control of process variables or operator skills, and objective verification (inspection, examination or testing) of end quality is difficult.

As a further clarification, special processes identified as such by applicable codes and standards shall be controlled, qualified, and implemented in accordance with those codes and standards. Examples of special processes include (but are not limited to) welding, heat treating, and nondestructive examination. Others, i.e., flushing, protective coating, plating applications and nuclear cleaning should be reviewed to determine if they are special processes.

9.2.2 Procedure Qualification and Control

Process control procedures written by FPL organizations or their contractors shall be used and qualified as required by applicable specifications, codes, or standards.

Where FPL assigns work to outside contractors, the contractors shall make their procedures and personnel qualifications available for review to FPL prior to the start of work. The Architect/Engineer, Nuclear Steam Supply System vendor, or other organization designated by FPL shall be responsible for the evaluation and acceptance of on-site contractor special process procedures, and shall interface with the appropriate FPL department, as necessary, to resolve review comments with the contractor. The contractor shall also be responsible for the control and approval of sub-contractor procedures.

9.2.3 Personnel Qualification and Certification

Procedures or instructions shall specify personnel qualification and certification requirements. Personnel responsible for the performance and verification of special processes shall be trained, tested, and certified as required by applicable specifications, codes and standards. Requirements for the period of certification, retesting, and recertification of personnel shall also be specified. Contractors shall qualify personnel and maintain records of qualified personnel in accordance with applicable codes, standards, specifications, and contract or procurement document requirements.

9.2.4 Special Process Records

The Plant Manager is responsible for the review and retention of records. Records shall provide objective evidence that special processes were performed in compliance with approved procedures by qualified personnel and

9.2.4 Special Process Records (Cont'd)

equipment. Records shall also be maintained for verification activities when required by procedure, code or specification. Results of nondestructive examinations shall be recorded in accordance with applicable specifications, codes and standards. These records shall be retained by the vendor or supplied to FPL as required by contract or purchase orders. If records are to be retained by the vendor, the contract or purchase order shall specify the retention period and instructions for final disposition of such records.

For backfit activities, the Construction Quality Control organization is responsible for the review of nondestructive examination documents for acceptance. The Project Site Manager is responsible for assuring that documents for special processes utilized for modifications are properly collected, reviewed, accepted and transmitted for retention of records.

10.1 GENERAL REQUIREMENTS

A program for inspection shall be established and executed by or for FPL to verify conformance with the documented instructions, procedures and drawings for accomplishing an activity. Such inspections shall be performed by individuals or groups other than those who performed the activity being inspected. Examinations, measurements and tests of materials or products processed shall be performed for each work operation, where necessary, to assure conformance to established requirements. If direct inspection of processed materials or products is impossible or disadvantageous, indirect control by surveillance or monitoring shall be provided. Mandatory inspection, witness, or hold points beyond which work shall not proceed without the consent of FPL or a designated representative shall be indicated in the appropriate documents.

10.2 IMPLEMENTATION

10.2.1 Inspection Responsibilities

For plant operations activities, a program for on-site inspection of activities affecting quality shall be established by the Nuclear Energy Department. Nuclear Energy shall perform inspections, surveillance and monitoring of plant activities and plant operations as required by established plans, schedules and/or procedurally required inspection, witness or hold points. In all cases, the personnel performing the inspection shall be independent of the group performing the work.

10.2.1 Inspection Responsibilities (Cont'd)

For plant modifications assigned to Project Management Department or when requested by the Plant Manager, a program for on-site inspection of these activities affecting quality shall be established and executed by the Construction Management Department to ensure conformance with documented instructions, procedures and drawings.

For these plant modifications, the Construction Management Department may delegate the establishment and execution of this program to a contractor or other designated FPL representative, but shall retain ultimate responsibility for the program. For preoperational start-up and testing of plant modifications, Nuclear Energy personnel may report functionally to the Project Site Manager and establish plans, schedules and procedurally required inspection, witness or hold points. In all cases, the personnel performing the inspection shall be independent of the group performing the work. The Construction Management Department shall also be responsible for performing receiving and process verification inspections for work under the jurisdiction of the Project General Manager, or as requested by the Plant Manager.

The System Protection Group may perform inspections of equipment within their purview during operations. Inspections shall be performed in accordance with approved, written procedures by qualified personnel.

Quality Procedures and Quality Instructions shall be written which delineate the requirements and responsibilities for the performance of inspections.

10.2.2 Inspection Plans and Schedules

Documented inspection plans may be either a separate document or an integral part of work instruction documents. The plans shall be based on design specifications, procurement documents, drawings, other specifications or previous experience, as appropriate. Inspections shall be scheduled to assure that sufficient time and resources are available, and to assure inspections are not inadvertently omitted or bypassed.

10.2.3 Inspection Personnel

a. Inspections shall be performed by individuals other than those who performed or directly supervised the activity being inspected. Inspection personnel shall be qualified and certified in accordance with appropriate codes, standards and/or company training programs. Qualifications and certifications shall be kept current.

b. Prior to performing inspections, inspection personnel shall have access to the drawings, procedures, specifications or other documented criteria necessary for performance of the inspection.

10.2.4 Inspection Procedures

a. Required inspection, surveillance or monitoring activities shall be performed and documented according to written, approved instructions or procedures. Inspection procedures, instructions or checklists shall contain the following:

10.2.4 Inspections Procedures (Cont'd)

- o Identification of characteristics to be inspected;
- o Identification of the individual or groups responsible for performing the inspection;
- o Acceptance criteria or reference to the acceptance criteria;
- o A description of the method of inspection;
- o Verification of completion and certification of inspection.

b. Inspection records shall identify:

- o Inspector or data recorder;
- o Method or type of observations;
- o Test or inspection results;
- o Statement of acceptability;
- o Date of observation;
- o Deficiencies and nonconformances, and the action taken in connection with these deficient conditions, either by inclusion or by reference to other documents.

c. Inspection procedures shall be reviewed by QC personnel to determine the need for an independent inspection and the degree and method if such an inspection is required, and to assure the identification of inspection personnel and the method of documentation of inspection results.

d. Written approved instructions shall specify surveillance or monitoring of processing methods, or testing and operation of equipment when inspection is impossible, inaccessible or not applicable.

10.2.4 Inspections Procedures (Cont'd)

e. Modification, repair, replacement or rework items shall be inspected in accordance with original inspection requirements or acceptable alternatives.

10.2.5 Inspection, Witness, and Hold Point Identification

Appropriate inspection, witness or hold points shall appear in process documents (e.g., construction, testing, operating and maintenance procedures). These process procedures are subject to the review of the appropriate Quality Control organization for adequacy of inspection, witness, and hold points.

Mandatory hold points shall be used when witnessing and inspecting must be performed and signed-off by the responsible personnel before work can proceed.

FPL shall indicate FPL witness or hold points applicable during the manufacture of an item in procurement documents. A distinction shall be made between witness points and mandatory hold points.

11.1 GENERAL REQUIREMENTS

A test program shall be established to assure that testing required to demonstrate that structures, systems and components will perform satisfactorily in service is identified, accomplished, and documented in accordance with written procedures. The test program shall include, as appropriate, proof tests, prior to installation, preoperational tests, start-up tests, and operational tests, and retest following repairs, replacements or modifications.

11.2 IMPLEMENTATION

11.2.1 Test Program

Testing requirements shall be identified in the engineering/design documents, SAR documents, procedures, or procurement documents, as appropriate. Retest following repairs, replacements, or modifications shall be performed in accordance with the original design and test requirements or acceptable alternatives. Retest shall be performed when the original test results are invalidated.

Quality Procedures and Quality Instructions shall be written which delineate the methods and responsibilities for controlling, accomplishing, and documenting testing.

FPL may delegate the implementation of all or any part of the test program to other organizations but shall retain ultimate responsibility for the program. The contractor shall be required to control, perform and evaluate tests in accordance with written procedures and shall be required to prepare a written test program detailing the testing required.

11.2.2 Test Procedure Preparation and Test Performance

Testing shall be accomplished in accordance with written approved test procedures which incorporate or reference the requirements and acceptance limits in the applicable design and procurement documents. The test procedure or test program documents shall include the following as a minimum:

a. Instructions for the testing method used;

b. Required test equipment and instrumentation;

c. Test requirements and acceptance criteria;

d. Hold, witness, inspection and data collection points;

e. Test prerequisites such as: calibrated instrumentation; trained, qualified, and licensed or certified personnel; preparation, condition and completeness of item to be tested; suitable and controlled environmental conditions.

f. Methods for documenting or recording test data and results;

g. Test records shall identify:
   1) Inspector or data recorder;
   2) Method or type of observations;
   3) Test or inspection results;
   4) Statement of acceptability;

11.2.2 Test Procedure and Test Performance (Cont'd)

5) Date of observation; and

6) Deficiencies and nonconformances, and the action taken in connection with these deficient conditions, either by inclusion or by reference to other documents.

11.2.3 Evaluation of Test Results

The documented test results shall be evaluated against the predetermined acceptance criteria by a group or individual having appropriate qualifications. The acceptance status of the test shall be documented. Deficiencies noted during the evaluation shall be documented and dispositioned in accordance with approved Quality Procedures or Quality Instructions.

The evaluation of the test results may be delegated to other organizations; however, FPL shall retain the responsibility for the evaluation. The evaluating organization shall be required to use qualified personnel, evaluate the data against predetermined criteria, and document the results of the evaluation and acceptance status of the test.

12.1 GENERAL REQUIREMENTS

Tools, gauges, and other measuring and testing equipment used as the basis for acceptance in activities affecting quality shall be properly controlled, periodically calibrated, and adjusted to assure that accuracy is maintained within limits necessary to verify that design requirements have been met. It is the responsibility of each department maintaining calibrated instruments to provide for the calibration and control of such instruments.

12.2 IMPLEMENTATION

12.2.1 Control of Measuring and Test Equipment

Procedures shall be written to delineate the methods and responsibilities for the control, maintenance, and calibration of measuring and test equipment (M&TE). M&TE control procedures or calibration program documents shall contain the following:

a. A listing of M&TE to be controlled;

b. Frequency of calibration of listed M&TE. The frequency may be based on calendar time or relate to usage, and be based on such factors as experience, inherent stability, instrument purpose, or accuracy required;

c. A method for controlling issue and recall of portable M&TE;

d. A method to identify controlled M&TE (e.g., labeling) required calibration frequency and calibration test data applicable to the M&TE;

e. Method to document and maintain the status of M&TE.

12.2.1 Control of Measuring and Test Equipment (Cont'd)

FPL may delegate the control and/or calibration of M&TE to other organizations. FPL, however, retains ultimate responsibility for control and calibration, and the contractor shall meet the requirements of this TQR or an acceptable alternative program as required by the procurement document for the contracted services.

12.2.2 Calibration Procedure

M&TE shall be calibrated in accordance with written approved procedures. The calibration procedures shall contain, as a minimum:

a. Identity of M&TE to which the procedure applies;

b. Calibration equipment and reference standards to be used;

c. Acceptance criteria;

d. Sequence of operations and special instructions;

e. Documentation and data collection requirements;

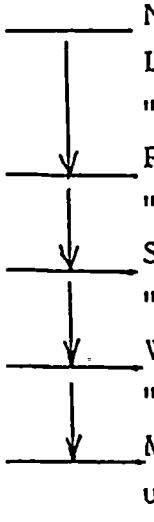
f. A requirement that M&TE be checked and results recorded before adjustments or repairs are made;

g. Calibration frequency required.

12.2.3 Calibration Standards

M&TE shall be calibrated using reference standards whose calibration has a known, documented, valid relationship to nationally recognized standards or accepted values of natural physical constants. If no national standard exists, the basis for calibration shall be documented. Standards and reference standards shall have an accuracy level, range and stability which are adequate to verify that the equipment being calibrated is within tolerance and adequate for the programmatic requirements of the equipment being calibrated.

M&TE shall be calibrated against working standards having an accuracy of at least four times the required accuracy of the equipment being calibrated. When this is not practical, working standards shall have an accuracy that assures that the M&TE being calibrated will be within required accuracy tolerances and that the basis of acceptance is documented and authorized by designated responsible management. The meaning of this paragraph may be diagrammed as follows:



NATIONAL BUREAU OF STANDARDS (NBS)/NBS Certified Laboratory
"greater than" tolerance
PRIMARY STANDARD (if applicable)
"greater than" tolerance
SECONDARY STANDARD (if applicable)
"greater than" tolerance
WORKING STANDARD
"1:4 ratio" tolerance (except as noted above)
M&TE (installed instruments and measuring and test equipment used for inspection, maintenance, etc.)

12.2.3 (Cont'd)

The accuracies of M&TE and reference standards shall be chosen such that the equipment being calibrated can be calibrated and maintained within the required tolerances.

12.2.4 "Out of Tolerance" Control

M&TE and reference standards, when found out of tolerance, shall be so identified and removed from service. An investigation shall be conducted to determine the validity of previous inspection or test results gained through use of the instrument, and of the acceptability of items previously inspected or tested.

13.1 GENERAL REQUIREMENTS

Written instructions or procedures shall be established and implemented for the cleaning, shipping, storage, preservation, packaging, and handling of specified items. These instructions and procedures shall delineate measures which prevent degrading an item through damage or deterioration. When necessary for particular products, special protective environments such as inert gas atmosphere, specific moisture content levels, and temperature levels shall be specified and provided.

13.2 IMPLEMENTATION

13.2.1 General

Instructions or procedures shall be written to define the requirements and responsibilities for the cleaning, packaging, preservation, handling, storage, and shipping of equipment and material, and shall require implementation of the established design and specification requirements by personnel having appropriate qualifications. FPL may delegate any portion of the responsibility for handling, storage and shipping of material and equipment, but shall retain ultimate responsibility. Where any of the functions in the section which follow is delegated to a contractor, the contractor shall be required to adhere to the FPL requirements stated herein.

13.2.3 Handling, Storage, and Shipping Procedures

Materials and equipment which are to be incorporated into a safety related system of a nuclear power plant shall be handled, stored, and shipped in accordance with written procedures, where necessary, to implement the design document and purchase order requirements. These procedures shall assure that cleaning, handling, storing, packaging, shipping, and preserving

13.2.3 Handling, Storage, and Shipping Procedures

materials, components and systems will preclude damage, loss, or deterioration by environmental conditions, such as temperature or humidity.

The preparation and/or implementation of these procedures may be delegated to other organizations, but FPL shall retain the ultimate responsibility for proper material handling, storage, and shipping.

13.2.4 Verification of Proper Handling, Storage, and Shipping.

The Quality Assurance Department shall be responsible for verification of proper handling, storage and shipping at vendor facilities. The Plant Manager and the QA Department shall be responsible for verification of proper handling, storage, and shipping at the plant.

14.1 GENERAL REQUIREMENTS

Measures shall be established to indicate by the use of markings such as stamps, tags, labels, routing cards or other suitable means, the status of inspections and tests performed on material, equipment, or systems. These measures shall provide for the identification of items which have satisfactorily passed required inspections and tests. Measures shall also be established for indicating the operating status of structures, systems and components to prevent inadvertent operations.

14.2 IMPLEMENTATION

14.2.1 General

For operations activities, the Nuclear Energy Department is responsible for establishment and maintenance of a suitable system for identifying the inspection, test, and operating status of materials, equipment, systems, and components. For plant modifications assigned to Project Management Department or when requested by the Plant Manager, the Project Site Manager is responsible for establishing a suitable system for identifying, inspecting and testing for material, equipment, systems and components which is approved by Nuclear Energy Department. Each system shall be established, implemented and maintained in accordance with written Quality Procedures and Quality Instructions. The Architect/Engineer or Contractors shall develop and implement procedures to comply with contractual responsibilities, and applicable codes, standards, specifications, and criteria governing the status identification of procurement items being tested, installed, or fabricated. The Architect/Engineer (where applicable), suppliers and contractors shall be required to maintain a system for identifying the inspection, test and processing status of materials, parts, and

14.2.1 General (cont'd)

components. Elements of this system require that suppliers and contractors have a controlled manufacturing and test operation in order to preclude the inadvertent bypassing of processing, inspections or test, and to provide a positive identification of component status throughout all phases of manufacturing, testing, and inspecting, by means of tagging, routing cards, stamping, manufacturing or test reports, labeling or other appropriate methods. The Vice Presidents - Turkey Point or St. Lucie and the Quality Assurance Department shall verify adequacy of the controls established and implemented, as appropriate for their site.

14.2.2 Status Identification and Control

Quality Procedures and Quality Instructions shall describe control of the application and removal of markings such as stamps, tags, labels, routing cards, and other suitable means to indicate the status of non-operational, nonconforming, or malfunctioning nuclear safety related structures, systems and components to prevent inadvertent operation, and to prevent omission of inspections, tests, or other critical operations. These procedures and instructions shall delineate the requirements, methods and responsibilities for indicating the status of the affected items. These procedures will clearly delineate the individuals or groups responsible for application and removal of status indicators.

15.1 GENERAL REQUIREMENTS

Measures shall be established to control materials, parts, or components which do not conform to requirements in order to prevent their inadvertent use or installation. These measures shall include, as appropriate, procedures for identification, documentation, segregation, disposition and notification to affected organizations. Nonconforming items shall be reviewed and accepted, rejected, repaired or reworked in accordance with documented procedures.

15.2 IMPLEMENTATION

15.2.1 Program

Quality Procedures and Quality Instructions shall define the responsibilities and methods for identifying, documenting, segregating and dispositioning nonconforming items. For procedure review requirements, see TQR 2.0 and TQR 5.0. Each department shall be responsible for the identification, control and disposition of nonconformances within the scope of their departmental responsibilities.

Throughout plant life, FPL may delegate any portion of the identification and control of nonconforming items and services to an Architect/Engineer (A/E), constructor, NSSS vendor or other contractors. In any case, FPL retains the responsibility for assuring that requirements are met, and shall assure that the contractor's actions conform to requirements set by FPL.

15.2.2 Documenting and Controlling Nonconformances

All nonconformances in safety related items shall be documented and reported for corrective action. Measures shall be delineated in Quality Procedures and Quality Instructions which control further processing, installation, or operation of nonconforming items. These measures shall include:

a. Physical identification of the item as nonconforming.
b. Segregation of nonconforming items until properly dispositioned.

Where physical segregation is not practical, suitable tags, marking or documentation shall be used to assure control.

15.2.3 Documentation

Documentation of the nonconforming item shall: identify the item; describe the nonconformance; show disposition of the nonconformance and inspection requirements; and include the signature of the person approving the disposition.

15.2.4 Evaluation and Disposition

Power Plant Engineering, Nuclear Fuel, Nuclear Energy or the delegated contractor organization, as specified by procedure, shall evaluate nonconformances and disposition them based on the results of the evaluations. These evaluations and dispositions shall be reviewed, approved and documented in accordance with procedures.

15.2.4 Evaluation and Disposition (Cont'd)

An evaluation to determine the disposition of nonconforming items shall be performed. The evaluation shall determine whether an item is to be accepted as-is, repaired, reworked or rejected. A technical evaluation shall be performed when an item is accepted as-is or is repaired to an acceptable condition. Records of the disposition of these items shall be made part of the nonconformance report. This evaluation shall assure that the final condition does not adversely effect safety, operability or maintainability of the item, or of the component or system in which it is installed.

The A/E, or other contractors on-site, shall be required to inform the FPL Construction Management or Nuclear Energy Department prior to use or installation of a nonconforming item. The nature and extent of a nonconformance and the reason for proposing its use or installation shall be justified. Nonconforming items dispositioned "accept as-is", or repaired to an acceptable condition, shall be so identified. Nonconformance reports for those items shall be made part of the item records and forwarded with the material to FPL.

The determination of the need and the advisability of releasing nonconforming materials or items, is made by the Power Plant Engineering, Construction Management or Nuclear Energy Departments. The following factors may be appropriate considerations in making this determination:

a. Effect on the orderly progress of work if material or items are released;
b. Safety of personnel;

15.2.4 Evaluation and Disposition (Cont'd)

c. Suitability of material or items in "as-is" condition, i.e., probability of eventual satisfactory resolution of the nonconformance without repair, rework, or replacement;
d. Accessibility of material or items after release;
e. Cost of removal and repair of replacement should material or items eventually have to be removed, repaired, or replaced;
f. Impact on plant safety.

Items shall be reworked or repaired in accordance with documented procedures and shall be verified by reinspecting the item as originally inspected or by a documented method which is at least equal to the original inspection method.

Quality Assurance or Quality Control personnel shall periodically review nonconformance reports to identify quality trends. The results of these analyses shall be reviewed with appropriate members of upper level management.

16.1 GENERAL REQUIREMENTS

Documented measures shall be used to assure that conditions adverse to quality such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances, are promptly identified and corrected as soon as practicable. In the case of significant conditions adverse to quality, the cause of the condition shall be determined and action taken to preclude repetition. The identification of significant conditions adverse to quality, the cause of the condition, and the corrective action taken shall be documented and reported to appropriate levels of management.

16.2 IMPLEMENTATION

16.2.1 Corrective Action and Follow-Up

Quality Procedures and Quality Instructions shall define responsibilities and methods for identifying and correcting conditions adverse to quality. When an adverse condition is detected, a determination shall be made by plant supervision, Quality Control, or Quality Assurance personnel as to whether immediate or routine corrective action is required.

a. "Immediate Corrective Action" applies to conditions which pose a threat to plant safety or to the health and safety of the public, which could result in major equipment and material damage, or could, if not corrected, produce defects of significantly greater consequences than those immediately resulting from the condition. "Immediate Corrective Action" is accomplished through stop-work requests/orders to appropriate levels of management, requiring that work be stopped, the plant be shut down or other appropriate actions be taken.

16.2.1 Corrective Action and Follow-Up (Cont'd)

b. "Routine Corrective Action" applies to conditions which do not require immediate corrective action. Routine corrective action is assured through the distribution and disposition associated with inspection reports, surveillance reports, nonconformance reports, and audit reports; and the investigation analysis and action associated with reportable conditions.

Follow-up to verify implementation of corrective action and close-out of corrective action documentation is accomplished by the QA or QC organization responsible for verifying the corrective action. The Quality Assurance Department shall track, follow-up, and close-out open items identified by QA Department audits and vendor surveillances. The respective department or plant shall track those items charged to its operating license by the NRC. Each department shall be responsible for follow-up and close-out of corrective action resulting from their departmental inspections, tests, or operations.

If corrective action is inadequate or not timely, the follow-up organization shall request corrective action from management, as delineated in procedures. The Quality Assurance Committee is the final authority in the event that agreement is not reached at lower levels regarding stop work requests or other corrective action.

Where corrective action is required of contractor personnel, FPL shall define in procedures and contracts the corrective action interface between FPL and the contractor. FPL shall require the A/E, NSSS vendor, constructor and other suppliers of safety related materials and services to have a documented corrective action system.

16.2.2 Recurrence Control

It is the responsibility of the organization which identifies the significant condition adverse to quality to verify that corrective action description not only corrects the immediate condition, but also precludes the condition from recurring. The organization(s) that provide(s) the corrective action disposition and implementation is responsible to assure that the corrective action taken not only corrects the immediate condition, but also precludes recurrence.

16.2.3 Incidents and Reportable Occurrences Reporting

Operating Reportable Occurrences and reports of incidents shall be investigated, documented as to cause and corrective action, and reported to the NRC in accordance with the applicable plant Technical Specifications. Reportable Occurrences and reports of incidents that result in damage or are otherwise safety related, shall be forwarded to the Company Nuclear Review Board (CNRB) for review. Conditions adverse to quality are reported to operating plant management through: distribution of QA audit reports, QC inspection reports, corrective action requests, and the investigation and reporting of Reportable Occurrences in accordance with plant Technical Specifications.

17.1 GENERAL REQUIREMENTS

Sufficient records shall be maintained to furnish documented evidence of the quality of safety related structures, systems, and components, and of activities affecting their quality. The records shall include, as appropriate, data such as qualifications of personnel, procedures, and equipment; and other documentation such as inspection or test acceptance criteria, and the action taken in connection with deficiencies noted during inspection.

The records required to furnish documentary evidence of quality, herein called quality assurance records, shall be identifiable and retrievable. These records shall be maintained in facilities that provide a suitable environment to minimize deterioration or damage and to prevent loss.

The requirements and responsibilities for quality assurance record control, transmittal, retention, and maintenance shall be established and documented. These record requirements shall be consistent with applicable design, manufacturing, and installation codes and standards, and with procurement document requirements.

17.2 IMPLEMENTATION

17.2.1 Records Identification

Quality Procedures shall define the quality assurance records necessary to furnish documentary evidence of the quality of safety related structures, systems, and components; and activities affecting quality. These records shall include plant operating logs; results of design reviews, inspections, tests, audits, and material analyses; qualification of personnel, procedures, and equipment; design records such as drawings and specifications; procurement documents; calibration records; and nonconformance or corrective action reports.

17.2.2 Responsibilities

Responsibilities shall be established and documented for the control, transfer, maintenance, and retention of quality assurance records. Quality Procedures shall provide guidance for determining the retention requirements of quality assurance records. Each organization responsible for the conduct of a quality activity shall be responsible for the maintenance of the subsequent quality assurance records unless retention responsibilities have been transferred by a prearranged agreement. In any case, the organization initiating the quality assurance records shall be responsible for their validity and approval.

17.2.3 Retrieval

Quality Procedures shall require that quality assurance records submitted for retention be legible, completely filled out, and adequately identifiable and retrievable for each item. The records shall be filed in the storage area or facility using a documented system to provide retrievability. Quality Procedures additionally require control of corrections and supplements issued for quality assurance records that are previously approved and filed, and that documented methods for control and accountability of records removed from the storage area be instituted.

17.2.4 Storage

Specified in the Quality Procedures are the construction features and location requirements for record storage facilities which assure that quality assurance records are protected from possible destruction by causes such as fire, flooding, theft, tornadoes, insects, rodents, and from possible deterioration by a combination of extreme variations in temperature and humidity. Specific instructions regarding the storage area are given for special processed records and for temporary storage facilities.

18.1 GENERAL REQUIREMENTS

A comprehensive system of planned and periodic audits shall be carried out to verify compliance with all aspects of the quality assurance program and to determine the effectiveness of the program. The audits shall be performed in accordance with the written procedures or checklists by appropriately trained personnel not having direct responsibilities in the areas being audited. Audit results shall be documented and reviewed by management having responsibility in the area audited. Follow-up action, including reaudit of deficient areas, shall be taken, where necessary.

18.2 IMPLEMENTATION

A comprehensive program of audits is carried out by the Quality Assurance Department during the design, procurement, construction, and operations phase of nuclear power plants. These audits are performed to verify that all safety related activities associated with nuclear power plants are carried out in accordance with the requirements of the FPL QA Program, and that the implementation is effective.

18.2.1 Personnel

Quality Procedures provide instructions for the training of QA Department personnel who perform audit activities, to assure that they are adequately indoctrinated and trained, and that they are qualified to carry out these activities. Quality Procedures provide for personnel qualified as Lead Auditors to be formally certified by Quality Assurance Department management. Certification shall be based on education, experience, training and other specified criteria.

18.2.2 Planning and Scheduling

Quality Procedures and Quality Instructions provide requirements for written audit plans and schedules. The audits are planned and scheduled on the basis of the following requirements, as appropriate:

a. Activities shall be audited as early in their life as practicable. Auditing shall be initiated early enough to assure effective quality assurance during the design, procurement and contracting activities.

b. Applicable elements of the internal and on-site QA Programs shall be audited at least once every two years during the operation phase of plant life following initial fuel loading. For other plants' phases, the applicable elements shall be audited at least once every year or once within the life of a quality related activity, whichever is shorter.

c. An annual evaluation of suppliers' quality performance history shall be performed to determine reaudit requirements. Reaudit requirements for suppliers shall be based on the supplier's quality performance and the complexity and criticality of the equipment or service being procured. A facility evaluation (audit) will be performed at least every three years and shall be conducted in accordance with Quality Procedures and Quality Instructions for supplier evaluations.

d. Audits shall be regularly scheduled for on-going activities.

e. Regularly scheduled audits shall be supplemented, as required to cover unforeseen events or changes in requirements.

The scope of audit activities shall include, as a minimum:

18.2.2 Planning and Scheduling (Cont'd)

a. The determination of site features which affect plant safety (e.g., core sampling, site preparation, and meteorology).

b. The preparation, review, approval, and control of the SAR, designs, specifications, procurement documents, instructions, procedures, and drawings.

c. Evaluation of bids.

d. Indoctrination and training programs.

e. Receiving and plant inspections.

f. Operation, maintenance/repair and modification.

g. The implementation of operating and test procedures.

h. All criteria in Appendix B to 10 CFR Part 50.

i. Validity of Certificates of Conformance.

External audits shall be performed by the Quality Assurance Department on Architect/Engineers, NSSS vendors, constructors, and other suppliers of safety related materials and services to evaluate their QA programs, procedures and activities. Procurement documents require that FPL suppliers and contractors in turn perform audits on their sub-tier suppliers and contractors.

18.2.3 Conduct of Audits

Quality Procedures and Quality Instructions shall delineate requirements for the conduct of audits. These procedures and instructions shall require that:

a. Audits be conducted by trained and qualified personnel.

b. Personnel conducting audits shall not have direct responsibility in the area audited.

c. Checklists or procedures shall be used to ensure depth and continuity of audits.

d. Objective evidence shall be examined for compliance with quality assurance program requirements. This shall include examination of procedures and activities to assure that documented objective evidence is meaningful and in compliance with the overall Quality Assurance Program.

e. Audits shall include evaluation of work areas, activities, processes and items; and the review of documents and records.

18.2.4 Reporting of Audit Findings

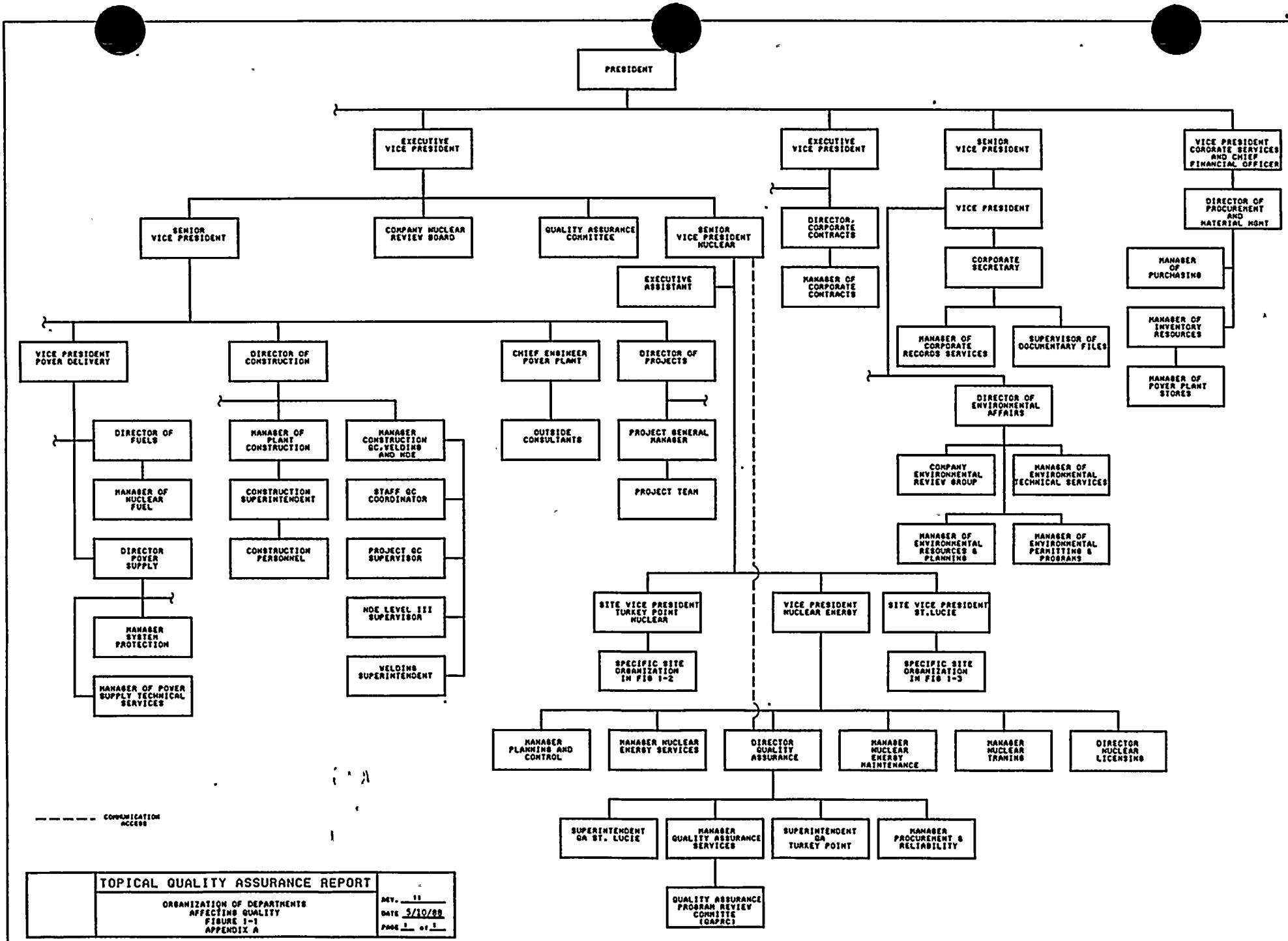
Audit findings shall be documented in written reports. Audit reports shall be distributed to the responsible management of the audited FPL organization within thirty calendar days after completion of the audit.

18.2.5 Follow-up

Responsible management of the audited organization shall take action to correct the deficiencies identified in the audit report and provide a written response within thirty calendar days after receipt of the report. This response shall include action taken and/or planned to correct deficiencies and to prevent recurrence of the deficiencies, and commitment dates for actions not yet complete. The mechanism for evaluation and follow-up of corrective action is described in TQR 16.0. The status of correction of deficiencies shall be followed until the corrective actions have been accomplished and verified.

18.2.6 Reports to Management

Quality Assurance Program status reports are periodically prepared by the QA Department and routed to the members of the QA Committee for their review. This status report summarizes the results of QA Department audit activities for the period, keeps all Committee members apprised of current conditions and program effectiveness, and when necessary, directs management attention to significant trends and problems.



	TOPICAL QUALITY ASSURANCE REPORT	
	ORGANIZATION OF DEPARTMENTS AFFECTING QUALITY FIGURE 1-1 APPENDIX A	REV. 11 DATE 5/10/88 PAGE 1 of 1

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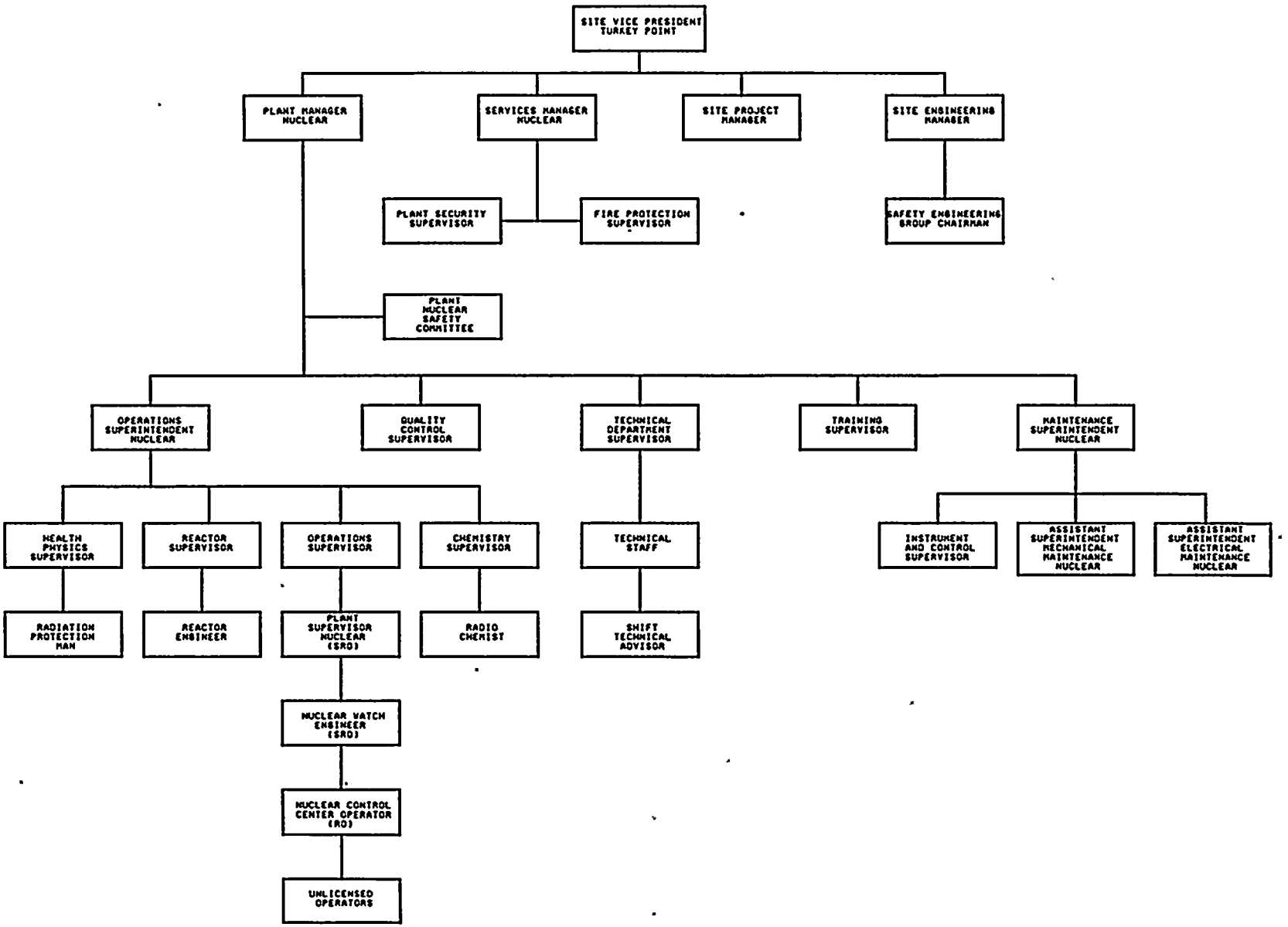

	TOPICAL QUALITY ASSURANCE REPORT	
	TURKEY POINT NUCLEAR SITE ORGANIZATION FIGURE 1-2 APPENDIX A	REV. 0 DATE 5/10/88 PAGE 1 of 1

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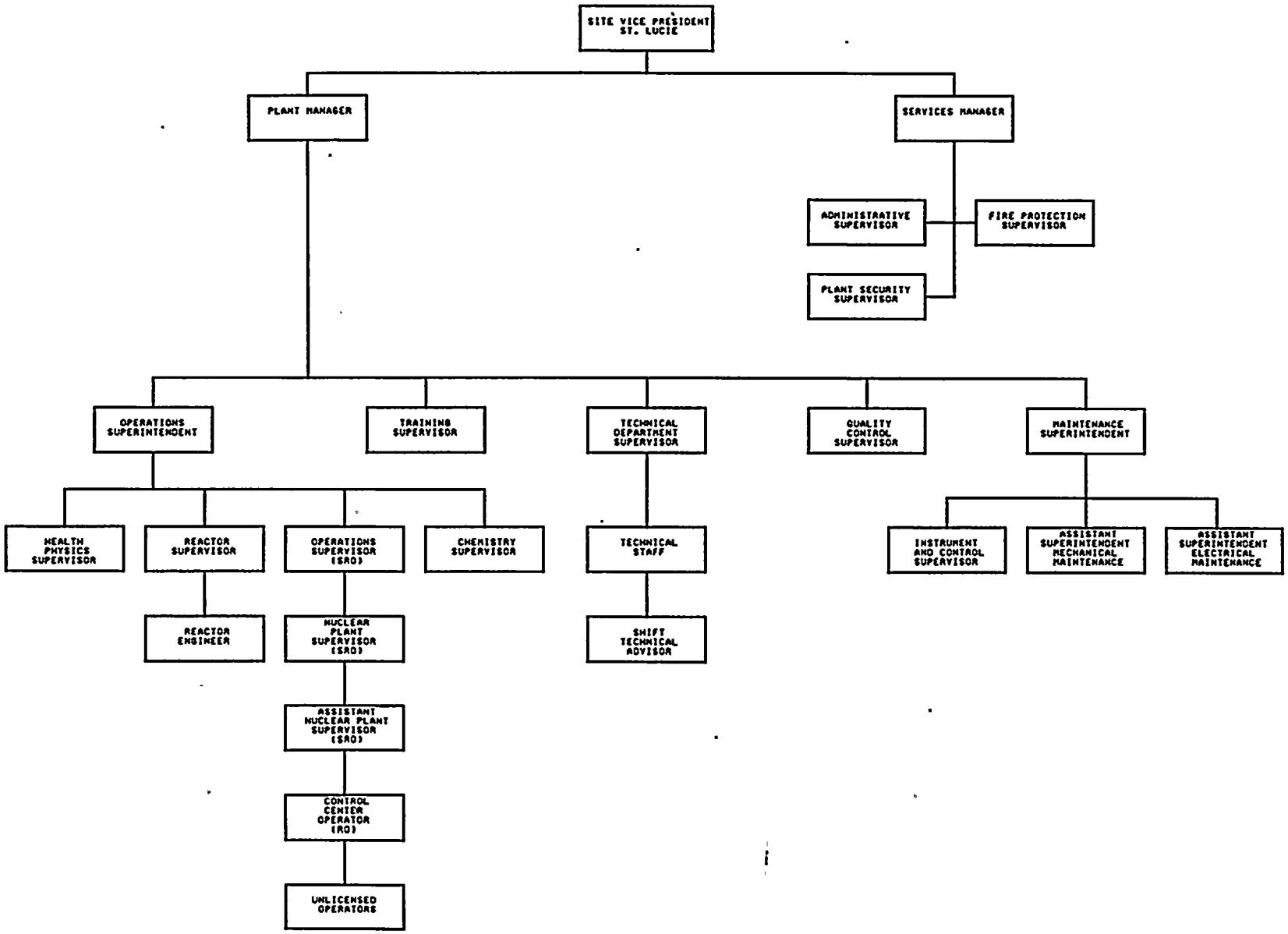

	TOPICAL QUALITY ASSURANCE REPORT	
	ST. LUCIE PLANT, UNITS 1 & 2 SITE ORGANIZATION FIGURE 1-3 APPENDIX A	REV. 0 DATE 5/10/88 PAGE 1 of 1

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QUALIFICATION AND EXPERIENCE REQUIREMENTS FOR FPL QUALITY ASSURANCE PERSONNEL

TITLE	EDUCATION AND BACKGROUND EXPERIENCE*
Manager of Quality Assurance Services and Superintendents - QA	Shall satisfy the following set of requirements: Graduate of a four year accredited engineering or science college or university, plus seven years of industrial experience, including five (5) years in positions of leadership such as lead engineer, project engineer, audit team leader, etc. At least two (2) years of this five (5) years experience shall be nuclear power plant experience in the implementation of the Quality Assurance Program. Six (6) months of the two (2) years experience shall be obtained within a Quality Assurance organization. A masters degree in engineering or business management is considered equivalent to two (2) years of general industry experience.
Assistant Manager of Quality Assurance	Shall satisfy one of the following sets of requirements: Graduate of a four year accredited engineering or science college or university, plus seven years of industrial experience including three years in positions of leadership, such as lead engineer, project engineer, audit team leader, etc. At least two years of this experience should be associated with nuclear facilities. A masters degree in engineering or business management is considered equivalent to two years of experience. Completion of college level work leading to an associates degree in a related discipline plus fifteen years of industrial experience including three years in positions of leadership, such as project engineer, audit team leader, supervisor, etc. At least five years of this experience should be associated with nuclear facilities. High school graduate, plus twenty years of industrial experience, including three years of positions of leadership, such as project engineer, audit team leader, supervisor, etc. At least five years of this experience should be associated with nuclear facilities.

* The education and experience requirements should not be treated as absolute when similar training or an outstanding record will provide reasonable assurance that a person can perform the required tasks.

BASELINE DOCUMENT MATRIX

This topical report contains the program requirements for Florida Power & Light Company's Quality Assurance Program. The Quality Assurance Program is described in detail in the Florida Power & Light Company Quality Assurance Manual.

The Regulatory Guides, codes, and standards specifically listed in the matrix of this appendix (on page 2) represent the baseline documents used in the preparation of FPL's QA Manual and this topical report. These documents, therefore, provide the basis for the FPL QA Program, but they are not considered to be part of the QA Program unless specifically addressed in the applicable SAR, technical specifications, etc.

The FPL Quality Assurance Program meets the requirements of the documents referenced in this appendix. Any alternatives or clarifications made to the requirements contained in these documents are stated on pages subsequent to the second page of this appendix.

BASELINE DOCUMENT MATRIX

GOVERNMENT DOCUMENT	DATED	REFERENCE INDUSTRY STANDARD	DRAFT REV. ISSUED DATE
10 CFR PART 50, APPENDIX B	2/19/75	ANSI-N45.2	1971
10 CFR PART 50.55a		ASME B&PV Code Section III & XI	Specified in the SAR document of the respective plant
Regulatory Guide 1.8 Rev. 1	9/75	ANSI-N18.1 ANSI/ANS 3.1	1971 1978
Regulatory Guide 1.28	6/7/72	ANSI-N45.2	1971
Regulatory Guide 1.30	8/11/72	ANSI-N45.2.4	1972
Regulatory Guide 1.33 Rev. 2	2/78	ANSI-N18.7	1976
Regulatory Guide 1.37	3/16/73	ANSI-N45.2.1	1973
Regulatory Guide 1.38 Rev. 2	5/77	ANSI-N45.2.2	1972
Regulatory Guide 1.39 Rev. 2	9/77	ANSI-N45.2.3	1973
Regulatory Guide 1.58 Rev. 1	9/80	ANSI-N45.2.6	1978
Regulatory Guide 1.64 Rev. 2	6/76	ANSI-N45.2.11	1974
Regulatory Guide 1.74	2/74	ANSI-N45.2.10	1973
Regulatory Guide 1.88 Rev. 2	10/76	ANSI-N45.2.9	1974
Regulatory Guide 1.94 Rev. 1	4/76	ANSI-N45.2.5	1974
Regulatory Guide 1.116	6/76	ANSI-N45.2.8	1975
Regulatory Guide 1.123 Rev. 1	7/77	ANSI-N45.2.13	1976
Regulatory Guide 1.144 Rev. 1	9/80	ANSI-N45.2.12	1977
Regulatory Guide 1.146	8/80	ANSI-N45.2.23	1978

Florida Power & Light Company position regarding conflicting guidance and exceptions:

TQAR Appendix C Clarification, ANSI/ANS 3.1 - 1978 (PSL-2)

The Regulatory Guides and industry standards listed in Appendix C to the Topical Quality Assurance Report take precedence over any Regulatory Guide or industry standard which may be referenced in any one of these documents.

Regulatory Guide 1.8, Rev. 1, ANSI N18.1-1971, ANSI/ANS 3.1 (PSL-2)

ANSI N18.1 describes the training and education requirements for plant staff positions and is endorsed by Reg. Guide 1.8 with an exception. That exception is the requirements for the Supervisor - Radiation Protection. ANSI N18.1 is invoked by Technical Specifications (Appendix A of the Facility Operating License) at the Turkey Point plants and PSL-1. ANSI/ANS 3.1-1978 is invoked by Technical Specification at PSL-2. Reg. Guide 1.8 is also invoked by Technical Specifications at our St. Lucie plant and a license amendment has been approved for our Turkey Point plant to specify the Health Physics Supervisor qualifications addressed in Reg. Guide 1.8.

To avoid duplication of requirements, FPL will address Plant Staff Qualifications in only the Technical Specifications.

Regulatory Guide 1.30/ANSI N45.2.4-1972

ANSI N45.2.4-1972, Paragraph 2.3 addresses installation specifications and requires the inclusion of inspection and test objectives. FPL maintains that test values and inspection scope are inherently contained in the applicable procedures.

ANSI N45.2.4-1972, Paragraph 6.1.2 requires that the inspection of installed equipment verify that "good and proper workmanship" has prevailed. FPL maintains that acceptable parameter compliance with codes and standards along with company preference is the verification of "good and proper workmanship".

Regulatory Guide 1.33, Rev. 2, ANSI N18.7 - 1976

FPL's method of addressing Paragraphs 4.0, 5.2.2, 5.2.15 and 5.3 of ANSI 18.7 - 1976 as modified by Regulatory Guide 1.33, Rev. 2 is covered in Section 6 of each individual plant's Technical Specifications.

ANSI N18.7-1976, Section 4.3, requires that personnel performing the independent review and audit be specified in number and technical discipline. This standard is invoked by the Technical Specifications (Appendix A of the Facility Operating Licenses) which have been approved for the FPL nuclear plants at St. Lucie and Turkey Point. Specifically this function is performed by the Company Nuclear Review Board (CNRB) identified in Section 6.5.2 of the Technical Specifications.

To avoid duplication of requirements, FPL will address the personnel and functions of this independent review and audit only in the Technical Specifications.

FPL's method of addressing Section 5.2 of ANSI N18.7-1976, as modified by Regulatory Guide 1.33, Rev. 2, is by administratively controlling licensed operator hours on shift and by our Duty Call Supervisor system. Further, FPL has developed a response to NUREG 0654 which provides staffing availability.

FPL's method of addressing Paragraph 5.2.8 of ANSI N18.7-1976, as modified by Regulatory Guide 1.33, Rev. 2, is covered in Section 4 of each plant's Technical Specifications.

FPL's method of addressing Paragraph 5.2.9 of ANSI N18.7-1976, as modified by Regulatory Guide 1.33, Rev. 2, is covered in 10 CFR 73 and each plant's Security Plan, and as such is not included in the Quality Assurance Program.

Chemical cleaning is not presently controlled as a special process per se; however, the requirements of ANSI N45.2.1-1973 and Regulatory Guide 1.37 dated 3/16/73 are part of the FPL QA Program and are met in our program. FPL proposes these requirements to be an alternative to the requirements of ANSI N18.7-1976, Paragraph 5.2.18. Further, TQR 9.0, Paragraph 9.2 explains the review of potential special processes and determination of their status as special processes.

FPL meets the intent of Section 5.2.19.3 of ANSI N18.7-1976 as modified by Regulatory Guide 1.33, Rev. 2, as applied to significant changes to operating procedures, by the technical review of the procedure change by knowledgeable plant professionals, by the safety review of the procedure change by the on-site facility review group, by the regulatory and QA review of the procedure by plant Quality Control, by training the licensed operators in the change through the training report system, and by trained, licensed operators using the revised operating procedure and observing the proper result. In addition, procedure changes will be reviewed to assure 10 CFR 50.59 requirements are met.

Paragraph 5.3.5(4) - Clarification - When FPL uses vendor manuals and drawings which provide adequate instructions for maintenance, these documents are attached or referenced with Plant Work Orders which are reviewed and approved by Supervisory and Quality Control personnel and are considered to be adequate procedures in themselves. These vendor manuals and drawings, when received at site, are controlled documents and changes to the applicable sections and instructions of these documents require the same level of review and approval as the operating procedures.

Appendix A of Regulatory Guide 1.33 lists "typical safety related activities which should be covered by written procedures". Regulatory Guide 1.33 is invoked by the Technical Specifications at FPL Nuclear Plants.

In order to avoid duplication of requirements invoked in our licensing documents, the FPL Quality Assurance Program does not list those required operating procedures specified in Appendix A.

Regulatory Guide 1.37/ANSI N45.2.1-1973

ANSI N45.2.1-1973, Paragraph 5 states in part that, "Fitted and tackwelded joints (which will not be immediately sealed by welding) shall be wrapped with polyethylene or other non-halogenated plastic film until the welds can be completed". The FPL QA Manual shall require that the weld be covered to prevent entry of moisture and contaminants but will not specify the material to be employed. Materials employed to cover openings shall meet the requirements of Regulatory Guide 1.37, Position 4.

ANSI N45.2.1-1973, Paragraph 7.1 states in part, "provisions shall be made to collect leakage and protect insulation from being wetted". FPL Quality Assurance Program includes the above requirements. However, FPL's program allows the wetting of metallic type insulations which are not adversely affected by wetting.

ANSI N45.2.1-1973, Paragraphs 7.2.2, 7.2.3, and 7.3 address specific cleaning methods (Alkaline, Chelate, Acid) and make recommendations associated with several types of cleaning methods. FPL's QA manual does not specifically delineate these paragraphs. However, the procedure developed per Paragraph 2.2 of ANSI N45.2.1 will ensure that any specific cleaning method chosen will be properly considered and controlled.

Regulatory Guide 1.38, Rev. 2/ANSI N45.2.2 - 1972

FPL will meet the requirements of Reg. Guide 1.38, Rev. 2, Position 2C, D and E for safety related applications during preoperational and operational activities. Restrictions imposed for tapes to be color constrasting will only be applied to the extent that these colors are dissimilar or otherwise distinguishable. This does not preclude using other tapes when precuations are taken to ensure these tapes do not come in contact with austentic stainless steel or nickel alloy materials.

Vapor barrier material (other than metal) shall be colored to contrast with or be otherwise distinguishable from safety related systems to prevent undisclosed entry into the system.

These requirements do not apply to components in storage which would require removal of such tapes and barriers to effect installation.

ANSI N45.2.2-1972 Section 2.7 requires that items governed by this standard be classified into one of four levels by the buyer or the contractor. FPL intends to consider what care is appropriate for each item individually rather than generically classifying the material into protection levels and providing care required of that level. The following shall be considered when determining the handling, storage, and shipping requirements:

1. The vendor's recommended handling, shipping, and storage standards.

2. Environmental requirements which may include such requirements as inert gas atmosphere, humidity limits, temperature limits, chemical requirements, acceleration (g force) requirements.

3. Special tools or equipment which are provided and controlled as necessary to ensure safe and adequate handling. These tools or equipment shall be inspected and tested at specified times to verify that they are adequately maintained.

4. Packaging, covering or coatings required to meet environmental requirements such as barrier and wrap material, desiccants, pipe caps, plugs, contact preservatives, etc.

5. Container, crating, skids of sufficient strength to support the item (including stacking).

6. Cushioning, blocking, bracing, and anchoring to prevent movement during shipment or handling.

7. Special handling or storage procedures for unique situations.

8. Marking and identification of the item and its packaging.

9. Anticipated "shelf life" of the item.

FPL considers this to be a more effective approach since the quantity of spare and replacement material, parts and components governed by this standard will be afforded protection commensurate with the recommendations of Section 2.7 of this standard.

ANSI N45.2.2-1972 Sections 3.0, 4.0, and the Appendix address all the requirements applicable to the packaging and shipping of material. FPL in general does not package or ship material governed by this standard. Suppliers of material are required by purchase order to provide adequate packaging and shipping protection. Isolated cases of material packaging or shipping are treated on a case-by-case basis and receive protection comparable to that required by the manufacturer of that material. Loading, rigging and handling precautions identified in Section 4.3 are applied to material unloaded by FPL from a transport vehicle.

ANSI N45.2.2-1972 Section 5.2 requires that specific attributes of material and components received by FPL be inspected. For plants with operating licenses FPL verifies conformance to procurement documents during receipt inspections. Any of these attributes identified in these procurement documents are verified during this inspection.

ANSI N45.2.2-1972 Section 5.2, paragraph 5.2.1, requires certain preliminary inspections to be done "prior to unloading" of material which is received. We believe that the sequence specified in the standard is to facilitate commercial claims, and should these preliminary inspections occur "after unloading" that control of materials quality would not be degraded. Accordingly, required shipping damage inspections may be performed after unloading.

The requirements of ANSI N45.2.2, Paragraph 7.2 for items that require special handling instructions is clarified by FPL to be limited to those items covered in the scope of NUREG 0612, entitled "Control of Heavy Loads at Nuclear Power Plants".

ANSI N45.2.2-1972, Paragraph 7.4 requires that an inspection program be established for handling equipment and rigging, including methods for identifying acceptable and nonconforming items. In lieu of having a program of periodic, documented inspections of rigging and handling equipment, FPL's practice is to have the individual user determine the equipment's acceptability prior to each use. This prior-to-use inspection is exactly the same as that required during periodic inspections, and uses criteria identified in ANSI N45.2.2-1972, paragraph 7.4. This practice also precludes the need for a system to indicate the acceptability of rigging and handling equipment. Implementation of this prior-to-use inspection will be assured through periodic surveillances and audits performed by Quality Assurance and Quality Control. Cranes are inspected on a periodic basis and will not be subjected to this prior-to-use inspection.

Certain mechanical components of the PSL-2 nuclear unit have been designed for a service environment of the site area because portions of the plant are exposed to the temperature, humidity, and ocean salt spray during operations. Extreme air temperature variations, snow or slush are not encountered during operations or in the out-of-doors storage environment. As an alternative to the rigid requirements of storage levels B and C in paragraph 6.1 of ANSI N45.2.2-1972, FPL proposes to store these particular mechanical components outdoors, but within controlled areas, with sufficient periodic surveillances and inspections to minimize the possibility of damage or lowering of quality due to corrosion, contamination, deterioration, or physical damage. In cases where special environmental conditions are present (i.e. hurricanes, paint sprays, concrete pours, etc.) precautions or additional steps will be taken to further protect the items.

Regulatory Guide 1.39, Rev. 2/ANSI N45.2.3-1973

For FPL's operating nuclear plants, alternative methods are followed to achieve equivalent objectives for the below listed sections of ANSI N45.2.3-1973:

The zone designations of Section 2.1 of N45.2.3 and the requirements associated with each zone are not consistent with the FPL Housekeeping requirements at our operating nuclear units. In lieu of the zone designation, cleanliness is maintained at a level consistent with the work being performed, so as to prevent the entry of foreign material into safety related systems. Documented cleanliness inspections are performed immediately prior to system closure. Control of personnel, tools, equipment, and supplies is established with approved procedures when the safety function of a system, component, or item may be jeopardized and also while the reactor system is opened for inspection, maintenance, or repair.

Regulatory Guide 1.58, Revision 1/ANSI N45.2.6-1978

ANSI N45.2.6-1978, Paragraphs 1.1, 3.1, 3.2.2(a) and 4 (Table-1) identify requirements which apply to personnel who perform inspections, tests or nondestructive examinations or who participate in the approval of procedures, the handling of data or test results, or the control of reports and records.

FPL proposes an alternative to capability requirements for those who participate in: (1) the approval of procedures, (2) the handling of data or test results and (3) the control of reports and records. FPL accomplishes this by having personnel determined to be qualified and competent by management through consideration of education, training, and experience.

The Florida Power & Light Company position on the scope of ANSI N45.2.6-1978 is that personnel participating in testing who take data or make observations, where special training is not required to perform this function, need not be qualified in accordance with ANSI N45.2.6 but need only be trained to the extent necessary to perform the assigned function.

For leak testing conducted as part of the preoperational and operational testing programs, FPL considers that the qualification requirements of Regulatory Guide 1.8 (ANSI N18.1-1971) and ANSI N45.2.6-1978, Paragraph 3.0 to be an acceptable alternative to SNT-TC-1A-1975 requirements for leak testing, except for leak testing defined in and performed under Section III of the ASME Code, where in such cases, the Code shall govern.

For preoperational and operational inspection, examination and testing by Quality Control Inspectors, FPL considers that Position C.1 of Regulatory Guide 1.58, Revision 1 and ANSI N45.2.6-1978, Paragraph 3.0 are acceptable requirements for training and qualification, except for inspections, tests and examinations defined in and performed under Section III of the ASME Code, where in such cases, the Code shall govern.

For all other preoperational and operational inspection, examination and testing performed by operating plant and support personnel, FPL considers that training and qualification to the requirement of ANSI N18.1-1971 and Regulatory Guide 1.8 are sufficient for the type and scope of activities performed and that qualifications to ANSI N45.2.6-1978 is unnecessary and redundant. These preoperational and operational inspection, examination tests shall be supervised or directed by personnel qualified to Position C.1 of Regulatory Guide 1.58, Revision 1.

FPL shall comply with Position C.10 of Regulatory Guide 1.58, Revision 1, effective with Revision 4 of the Topical Quality Assurance Report, in that all new certifications issued for personnel shall meet the education and experience requirements or shall document objective evidence demonstrating that the individual indeed does have comparable or equivalent competence to that which would be gained from having the required education and experience.

FPL's position on ANSI N45.2.6-1978, Paragraph 2.3 is that an initial and periodic review (not to exceed two years) of personnel shall determine the capabilities in his qualified area. If during this review or at any other time, it is determined that the individual's capabilities are not in accordance with the specified requirements, that individual shall be removed from that activity until the required capability has been demonstrated. In addition, during this review a determination shall be made that an individual has been actively involved in the inspection process in his qualified area.

Regulatory Guide 1.64, Rev. 2/ANSI N45.2.11-1974

FPL's exception to Regulatory Guide position C.2 is as follows:

Design verification shall be performed by technically qualified individual(s) or group(s) other than those who performed the design. The original designers and verifiers may both be from the design organization. Design verification by the designer's immediate supervisor shall be limited to those instances where the supervisor is the only qualified individual available within the design organization. These instances are further restricted to designs where the designs where the supervisor did not specify a singular design approach, or did not restrict design methods or alternatives, or did not specify design inputs (unless the specified design inputs have already been independently verified). Justification for verification by the designer's immediate supervisor should be documented along with the extent of the supervisor's involvement in the design.

ANSI N45.2.11-1974, Paragraph 11.4 requires that "audits shall include an evaluation of design quality assurance policies, practices, procedures and instructions . . . ." FPL's design quality assurance (and all other QA elements) policies, procedures and instructions are included in FPL's Quality Assurance Program documentation. The Quality Assurance Department evaluates all of this documentation in reviews performed during its development and revision. Accordingly, FPL does not require subsequent (and redundant) evaluations of these Quality Assurance Program policies, procedures and instructions during audits. FPL audits will include evaluations of the adequacy of the practices which are the implementation of these policies, procedures and instructions.

Regulatory Guide 1.68 (11/73)

Regulatory Guide 1.68 (11/73) entitled "Preoperational and Initial Start-up Test Programs for Water Cooled Power Reactors" is addressed in Section 14.2.1 of the St. Lucie Unit 2 FSAR which states in part, "The start-up test program is developed using the recommendations of Regulatory Guide 1.68". To avoid duplication of requirements, FPL will address Regulatory Guide 1.68 in the FSAR.

Regulatory Guide 1.74/ANSI N45.2.10 - 1973

ANSI N45.2.10 - 1973 identifies terms and their definitions important to the uniform understanding of the intent of required quality assurance practices for the construction of nuclear power plants. Regulatory Guide 1.74 (2-74) endorses these terms and definitions and extends them through the operational phase and includes a clarification of procurement documents.

FPL has developed a glossary of terms and their definitions as part of the Quality Assurance Manual which is being used throughout its nuclear construction and operating plant activities.

The following definitions are currently listed in our glossary and are alternatives or clarifications to those listed in the ANSI Standard and Regulatory Guide:

Assembly	A combination of subassemblies or components or both, fitted together to form a workable unit.
Audit	A documented activity performed in accordance with written procedures or checklists to verify, by examination and evaluation of objective evidence, that applicable elements of the quality assurance program have been developed, documented and effectively implemented in accordance with specified requirements. An audit does not include surveillance or inspection for the purpose of process control or product acceptance.
Guidelines	Particular provisions which are considered good practice but which are not mandatory in programs intended to comply with Standards. The term "should" denotes a guideline; the term "shall" denotes a requirement; and the word "may" denotes permission, neither a requirement nor a recommendation.

Inspector (Owner's or Installer's)	A qualified inspector employed by the Owner or Installer, whose duties include the verification of quality related activities on installations.
Inspection	Examination, observation, or measurement to determine the conformance of materials, supplies, components, parts, appurtenances, systems, processes, or structures to predetermined requirements.
Procurement Documents	Contractually binding documents, including such documents as contracts, letters of intent, work orders, purchase orders or proposals and their acceptances which authorize the seller to perform services or supply equipment, material, or facilities on behalf of the purchaser.
Qualification (Personnel)	The characteristics or abilities gained through training or experience or both as measured against established requirements such as standards or tests that qualify an individual to perform a required function.
Quality Assurance	All those planned and systematic actions necessary to provide adequate confidence that a structure, system or component will perform satisfactorily in service. Quality Assurance includes quality control.
Quality Control	Those quality assurance actions related to the physical characteristics or material, structure, component or system, which provide a means to control the quality of the material, structure, component or system to predetermined requirements.

Storage	That period following the release of an item for shipment until turnover for start-up preoperational testing. This would include in-place storage.
System	An integral part of a nuclear power plant comprised of electrical, electronic, or mechanical components (or combinations thereof) that may be operated as a separate entity to perform a specific function.
Testing	Performance of those steps necessary to determine that systems or components function in accordance with predetermined specifications.

"Requirements" Clarification for Glossary

REQUIREMENT:	A mandatory action, denoted by the word shall. (See "Guidelines") Requirements are generally based on statutes or regulations, but may be internally generated within the company. "Shall" is therefore used for both external, legally enforceable actions and internal requirements not enforceable under current NRC practices.

Regulatory Guide 1.88, Rev. 2/ANSI N45.2.9-1974

ANSI N45.2.9-1974, Section 3.2.5 requires Quality Assurance records be classified as lifetime or non-permanent and further defines lifetime and non-permanent in Section 2.2 of the Standard. FPL provides the following definitions as an alternative to the above.

Lifetime Records: Records which are required by the NRC facility operating license, the NRC construction permit, applicable parts of 10CFR, the FSAR, or other NRC commitments to be retained for the life of the plant.

Non-permanent Records: Records which are required by the NRC facility operating license, the NRC construction permit, applicable parts of 10CFR, the FSAR, or other NRC commitments to be retained for periods of time less than the life of the plant.

ANSI N45.2.9-1974, requirements for Section 5.6, "Facility", are clarified by FPL as follows:

QA records shall be stored in a manner as to protect contents from possible destruction by causes such as fire, flooding, tornados, insects, rodents, and from possible deterioration by a combination of extreme variations in temperature and humidity conditions.

A QA Record Storage Evaluation Team (QARSET) shall be responsible for determining methods utilized to assure that QA Records are adequately stored and protected.

The QARSET shall consist of the following: the Manager of Quality Assurance, the Loss Prevention Engineer, and the Manager of Corporate Record Services, who shall be responsible for maintaining records of evaluations and establishing schedules to assure that reevaluations are performed every two (2) years. If necessary, the above QARSET Committee may delegate appropriate designees to serve as team members.

As part of their responsibility, the QARSET shall evaluate the status of existing facilities and the adequacy of additional records facilities prior to the construction of a new facility or the conversion of existing structures. Preferably, such evaluations should be performed during the design phase.

ANSI N45.2.9-1974 will be utilized in the evaluation of potential record storage facilities. Section 5.6 "Facilities" is modified as follows and shall be the basis for QARSET approved QA Record Storage Facilities.

1. A 2-hour vault meeting NFPA No. 232 without additional provisions.

2. 2-hour rated fire resistant file room as defined in NFPA No. 232-1980 if the following additional provision are provided:

a. Early warning fire detection and automatic fire suppression shall be provided, with electronic supervison at a constantly monitored central station.

b. Records shall be stored in fully enclosed metal cabinets. Records shall not be permitted on open steel shelving. No storage or records shall be permitted on the floor of the facility. Adequate access and aisle space shall be maintained at all times throughout the facility.

c. Work not directly associated with records storage or retrieval shall be prohibited within the storage facility.

d. Smoking and eating/drinking shall be prohibited throughout the records storage facility.

e. Ventilation, temperature, and humidity control equipment shall be provided with approved fire dampers where they penetrate fire barriers.

3. Other conditions from the above may be approved by the QARSET if in their judgement the condition meets the established level of protection defined above.

There are two acceptable alternatives to the establishment of an approved QA record storage facility:

1. The maintenance of duplicate QA Records stored in separate locations which are not subject to the same destructive force at the same time.

2. The use of QARSET approved factory built record protection equipment, such as insulated record containers, fire-resistive safes, and insulated filing devices.

Where a specially constructed storage room is maintained to store the only copy of QA records, at least the following features should be considered in its construction:

(1) Reinforced concrete, concrete block, masonry, or equal construction.

(2) Concrete floor and roof with sufficient slope for drainage; if a floor drain is provided, a check valve (or equal) shall be included.

(3) Structure, doors, frames and hardware should be fire-rated with a recommended two hour minimum rating.

(4) Sealant applied over walls as a moisture or condensation barrier.

(5) Surface sealant on floor providing a hard-wear surface to minimize concrete dusting.

(6) Foundation sealant and provision for drainage.

(7) Forced-air circulation with filter system.

(8) Adequate fire detection and/or suppression system.

(9) No pipes other than those providing fire protection to the storage facility are to be located within the facility.

Regulatory Guide 1.116/ANSI N45.2.8-1975

ANSI N45.2.8-1975, Paragraph 2.3 requires that Measuring and Test Equipment (M&TE) used for inspection be identified on the Inspection Report. FPL may, as an option, employ a M&TE issue log which provides traceability between M&TE and the applicable inspections.

ANSI N45.2.8-1975, Paragraph 4.6 addresses care of items to the extent that temporary use of equipment or facilities to which the standard applies that are to become part of the completed project may be desirable.

The following clarification applies to the above statement. For FPL plants in the construction phase (to the point of plant operation license) temporary use of equipment and facilities may be used according to need and/or situation. In this case, authorization for usage shall be provided along with all the documents, conditions, safeguards and evaluations to verify permanent plant equipment adequacy.

In the operations phase all equipment, including temporary equipment, is subject to identical controls to preclude adverse effects on safety and suitability for use.

Regulatory Guide 1.123, Rev. 1/ANSI N45.2.13-1976

ANSI N45.2.13-1976 Section 1.1 states that the extent to which the individual requirements of this standard will apply will depend upon the nature and scope of the work to be performed and the required quality of the items or services purchased. For commercial grade items, FPL has determined that certain aspects of the individual requirements of ANSI N45.2.13 need not apply. Commercial grade items are those (1) not subject to design or specification requirements that are unique to facilities or activities licensed by the NRC, and (2) used in applications other than facilities or activities licensed by the NRC, and (3) to be ordered from the manufacturer/supplier on the basis of specifications set forth in the manufacturer's published product description. These commercial items are subject to varying degrees of control as indicated in the FPL Quality Assurance Manual.

As a minimum, an evaluation is performed by qualified personnel to assure that the commercial item satisfies the necessary technical and quality requirements and the item is checked upon receipt to assure that the item received was the one ordered, damage was not sustained during shipment, and documentation, if required, was received.

ANSI N45.2.13-1976 Section 1.3 provides a definition of "procurement document" which is different from the definition contained in ANSI N45.2.10-1973 and Regulatory Guide 1.74. The Florida Power & Light (FPL) Quality Assurance Program uses the definition of "procurement document" contained in ANSI N45.2.10-1973 as modified by Regulatory Guide 1.74.

ANSI N45.2.13-1976 Section 3.3.a requires that procurement documents be reviewed prior to release for bid and contract award. The FPL Quality Assurance Program requires procurement document reviews prior to bid and contract award for all safety related purchases with the exception of these accomplished by "Confirming Purchase Order". A "Confirming Purchase Order" is an order which is initially placed verbally with the supplier and then later confirmed with a written Purchase Order. A "Confirming Purchase Order" is only used when time restraints would prohibit the normal review and approval cycle. The following controls are provided in the FPL Quality Assurance Manual to assure that the intent of ANSI N45.2.13 is satisfied for "Confirming Purchase Orders".

(1) Quality Assurance must be contacted prior to contacting the supplier to place the order unless it is an emergency purchase after normal working hours in which case Quality Assurance is contacted the next working day.

(2) Prior to verbally placing the order, it must be verified that the intended supplier is on the FPL Quality Assurance Approved Supplier List.

(3) The verbally placed order must be promptly followed-up (confirmed) with a written procurement document which is subject to all reviews and approvals required for safety related purchases.

Section 8.2 of ANSI N45.2.13 identifies those nonconformances which shall be submitted to the Purchaser. Florida Power & Light's (FPL) position regarding the nonconformances to be reported is as follows. Suppliers (including A/E's and Contractors) shall submit all nonconformances which consist of one or more of the following:

1) Technical or material requirements are violated.
2) Requirement in supplier documents which have been approved by the Purchaser is violated.
3) Nonconformances which would affect the quality of the item in regard to function of safety related features. In cases where the supplier cannot make this determination, they shall be submitted to the Purchaser for evaluation.

This policy assures that all nonconformances affecting safety related functions will be reviewed and approved by FPL. In all cases, the supplier's documentation on nonconformances is available for FPL's review.

Regulatory Guide 1.130/ANSI N45.2.4-1972

ANSI N45.2.4-1972, Paragraph 2.5.2 requires that equipment be "suitably marked to indicate date of next required calibration". In lieu of marking equipment, FPL has chosen to control calibration of installed instrumentation and control equipment by maintaining records for each piece of equipment by instrument tag number (or equivalent) to show that established schedules and procedures for calibration have been followed.

Regulatory Guide 1.144, Rev. 1/ANSI N45.2.12-1977

Regulatory Guide 1.144, Positions C.3 a&b, states in part that applicable elements of an organization's Quality Assurance Program should be audited at least annually or at least once within the life of the activity, whichever is shorter.

ANSI N18.7-1972, Paragraph 4.4 (endorsed by Regulatory Guide 1.33) states in part; "Audits of selected aspects of plant operation shall be performed with a frequency commensurate with their safety significance, and in such a manner as to assure that an audit of safety related activities is completed within a period of two years."

FPL has chosen a two year cycle for auditing elements of the internal and on-site QA Program during the operation phase of plant life following initial fuel loading. FPL's position is that the two year cycle: (1) allows more in-depth and meaningful audits in each regularly scheduled area, (2) permits more audits of ongoing activities, and (3) in conjunction with the planning and scheduling requirement of TQR 18.0 provides for a comprehensive audit program. The audit frequency requirements of Regulatory Guide 1.144 will be followed during other plants' phases.

In the case of suppliers, an annual evaluation of quality performance history shall be performed to determine reaudit requirements. Reaudit requirements for suppliers shall be based on the quality performance, and the complexity and criticality of the equipment or service being procured.

ANSI N45.2.12, Paragraph 4.3.1 states: "A brief pre-audit conference shall be conducted at the audit site with cognizant organization management. The purpose of the conference shall be to confirm the audit scope, present the audit plan, introduce auditors, meet counterparts, discuss audit sequence and plans for the post-audit conference, and establish channels of communication." FPL will not require the pre-audit conference for audits of limited scope and of specific site activities conducted by the Construction and Operations Groups. This conference is omitted because the day-to-day contact of the auditors and plant management, the awareness on the part of plant management that these audits are conducted without pre-audit conferences, and the limited scope of the audits meet the intent of a pre-audit conference.

ANSI Standard N45.2.12-1977, Paragraph 4.5.1 states in part "The audited organization shall provide a follow-up report stating the corrective action taken and the date corrective action was completed". The FPL QA Program requires the QA Department to followup on all action taken by the audited department. This is documented on the corrective action followup form by the QA Department and closed by the QA Department instead of the audited department. This assures that all actions taken by the audited department are verified by the QA Department and that the QA Department concurs with the resolution. We feel that it is appropriate for this to be documented by the QA Department instead of the audited department.

Planning Clarification

ANSI N45.2.4-1972, Paragraph 2.1; ANSI N45.2.6-1973, Paragraph 2.1; ANSI N45.2.13-1976, Paragraph 7.2; ANSI N18.7-1972, Paragraph 5.1.6.3; ANSI N45.2.8-1975, Paragraph 2.1 and Paragraph 2.2 include plans and/or planning as required.

The terms plan and/or planning are included in FPL's activities as indicated in the following clarification:

- Planning is considered to be a management process or analytical tool used as an aid to help develop identification and/or development of program requirements, implementation activities, assignments and staffing, inspections, surveillances and audits, controls and other activities to assure completeness of the requirements. Planning, as such, is not always documented nor addressed as an end item and is considered to be an integral "process" within the developed item.

  Plans which are considered to be end type or output type documents have the term "plan" in the title, such as ISI Master Plan, Audit Plan, Start-up Plan, and others, which as such will reflect directly the requirement of these standards in the appropriate documents.

  Plans which are not considered to be end type or output type documents do not have the word plan in the title. However, certain procedures, instructions, flow charts, schedules and checklists may be considered to be plans reflecting planned actions which especially require step-by-step accomplishments. In these cases, the term plan may not appear in the title but considered to be a plan only in the indirect sense and identified as a procedure or other document. FPL considers the above practice to be in compliance with the "plan" requirements of these standards.

APPENDIX D

"GRAY, GREEN, AND ORANGE BOOK
MATRIX TO QA PROCEDURES

CANCELLED IN ENTIRETY

QP NUMBER/TITLE	SECTION DESCRIPTION
1.1 CANCELLED	
2.1 CANCELLED (Terms and Definitions contained in the QA Manual Glossary)	
2.2 REVISION OF THE TOPICAL QUALITY ASSURANCE REPORT	Provides instructions for the revision of the Florida Power & Light Company Topical Quality Assurance Report (FPL TQAR).
2.3 QUALITY ASSURANCE PROGRAM REVIEW	Describes the instructions and methods used for establishing, preparing, issuing, revising and controlling Quality Procedures employed in supporting quality requirements.
2.4 PREPARATION AND REVISION OF QUALITY INSTRUCTIONS	Provides the responsibilities, guidelines and methods used for developing and revising Quality Instructions, based upon QP's, that involve quality activities within a department or organization and are unique to that activity.
2.5 QUALITY ASSURANCE INDOCTRINATION AND DEPARTMENTAL TRAINING	Describes the requirements for the indoctrination and training of personnel who perform, or are responsible for activities that affect quality.
2.6 CANCELLED	

QP NUMBER/TITLE	SECTION DESCRIPTION
2.7 IDENTIFICATION OF NUCLEAR SAFETY RELATED AND SAFETY RELATED DESIGN FEATURE STRUCTURES, SYSTEMS COMPONENTS AND SERVICES	Describes the development and approval of documents identifying safety related and safety related design feature structures, systems and components.
2.8 CLEANLINESS CONTROL METHODS	Provides criteria for securing good housekeeping. Assigns responsibilities for assuring that the cleanliness of material, systems and structures is maintained.
2.9 QUALIFICATION OF QA AUDIT, QC INSPECTION AND CONSTRUCTION TEST PERSONNEL	Describes the personnel INSPECTION qualifications that are required to assure that competent QC inspectors, QA auditors, and construction test personnel perform these respective functions.
2.10 HOUSEKEEPING - OPERATING PLANTS	Describes the responsibilities and controls for housekeeping at operating nuclear power plants.
2.11 CANCELLED	
2.12 FPL QA PROGRAM APPLICABILITY FPL FOR FIRE PROTECTION SYSTEMS	Identifies the applicability of the Quality Assurance Program for Fire Protection Systems.
2.13 PROCESSING OF NRC CORRESPONDENCE	Describes the system for providing responses to NRC initiated action requests.

QP NUMBER/TITLE	SECTION DESCRIPTION
2.14 IMPLEMENTATION OF ASME XI	Describes the program and responsibilities for controlling activities defined by ASME Section XI.
2.17 ENVIRONMENTAL QUALIFICATION (EQ) OF ELECTRICAL EQUIPMENT	Delineates the responsibilities and requirements for maintaining the environmental qualifications of nuclear plant components.
3.1 CANCELLED	
3.2 IDENTIFICATION AND CONTROL OF DESIGN INTERFACES	Describes measures employed for identifying and controlling design interfaces, changes in design interfaces, and modifications that affect documents.
3.4 PLANT CHANGES AND MODIFICATIONS FOR OPERATING PLANTS	Establishes measures for controlling design changes or modifications in operating nuclear power plants.
3.5 DESIGN CONTROL AT THE CONSTRUCTION SITE	Defines the responsibilities and methods employed for the initiation, review,evaluation, approval and disposition of field initiated design changes and miscellaneous design documents such as field sketches and isometrics.
3.6 CONTROL OF FPL ORIGINATED DESIGN	Covers the preparation, review, and approval of design input documents, design analysis specifications, and design verification for safety related design work originated by FPL.

QP NUMBER/TITLE	SECTION DESCRIPTION
3.7 EVALUATION AND CONTROL OF CONTRACTOR DESIGN FOR NUCLEAR FUEL AND RELATED SYSTEMS	Describes the evaluation and control of contractor designs for fuel related components and analysis.
4.1 CONTROL OF PROCUREMENT ORIGINATED BY OPERATING PLANT PERSONNEL	Provides a system to assure that the appropriate technical and quality requirements are placed upon suppliers who provide materials, equipment, and services for operating nuclear plants as requested by operating plant personnel.
4.2 EVALUATION OF CONTRACTOR'S BIDS - TECHNICAL	Provides the basic evaluation factors for technical evaluations of contractor's bids to supply material, equipment, or services to FPL or FPL's Architect/Engineer.
4.3 CANCELLED	
4.4 REVIEW OF PROCUREMENT DOCUMENTS FOR ITEMS AND SERVICES OTHER THAN SPARE PARTS	Applies to all FPL issued purchase orders and contracts relating to a nuclear power plant, except those originated by operating plant personnel.
4.5 PROCUREMENT OF SAFETY RELATED AND QUALITY RELATED ELECTRICAL EQUIPMENT	Provides a system to assure appropriate technical and quality requirements are placed on suppliers of electrical equipment for nuclear plants.

QP NUMBER/TITLE	SECTION DESCRIPTION
5.1 OPERATING PLANT PROCEDURES	Describes measures which ensure that instructions and procedures used in operating plants are identified, prepared, reviewed, approved, issued and revised in accordance with regulatory and FPL requirements.
5.2 BACKFIT PROCEDURES	Describes the generation, review and control of backfit procedures.
6.1 CONTROL OF CONSTRUCTION PROJECT CONTRACTOR DRAWINGS, SPECIFICATIONS, AND PROCEDURES	Defines responsibilities and methods for the control and issue of contractor drawings, specifications and procedures to be used during the construction phase of nuclear power plants.
6.2 CONTROL OF DOCUMENTS ISSUED BY FLORIDA POWER & LIGHT COMPANY	Instructions are provided for controlling documents issued by FPL which prescribe activities affecting the quality of safety related items.
6.3 CANCELLED	
6.4 CANCELLED	
6.5 CANCELLED	
6.6 DRAWING CONTROL FOR OPERATING NUCLEAR POWER PLANTS	Describes the method to be used for controlling and updating nuclear safety related drawings for operating plants after turnover from the design organization.

LIST OF CORPORATE QUALITY ASSURANCE PROCEDURE

QP NUMBER/TITLE	SECTION DESCRIPTION
6.7 CONTROL OF VENDOR MANUALS AND VENDOR TECHNICAL INFORMATION	Establishes requirements for controlling technical manuals for operating, maintenance and test equipment.
7.1 RECEIPT INSPECTION OF MATERIALS, PARTS AND COMPONENTS FOR OPERATING PLANTS	Provides instructions for receipt inspection of materials, parts and components which have been obtained for use in nuclear safety applications at the operating plant site.
7.2 CANCELLED	
7.3 CANCELLED	
7.4 EVALUATION OF SUPPLIERS OF SAFETY RELATED ITEMS OR SERVICES	Provides standards, measures, and guidelines for the evaluation of QA Programs of contractors or suppliers supplying items or services.
7.5 CANCELLED	
7.6 ACCEPTANCE OF ITEMS & SERVICES	Describes the responsibilities and requirements for accepting nuclear safety related items or services that are being procured for nuclear power plants.
7.8 REVIEW AND DISPOSITION OF SUPPLIER DEVIATION NOTICES	Describes the responsibilities and requirements for the review and disposition of nonconformances identified within a supplier's facility which have resulted or will result in an item which does not fully comply with the FPL procurement document quality and technical requirements. This procedure applies to purchased items which have not yet been shipped.

QP NUMBER/TITLE	SECTION DESCRIPTION
7.9 CONTROL OF ON-SITE VENDOR SERVICES	This procedure provides a system to assure that vendors who provide on-site services by contract or purchase order to FPL at nuclear power plants are controlled.
8.1 IDENTIFICATION & CONTROL OF MATERIALS, PARTS, COMPONENTS AT THE PLANT SITE	Delineates measures for assuring traceability, identification and control of items from the time they are received through usage at operating plants.
8.2 CANCELLED	
9.1 CONTROL OF SPECIAL PROCESSES	Delineates the responsibilities of organizations and personnel, and the control and documentation of special processes that are applied to safety related items.
9.2 CANCELLED (Combined with 9.1)	
9.4 CONTROL OF WELDING FOR NUCLEAR POWER PLANTS	Delineates responsibilities and requirements for control FPL welding processes for nuclear power plants.
10.1 CANCELLED	

QP NUMBER/TITLE	SECTION DESCRIPTION
10.2 CANCELLED	
10.3 INSPECTION AND SURVEILLANCE	Delineates responsibilities and requirements for the inspection and surveillance of safety related plant maintenance activities, operation of safety related systems, and fuel handling activities.
10.4 CANCELLED	
10.5 CANCELLED	
10.6 CANCELLED	
11.1 CANCELLED (Combined with 11.4)	
11.2 CANCELLED (Combined with 11.4)	
11.3 CANCELLED (Combined with 11.4)	
11.4 TEST CONTROL	Defines the measures for control of proof test prior to installation, construction tests, preoperational tests, startup tests, operational tests and retests following repairs, replacements or modifications for nuclear safety related systems, structures, and components.

QP NUMBER/TITLE	SECTION DESCRIPTION
12.1 CALIBRATION AND CONTROL OF MEASURING AND TEST EQUIPMENT	Delineates the responsibilities for implementing the described program for maintenance, calibration and control of measuring and test equipment (M&TE).
12.2 CALIBRATION CONTROL OF INSTALLED PLANT INSTRUMENTATION AND CONTROL EQUIPMENT	Describes the calibration program, delineates responsibilities, and establishes procedures for control over the calibration of installed instrumentation and plant control equipment.
13.1 HANDLING, STORAGE AND SHIPPING OF MATERIALS, PARTS AND COMPONENTS	Establishes responsibilities and procedures to assure that measures are employed by FPL and contractors to: (1) control the handling, shipping and storage of material; (2) protect the quality of material by using proper handling, shipping, and storage techniques; (3) effectively control the disposition of discrepant items.
13.2 CANCELLED	
13.3 CONTROL OF RESERVED CENTRALLY STORED ELECTRICAL CABLE	Provides the requirements for the issuance and controls of centrally stored electrical cable for use in all operating nuclear power plants.
14.1 INSPECTION, TEST, AND OPERATING DURING PLANT OPERATION	Specifies the respective STATUS responsibilities of FPL personnel and the measures employed for identifying the status Inspection-Test-Operation) of plant structures, systems and components.

QP NUMBER/TITLE	SECTION DESCRIPTION
14.2 INSPECTION TEST AND OPERATING DURING PLANT CONSTRUCTION	Provides requirements and STATUS responsibilities for the identification of the inspection, test and operating status of plant equipment up to turnover of the plant to the operating organization.
15.1 CANCELLED (Combined with 15.2)	
15.2 CONTROL OF NONCONFORMING MATERIALS, PARTS, COMPONENTS AND SERVICES	Defines the objectives and PARTS OR responsibilities for controlling nonconforming items or services in order to prevent their inadvertent use, installation or application to operating nuclear power plants.
16.1 CORRECTIVE ACTION	Establishes the respective responsibilities of FPL personnel and the procedure for assuring that conditions identified by the FPL QA Department as being adverse to quality, are corrected.
16.2 CANCELLED (Combined with 16.1)	
16.3 CANCELLED (Combined with 16.1)	
16.4 EVALUATING AND REPORTING OF NONCOMPLIANCES FOR SUBSTANTIAL SAFETY HAZARDS IN ACCORDANCE WITH 10 CFR PART 21	Specifies the measures and DEFECTS & responsibilities within Florida Power & Light to assure compliance to 10 CFR Part 21.

QP NUMBER/TITLE	SECTION DESCRIPTION
16.6 CANCELLED	
17.1 THE COLLECTION AND STORAGE OF QUALITY ASSURANCE RECORDS FOR NUCLEAR POWER PLANTS	Identifies records and documents required to substantiate quality; and, describes measures employed for their maintenance, retention and retrieval.
18.1 CONDUCT OF QUALITY ASSURANCE AUDITS	Provides instructions for conducting audits of FPL Quality Assurance Program activities.
18.2 CANCELLED	
18.3 CANCELLED	
18.4 CANCELLED	

TOPICS TO BE ADDRESSED IN SAFETY ANALYSIS REPORTS

The FPL Topical Quality Assurance Report is the statement of Florida Power & Light Company Quality Assurance Program Requirements which do not vary with plant site. These stated requirements form a description of the FPL Quality Assurance Program which does not contain identification of the involvement of principal contractors such as the Architect/Engineer, Nuclear Steam Supply System vendor, or Constructor. The contractor involvement in the Program will be described in the plant Safety Analysis Report. In addition, other detailed aspects of the Quality Assurance Program vary from plant-to-plant or with plant site. These aspects will also be described in the plant SAR. The requirements of the FPL Quality Assurance Program shall apply to the nuclear safety related structures, systems and components as defined in the applicable plant SAR.