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Document Control Branch (Document Control Desk)

SUBJECT: Forwards annual update of topical QA rept (TQAR), consisting of changes to TQAR, per 900612, marked-up version of TQAR last submitted, reflecting changes made & current TQAR, including revs issued through Rev 25 dtd 910605.

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L-91-171  
10 CFR 50.54(a)  
10 CFR 50.71

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

Gentlemen:

Re: Turkey Point Units 3 and 4  
Docket Nos. 50-250 and 50-251  
St. Lucie Units 1 and 2  
Docket Nos. 50-335 and 50-389  
Topical Quality Assurance Report (FPLTOAR 1-76A)

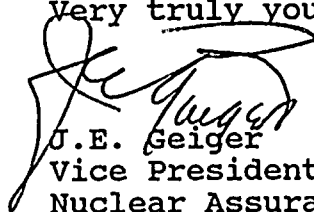
Pursuant to 10 CFR 50.54(a)(3), attached is the annual update of the Florida Power & Light Company Topical Quality Assurance Report (TQAR).

Enclosure I includes a summary of the changes made to the TQAR since June 12, 1990. Enclosure II is a marked up version of the TQAR last submitted showing the changes that have been made. Enclosure III is the current TQAR which includes all revisions issued through Revision 25 dated June 5, 1991.

All changes have been reviewed by the Quality Assurance Department and it has been concluded that these changes do not reduce the commitments in our program description which has been previously accepted by the NRC.

Should there be any questions, please contact us.

Very truly yours,

  
J.E. Geiger  
Vice President  
Nuclear Assurance

JEG/TCG/vmg

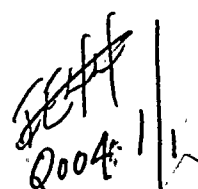
Enclosure

cc: Stewart D. Ebnetter, Regional Administrator, Region II, USNRC  
Senior Resident Inspector, USNRC, Turkey Point Plant  
Senior Resident Inspector, USNRC, St. Lucie Plant

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Florida Power & Light  
Topical Quality Assurance Report  
Change Summary  
June, 1991

ENCLOSURE I

Summary of changes to the Florida Power and Light Topical Quality Assurance Report (FPLTQAR 1-76A)

1. Table of Contents Each revision

The Table of Contents has been revised at each revision of a portion of the TQAR to reflect the most recent revision of all documents within the TQAR.

2. TOR 1.0 - Organization Rev. 16 to Rev. 17

This revision changed the Company Nuclear Review Board's collection of plans, goals, and responsibilities from "charter" to "policy."

3. TOR 1.0 - Organization Rev. 17 to Rev. 19

A typographical error was made in this revision in that Revision 18 was skipped. Rather than cause confusion by having a Revision 18 issued after the issue of Revision 19, a letter to file was issued explaining that Revision 18 does not actually exist.

The responsibilities of the Director of Nuclear Engineering now include control over the FPL Welding Program rather than a supporting role.

Nuclear Administrative Services are now under the control of a Manager rather than a Director. An operation's analysis responsibility has been added. Personnel and human resource related responsibilities have been deleted.

4. TOR 1.0 - Organization Rev. 19 to Rev. 20

This revision reflects the extensive organization changes made throughout Florida Power & Light Company. The Chairman of the Board and Chief Executive Officer now has ultimate responsibility for the execution of the Quality Assurance Program.

Reference to the President Nuclear Division as the Executive Vice President or Senior Vice President have been removed to reflect Technical Specification changes.

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The Director - Nuclear Construction Services now reports to the Senior Vice President Nuclear Operations. The responsibilities within this organization are the same as when it reported to the Vice President Nuclear Engineering and Licensing.

The Safety Engineering Groups at Turkey Point and St. Lucie now report to the Chairman of the Company Nuclear Review Board.

Director - Nuclear Engineering, Manager - Turkey Point Engineering, and Manager - St. Lucie Engineering are responsible for engineering aspects of FPL's nuclear power plant projects. The Turkey Point Engineering Manager and the St. Lucie Engineering Manager are responsible for on-site engineering support. The Director - Nuclear Engineering is responsible for engineering projects originating at the corporate offices.

Nuclear Engineering responsibilities have been revised to include the establishment of procurement standards; the review and approval of procurement documents for safety related materials and equipment; and nuclear fuel related activities.

Site Material Management responsibilities have been reduced to include only Purchasing and Warehousing activities. Procurement Engineering activities are now the responsibility of Nuclear Engineering.

Project Controls and Nuclear Information Management now report to the Vice President Nuclear Engineering and Licensing. Project Controls responsibilities are primarily in the area of cost and scheduling. Nuclear Information Management is responsible for Nuclear Division data processing information systems excluding process applications.

The statement that the Quality Manager - Juno Beach is responsible for assuring the quality of safety related items and services, and their vendors has been deleted. These responsibilities are, in fact, distributed among the organizations responsible for item and service procurements and receipt inspections.

Nuclear Administrative Services has been renamed Nuclear Analysis and Controls and reports to the President Nuclear Division. Its responsibilities include budget, cost control, and business planning.

The Environmental Affairs Department has been restructured to include a Manager Hazardous Substances Regulation; Manager New Construction Licensing and Planning; Air and Water Permitting and Programs, a Chief Ecologist and an Environmental

Toxicologist.

The Power Supply Department has been renamed Protection & Control Systems and has assumed the responsibilities previously assigned to the System Protection Group and the Power Supply Technical Services Group.

The Computer Operations Department has been combined with Client Services and Quality Management under the Vice President of Information Management to provide mainframe computer support.

5. TQR 2.0 - Quality Assurance Program Rev. 9 to Rev. 10

Periodic audits of the Quality Assurance Department and Program are now conducted by an independent audit group under the direction of the Vice President of Nuclear Assurance rather than the direction of the Chairman of the Company Nuclear Review Board.

6. TQR 11.0 - Test Control Rev. 2 to Rev. 3

On June 12, 1990 the entire Topical Quality Assurance Report was reissued due to organizational changes that affected most TQR's. TQR 11.0 was not affected by this revision. However, a typographical error was made on its reissue that changed the title from "Test Control" to "Control of Measuring and Test Equipment." Revision 3 changed the title back to "Test Control."

7. Appendix A, Figure 1-1 - Organization of Departments Affecting Quality Rev. 16 to Rev. 17

Page 1 of 1 was revised to reflect the changes described in TQR 1.0, Rev. 19, affecting the Nuclear Administrative Services Department.

8. Appendix A, Figure 1-1 - Organization of Departments Affecting Quality Rev. 17 to Rev. 18

Revised to reflect the new organizational structure described in TQR 1.0, Revision 20.

9. Appendix A, Figure 1-2 - Turkey Point Nuclear Site Organization Rev. 3 to Rev. 4

Revised to reflect the new organizational structure at Turkey Point Nuclear Plant as described in TQR 1.0, Revision 20.

10. Appendix A, Figure 1-3 - St Lucie Plant, Units 1 & 2 Site Organization Rev. 4 to Rev. 5

Revised to reflect the new organizational structure at St.



Lucie Nuclear Plant as described in TQR 1.0, Revision 20.

11. Appendix C - Baseline Document Matrix Rev. 8 to Rev 9

This revision corrected a typographical error that resulted in a reference to Regulatory Guide 1.130 as the endorsing document for ANSI N45.2.4-1972, rather than Regulatory Guide 1.30. In addition, paragraph 6.2.1 is now quoted rather than paraphrased.



Florida Power & Light  
Topical Quality Assurance Report  
Change Summary  
June, 1991

ENCLOSURE II

Marked up version of portions of the last Florida Power and Light Topical Quality Assurance Report (FPLTQAR 1-76A) submitted showing changes that have been made.



**TOPICAL QUALITY ASSURANCE REPORT****TQR 1.0****ORGANIZATION**Rev. **NRC Mark-up**Date **6/10/91**Page **1** of **30****1.1 GENERAL REQUIREMENTS**

The Florida Power & Light (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 FPL ~~President~~ Chairman of the Board and Chief ~~Operating~~ Executive Officer is ultimately responsible for the execution of the Quality Assurance Program for FPL nuclear power plants. The authority for developing and verifying execution of the program is delegated to the President Nuclear Division, ~~who is an Executive Vice President of the utility,~~ and the Vice President Nuclear Assurance. The reporting relationship of each department involved with the Quality Assurance Program is shown in Appendix A.

To provide for a review and evaluation of Quality Assurance Program policies and activities, the ~~FPL~~ President Nuclear Division has established the Company Nuclear Review Board (CNRB). This organization's responsibilities are defined in Section 1.2.1.3.a.

In addition, a Quality Assurance Program Review Committee (QAPRC) has been established to review changes to the Quality Assurance Program and to provide an interface for quality matters in each department affecting quality. The QAPRC is an interdepartmental organization with the responsibility to review and resolve recommended changes to the Quality Assurance Program. This committee is administered by the Quality Assurance Services group. Quality Assurance Program changes reviewed by the QAPRC are reviewed and signed by the department heads or individuals listed on each Quality Procedure.





# TOPICAL QUALITY ASSURANCE REPORT

TQR 1.0

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A Quality Assurance Program Review Committee (QAPRC) Member shall be designated by the head of each department or organization. The QAPRC Member is the prime interface for coordination of quality-related matters within the member's department, with the Quality Assurance Department, and with other departments.

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 Quality Assurance 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 Quality Assurance 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.

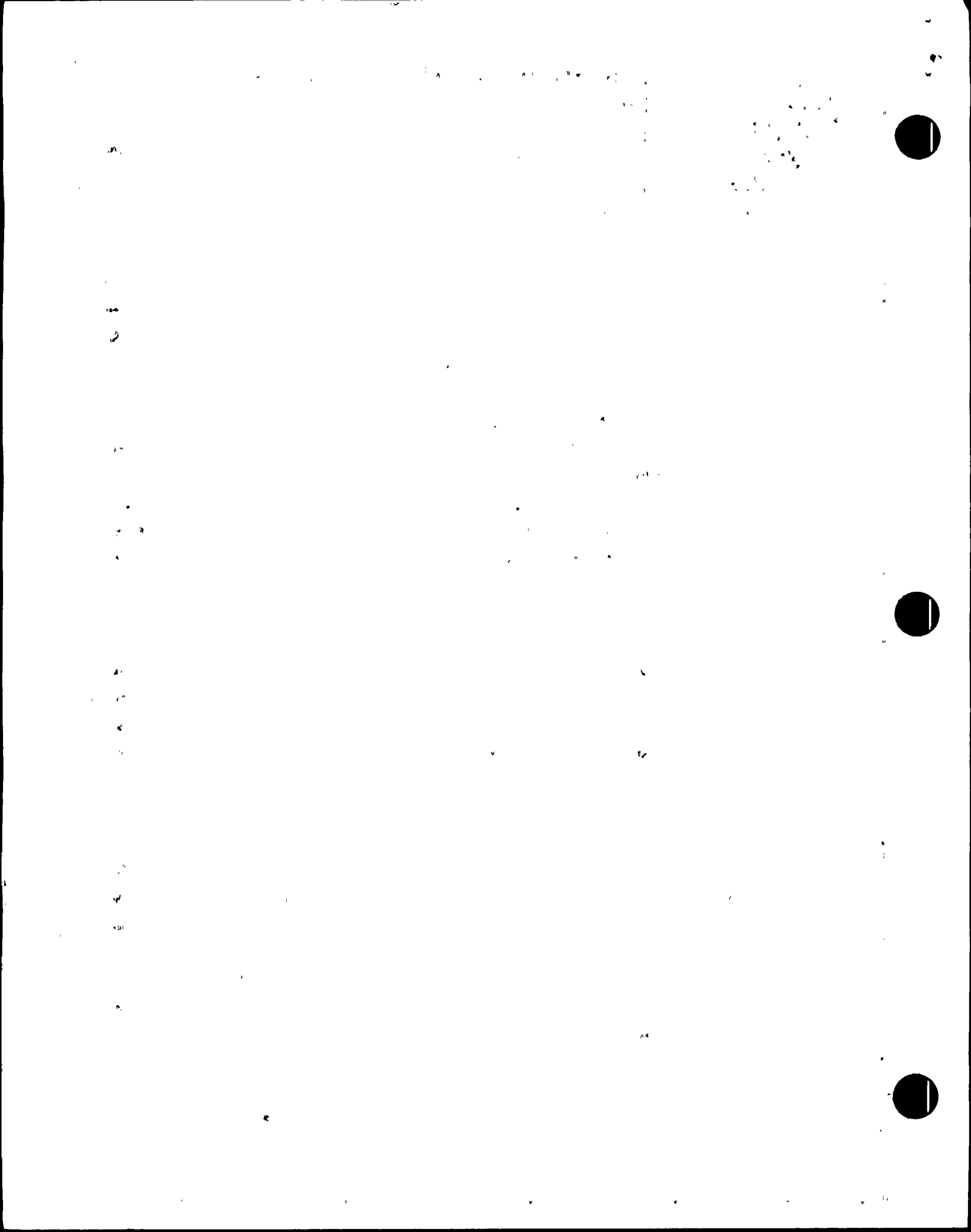
The organization charts in Appendix A illustrate the lines of authority and areas of responsibility for each of the organizations that are involved in quality-related activities. Below are listed the departments and organizations that have Quality Assurance responsibilities. Specific organizational responsibilities for implementation of the Quality Assurance Program are described in the corresponding sections.

## 1.2.1 Nuclear Division

- 1.2.1.1 Nuclear Operations
- 1.2.1.2 Nuclear Engineering and Licensing
- 1.2.1.3 Nuclear Assurance
- 1.2.1.4 Nuclear Administrative Services- Analysis and Controls

## 1.2.2 Support Departments

- 1.2.2.1 Corporate Secretary
  - Corporate Records
  - Documentary Files
- 1.2.2.2 Environmental Affairs
- 1.2.2.3 Power Supply Protection & Control Systems
- 1.2.2.4 Computer Operations Information Management
- ~~1.2.2.5 Information Systems~~



**TOPICAL QUALITY ASSURANCE REPORT****TQR 1.0****ORGANIZATION**Rev. **NRC Mark-up**Date **6/10/91**Page **3** of **30****1.2.1 Nuclear Division**

Throughout plant life, the Nuclear Division maintains control of and responsibility for nuclear power plant design, preoperational and start-up testing, operation, maintenance, refueling, and modification of the plant in accordance with written and approved procedures.

The President Nuclear Division has overall responsibility for the Nuclear Divisions's activities. ~~The President Nuclear Division shall act as the Senior Vice President Nuclear as required by Section 6.0 of the Turkey Point and St. Lucie Technical Specifications.~~ Reporting to the President Nuclear Division are: the Senior Vice President Nuclear Operations, Vice President Nuclear Assurance, Vice President Nuclear Engineering and Licensing, and the ~~Director Manager Nuclear Administrative Services.~~ **Analysis and Controls.**

**1.2.1.1 Nuclear Operations**

The Senior Vice President Nuclear Operations is responsible for nuclear power production. Reporting to the Senior Vice President Nuclear Operations are the Vice President-Turkey Point Plant, Vice President-St. Lucie Plant, Manager Nuclear Security, Manager Nuclear Training, ~~and Manager Nuclear Energy Services and~~ **Director - Nuclear Construction Services.**

- a. The Vice President-St. Lucie Plant and Vice President-Turkey Point Plant 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.

Reporting to the Plant Vice President are the Plant Manager, the Services Manager, the Human Resources Manager, ~~and the Superintendent-Plant Licensing, and, at Turkey Point, the Safety Engineering Group.~~ Also, the Plant Vice President has functional responsibility over the Site Construction Services Manager, ~~and the Site Engineering Project Manager, and the Site Materials Management Superintendent~~ providing work direction to those groups.



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The Plant Manager - PSL and Plant Manager - PTN, through the respective Plant Vice President, are responsible for the operation of the nuclear plant.

The Plant Nuclear Safety Committee (PNSC) at Turkey Point Plant and the Facility Review Group (FRG) at the St. Lucie Plant are comprised of key plant management and staff personnel as described 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 plant safety and the facility operating license.

- b. The Manager Nuclear Training prepares policy documents regarding nuclear training and provides support to secure the necessary resources to ensure that Nuclear Division personnel are adequately trained. They must have adequate technical and job-related skills to provide safe and efficient operation while complying with NRC requirements.
- c. The Manager Nuclear Security is responsible for coordinating the overall development and implementation of the FPL nuclear security program
- d. The Manager Nuclear ~~Energy~~ Services is accountable for technical staff support to the Nuclear Operations Department and certain centralized special functions. This group consists of section supervisors and technical specialists, with functions including Health Physics, Chemistry, Radiological Waste, and Emergency Planning.
- e. The Director - Nuclear Construction Services is responsible for directing and administering effective management of the department to ensure compliance to the corporate policies, practices and procedures; and providing qualified construction support personnel to the Site Construction Services Managers.



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**Reporting to the Director - Nuclear Construction Services are the Manager Construction Control and the Site Construction Services Managers.**

**The Manager Construction Control is responsible for:**

- o monitoring budget performance against planned engineering activities as budgeted by the Construction Services organization;**
- o monitoring the efficient utilization of resources expended against Construction Services budgeted activities; and**
- o ensuring economic utilization of capital construction equipment at all Construction Services locations.**

**The Site Nuclear Construction Services Manager is responsible for:**

- o completing the assigned project in compliance with technical and other project specifications, and for the application of the provisions of the Quality Assurance Manual during the project;**
- o obtaining corrective action (along with Nuclear Materials Management) from contractor's management and, when necessary, exercising the authority to stop work on project activities adverse to quality.**

**Reporting to the Site Construction Services Manager are the Lead Construction Supervisors. The Lead Construction Supervisor is responsible for conformance of project construction activities to the requirements of specifications, codes, regulations and site procedures. The Lead Construction Supervisor supervises the construction personnel assigned to the project, and coordinates construction activities, including the assignment of construction personnel.**

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The overall responsibility for Plant Changes and Modifications to operating plants is defined in each plant's Technical Specifications. The work of installation and administration of Plant Changes and Modifications can be assigned to Nuclear Construction Services. The Site Construction Services Manager will report to the Director - Nuclear Construction Services; however, the appropriate Plant Vice President has functional responsibility over the Site Construction Services Manager by providing work direction.

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

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

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**TOPICAL QUALITY ASSURANCE REPORT****TQR 1.0****ORGANIZATION**Rev. **NRC Mark-up**Date **6/10/91**Page **7** of **30****1.2.1.2 Nuclear Engineering and Licensing**

The Vice President Nuclear Engineering and Licensing is responsible for nuclear plant design, ~~construction services~~, materials management and maintaining the operating licenses. ~~The Vice President Nuclear Engineering and Licensing shall act as the Vice President Nuclear Energy when required by Section 6.0 of the Turkey Point and St. Lucie Technical Specifications.~~

Reporting to the Vice President Nuclear Engineering and Licensing are the Director - Nuclear Engineering, Manager - Turkey Point Engineering, Manager - St. Lucie Engineering, ~~Director - Nuclear Construction Services and~~ Director - Nuclear Licensing, Director - Nuclear Materials Management, Manager - Information Management and Manager - Project Controls.

**a. Nuclear Engineering Department**

The Nuclear Engineering Department includes personnel located at both nuclear sites and at the corporate office. Nuclear Engineering performs design-related activities and delegates design-related activities to qualified contractors. For activities performed by Nuclear Engineering, the work is governed by FPL's Quality Assurance Program, and Nuclear Engineering is responsible for approval of the design output. Delegated activities are performed in accordance with an FPL approved Quality Assurance Program and the contractor is responsible for approval of design output. Nuclear Engineering 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, Nuclear Engineering ensures that the contractor is technically qualified to perform the design-related activity.

The Director - Nuclear Engineering, Manager - Turkey Point Engineering and the Manager - St. Lucie Engineering directs the engineering aspects of all FPL nuclear power plant projects during construction and operation to assure efficient, economical and reliable power plant design, conformance with engineering schedules

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**FPL****TOPICAL QUALITY ASSURANCE REPORT****TQR 1.0****ORGANIZATION**Rev. **NRC Mark-up**Date **6/10/91**Page **8** of **30**

and budgets and compliance with regulatory requirements. The Manager - Turkey Point Engineering and Manager - St. Lucie Engineering are responsible for on-site engineering support to the nuclear units. The Director - Nuclear Engineering is responsible for engineering projects and support at the Corporate Nuclear Engineering Office. Project Managers are assigned to provide overall management and control of designated projects as required by the Vice President - Engineering and Licensing.

~~The Director - Nuclear Engineering reports to the Vice President Nuclear Engineering and Licensing.~~ The Nuclear Engineering Department is responsible for:

- o power plant design-related aspects of the FPL Quality Assurance Program throughout all phases of plant life. This responsibility extends from initial engineering evaluations of plant design-related site characteristics, through preliminary and detailed design, construction, operation and decommissioning;
- o development and maintenance of the design control program governing design-related activities performed by Nuclear Engineering and for providing technical support to the Quality Assurance Department for assessing the adequacy, implementation and effectiveness of contractor design control programs;
- o the preparation, revision, approval and distribution of plant design records that are identified to be maintained as "as constructed" drawings during plant operation;
- o the development, control, and performance of certain aspects of items and services procurement, including establishment of procurement standards, the technical evaluation, equivalency evaluation, and commercial grade dedication of replacement parts/components for nuclear plants. This also includes review and approval of procurement documents for safety related materials and equipment, as well as configuration control activities for controlled design documentation associated with the procurement of items;

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- o forecasting FPL's nuclear fuel requirements and the availability of nuclear fuel;
- o determining sources of supply, evaluating alternatives, and negotiating and establishing arrangements with suppliers for acquisition, processing and delivery of nuclear fuel and related services for the nuclear fuel cycle;
- o 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;
- o administering and managing contracts for nuclear fuel and related services to assure that technical and quality obligations are met, and serving as FPL liaison in all matters of nuclear fuel and fuel-related contracts;
- o administering and managing spent fuel disposal contracts with Department of Energy and serving as FPL liaison in matters of nuclear fuel and high level waste disposal;
- o performing the project management function with respect to fuel management, design, licensing, delivery and other technical aspects of nuclear fuel;
- o ~~for~~ all fuel related design, analyses, reviews, and technical assistance necessary to ensure the safe, reliable, and economic operation of the nuclear plants;
- o the optimization of nuclear fuel cycle economics within nuclear safety and operating constraints, as well as providing fuel related information, such as forecasts of nuclear fuel requirements to support licensing and regulatory requirements;

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**TOPICAL QUALITY ASSURANCE REPORT****TQR 1.0****ORGANIZATION**Rev. **NRC Mark-up**Date **6/10/91**Page **10 of 30**

- o the development and/or review of fuel and nuclear physics design;
- o implementing and maintaining the FPL corporate nuclear material accountability program as outlined in the FPL Special Nuclear Material Control Manual;
- o providing support to the Quality Assurance Department for their auditing of nuclear fuel design and fuel assembly manufacturing;
- o performing audits and coordinating accountability reporting on all nuclear fuel;
- o developing and providing, to appropriate FPL groups, information necessary to determine FPL's fuel-related costs and to finance fuel-related expenditures.
- o providing technical support of activities associated with component reliability, materials evaluations, inspections, corrosion protection, non-destructive examination, and ASME Section XI implementation/problem resolution for nuclear plant components;
- o providing specific component expertise, metallurgical support, and non-destructive examination and inspections;
- o ~~directing and administering the Welding Program and for the technical direction and administrative control of all personnel within the Welding organization. This includes the development and implementation of policies, plans and procedures to meet the requirements of the Quality Assurance program, codes and standards;~~
- o ~~developing, maintaining and controlling the FPL Welding Control Manual to originate and qualify welding procedure specifications and qualification of welders and welding operators to meet the applicable code requirements; and~~
- o ~~providing administrative and technical direction to personnel within the FPL welding control program to meet engineering welding standards and code requirements.~~
- o establishing the FPL Welding Program to meet the requirements of the Quality Assurance Program and applicable codes and standards;





# TOPICAL QUALITY ASSURANCE REPORT

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- o developing, maintaining, and controlling the FPL Welding Control Manual to implement the FPL Welding Program;
- o originating and qualifying welding procedure specifications; and
- o providing technical direction to personnel within the FPL Welding Program.

## b. Nuclear Licensing Department

The Nuclear Licensing Department is responsible for:

- o Nuclear Division corporate interface with the NRC;
- o Nuclear Division corporate administrative point of contact with INPO;
- o Managing NRC safety and regulatory issues and developing effective strategies to resolve them;
- o Advising senior Nuclear Division management on a regular basis of important developments in licensing areas which could significantly affect the Nuclear Division;
- o Providing Nuclear Division licensing hearing and legal services;
- o Providing corporate licensing support and guidance to onsite licensing organizations;
- o Administering the Nuclear Problem Reporting System;
- o Administering the Commitment Tracking System;
- o Administering the Operating Experience and Feedback System.

## c. Nuclear Materials Management Department

The Nuclear Materials Management Department is responsible for ~~nuclear fuel~~ procurement, negotiation, and administration of contracts (except nuclear fuel), purchase and control of materials, and the administrative duties required to support these functions. Reporting to the Director Nuclear Materials Management are the Manager Nuclear Contracts, and the Superintendents Site Material Management (Turkey Point and St. Lucie), ~~and the Supervisor of the Nuclear Fuel Supply Group.~~

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**TOPICAL QUALITY ASSURANCE REPORT****TQR 1.0****ORGANIZATION**Rev. **NRC Mark-up**Date **6/10/91**Page **12** of **30****1) Nuclear Contracts ~~Department~~**

~~The Nuclear Contracts Department~~ is responsible for generation, negotiation and issuance of contracts and purchase orders for services associated with repairs, constructors, construction managers, Architect Engineer (A/E) and consulting services, and material and equipment as required to support Nuclear Division support staff. Nuclear Contracts is also responsible for assuring that technical and quality requirements developed by others are incorporated into the procurement documents which it authorizes and that these documents have the required approvals. Services for nuclear safety-related applications are secured only from approved suppliers, or commercial grade, as applicable. Nuclear Contracts ~~is~~ is responsible for maintaining traceability of procurement document records until transmitted to an approved storage facility.

**2) Site Material Management**

The Site Superintendents Material Management (Turkey Point and St. Lucie) are responsible for the procurement and control of FPL's ~~a Nuclear Division's~~ materials and equipment. ~~Each department is comprised of three operations: Purchasing, Warehousing, and Procurement Engineering.~~ Site Material Management consists of Purchasing and Warehousing.

- o Purchasing is responsible for the procurement of materials and equipment by FPL for its nuclear power plants with the exception of Nuclear Fuels. Materials and equipment for nuclear safety-related application are secured only from approved suppliers, or as commercial grade, as applicable. Purchasing is responsible for assuring that technical and quality requirements developed by others are incorporated in the procurement document which it authorizes, and that these documents have the required approvals. It is responsible for maintaining traceability of procurement document records until transmitted to an approved storage facility.

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- o Warehousing is responsible for the receipt, handling, storage, shipping and issue of materials and equipment received at the plant site for control by Site Material Management. This responsibility encompasses ~~spare and replacement parts, components, and equipment material,~~ parts and components for plant equipment through all phases of plant life. During operations, Warehousing also performs additional quality-related activities such as handling and segregation for nonconforming items received for material control.
- o ~~Procurement Engineering is responsible for the establishment of procurement standards for material and equipment purchased for use at FPL's nuclear sites. This responsibility includes review and approval of procurement documents for safety related materials and equipment. It also includes the preparation of commercial grade dedication packages for spare or replacement parts, components, and equipment.~~

## 3) Nuclear Fuel Supply Group

~~The Nuclear Fuel Supply Group is responsible for the procurement, management, and accountability for FPL's nuclear fuel assets, and for providing support to fuel users within FPL. The Supervisor Nuclear Fuel Supply is responsible for:~~

- o ~~forecasting FPL's nuclear fuel requirements and the availability of nuclear fuel;~~
- o ~~determining sources of supply and evaluating alternatives and negotiating and establishing arrangements with suppliers for acquisition, processing and delivery of nuclear fuel and related services for the nuclear fuel cycle;~~
- o ~~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;~~
- o ~~administering and managing contracts for nuclear fuel and related~~

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- ~~services to assure that technical and quality obligations are met, and serving as FPL liaison in all matters of nuclear fuel and fuel related contracts;~~
- ~~o providing support to the Quality Assurance Department for their auditing of nuclear fuel design and fuel assembly manufacturing;~~
  - ~~o administering and managing spent fuel disposal contracts with Department of Energy and serving as FPL liaison in matters of nuclear fuel and high level waste disposal;~~
  - ~~o performing the project management function with respect to fuel management, design, licensing, delivery and other technical aspects of nuclear fuel;~~

~~The Nuclear Fuel Economics and Planning Section is responsible for the accountability reporting of FPL's nuclear fuel assets to other FPL groups, and for providing support in computer code maintenance to the Nuclear Fuel Supply Group. The Supervisor Nuclear Fuel Economics and Planning reports to the Supervisor Nuclear Fuel Supply. The Supervisor Nuclear Fuel Economics and Planning is responsible for:~~

- ~~o providing and maintaining computer programs/software and procedures available for Nuclear Material Management's line functions and other departments for daily use in maintaining records, and reporting of off site nuclear fuel management activities;~~
- ~~o maintaining effective and controlled computer access to nuclear applications;~~
- ~~o performing audits and coordinating accountability reporting on all nuclear fuel;~~
- ~~o develop and provide, to appropriate FPL groups, information necessary to determine FPL's fuel related costs and to finance fuel related expenditures.~~

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~~d. Nuclear Construction Services~~

~~Nuclear Construction Services exercises management control of assigned projects. This management control begins when a project is assigned to Nuclear Construction Services 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 Director Nuclear Construction Services is responsible for:~~

- ~~o directing and administering effective management of the department to ensure compliance to the corporate policies, practices and procedures; and~~
- ~~o providing qualified construction support personnel to the Site Construction Services Manager.~~

~~The Director Nuclear Construction Services reports directly to the Vice President Nuclear Engineering and Licensing.~~

~~Reporting to the Director Nuclear Construction Services are the Manager Construction Control and the Site Construction Services Managers.~~

~~The Manager Construction Control is responsible for:~~

- ~~o monitoring budget performance against planned engineering activities as budgeted by the Construction Services organization;~~
- ~~o monitoring the efficient utilization of resources expended against Construction Services budgeted activities; and~~
- ~~o ensuring economic utilization of capital construction equipment at all Construction Services locations.~~





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~~The Site Nuclear Construction Services Manager is responsible for:~~

- ~~o completing the assigned project in compliance with technical and other project specifications, and for the application of the provisions of the Quality Assurance Manual during the project;~~
- ~~o obtaining corrective action from any contractor's management and, when necessary, exercising the authority to stop work on project activities adverse to quality.~~

~~Reporting to the Site Construction Services Manager are the Lead Construction Supervisors. The Lead Construction Supervisor is responsible for conformance of project construction activities to the requirements of specifications, codes, regulations and site procedures. The Lead Construction Supervisor supervises the construction personnel assigned to the project, and coordinates construction activities, including the assignment of construction personnel.~~

~~The overall responsibility for Plant Changes and Modifications to operating plants is defined in each plant's Technical Specifications. Frequently the work of installation and administration of Plant Changes and Modifications is assigned to Nuclear Construction Services. The Site Construction Services Manager will report to the appropriate Plant Vice President but will also receive guidance and advice from the Director Nuclear Construction Services.~~

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



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~~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 Quality Assurance Manual requirements, the contractor's Quality Control Supervisor shall have the authority and freedom to administer the Quality Control program.~~

**d. Project Controls Department**

The Project Controls Department is responsible for:

- o Coordinating the establishment of scope baseline for the Nuclear Engineering, Nuclear Materials Management, and Nuclear Licensing Departments.
- o Developing estimates for the scope, and annually establishing budgets for the work to be performed.
- o Monitoring cost and schedule performance.
- o Reforecasting costs and schedule based on performance history and emergent trends.
- o Providing management with corrective action recommendations, and implement same into revised scope, cost, and schedule baselines.

**e. Nuclear Information Management Department**

The Nuclear Information Management Department is responsible for the identification, design, development, implementation, on-going maintenance, and control of all Nuclear Division data processing information systems excluding process applications. This encompasses the following accountabilities:

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- o direct the development, implementation, and on-going maintenance of information management systems;
- o coordinate and direct the computer hardware and telecommunication planning and control within the Nuclear Division;
- o ensure that the Nuclear Division's Information Management Program is in full compliance with software quality assurance regulations and guidelines;
- o administer and control system access;
- o execute software production release and change control activities;
- o administer physical databases and provide on-going technical support.

**1.2.1.3 Nuclear Assurance Department**

The Vice President Nuclear Assurance is responsible for the selection, technical direction, administrative control (e.g. performance appraisal, salary review, hire/fire, position assignment) staffing, training and development of personnel required for supervisory and operating continuity of the Quality Assurance Department, Nuclear Safety Speakout Group and CNRB administrative support. The Vice President Nuclear Assurance also initiates QA Program policy changes when necessary. In addition, the Vice President Nuclear Assurance is responsible for selecting a team independent of the Quality Assurance Department to perform periodic audits of the Quality Assurance Department. The results of these audits are presented to the Vice President, Nuclear Assurance and the CNRB. Reporting to the Vice President Nuclear Assurance are the Manager Nuclear Safety Speakout, the Site Quality Manager - Turkey Point, the Site Quality Manager - St. Lucie, the Quality Manager - Juno Beach, and for administrative support, the CNRB Chairman.

**a. Company Nuclear Review Board (CNRB)**

The Company Nuclear Review Board (CNRB), reporting to the ~~Executive Vice~~ President Nuclear Division, is comprised of executive level members of management with



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responsibilities for the execution of the Quality Assurance Program. The 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.

The CNRB composition is described in Section 6.0 of each facility's Technical Specifications and in its current charter policy. Subjects within the purview of the CNRB 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 directions, meeting minutes or appointed subcommittees. Where necessary, the CNRB may use consulting services to perform required reviews.

The CNRB is responsible for reviewing and evaluating Quality Assurance Program policies and activities. Quality Assurance Program status reports shall be periodically prepared by the Quality Assurance Department and routed to the members of the CNRB for review.

CNRB meetings shall be held by the Chairman to keep members apprised of conditions including significant problems that require management attention. Periodic audits of the Quality Assurance Department shall be performed by a team independent of the Quality Assurance Department. The results of this audit are presented to the Vice President Nuclear Assurance and the CNRB.

~~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.~~

The Chairmen of the Independent Safety Engineering Groups, at Turkey Point and St. Lucie, report to the Chairman of the CNRB.

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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 Quality Assurance Program by performing initial evaluation and subsequent periodic audits of the contractors' Quality Assurance Programs. The Quality Assurance 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 Quality Assurance 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 its sole function the Quality Assurance Department, both on-site and off-site, is completely free from the cost and scheduling pressures of 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 Quality Manager - Juno Beach, the Site Quality Manager - St. Lucie and the Site Quality Manager - Turkey Point report administratively and functionally to the Vice President Nuclear Assurance. These reporting relationships assure that the Quality Assurance Department has direct access to the levels of management necessary to assure effective implementation of the Quality Assurance Program.



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The Quality Manager - Juno Beach 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. ~~Additionally, the Quality Manager - Juno Beach is responsible for assuring the quality of safety related items and services, and their vendors.~~

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

1) **Quality Assurance Services Group**

Quality Assurance Services, reporting to the Quality Manager - Juno Beach, consists of the Quality Assurance Systems and Audits Group, the Quality Assurance Procurement Group, and the NDE Level III.

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

- o develop and maintain the Quality Assurance Department Quality Instructions, Quality Assurance Department Training & Organization Manual, and the corporate Quality Assurance Manual; including the administration of the Quality Assurance 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 personnel, and a training program for the Quality Assurance Department;
- o prepare reports on Quality Assurance Program activities for review by the Company Nuclear Review Board;

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- o maintain a file system for documentation of quality assurance activities performed by the Quality Assurance 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 Quality Assurance 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 review FPL originated design specifications for inclusion of appropriate quality requirements.

Quality Assurance Procurement is responsible for assuring the quality of safety-related items and services, and their vendors, including the following:

- o 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;
- o perform appropriate surveillance of hardware during manufacture;
- o develop and implement a program for auditing of supplier Quality Assurance/Quality Control programs including architect/engineer/ Nuclear Steam Supply System Suppliers;
- o assure design-related activities performed by the Architect Engineer meet the quality aspects of the contract;
- o review and approve FPL procurement documents and changes to these documents to assure that the necessary quality requirements are imposed;
- o 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;

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- o review, approve and periodically audit the execution of FPL contractor quality assurance programs;
- o maintain a file system for documentation of quality assurance activities performed by the Quality Assurance Procurement group;
- o evaluate the Quality Assurance capability of suppliers requested by the Nuclear Materials Management Department 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, vendor selection, fabrication and shipment; and ends upon receipt of shipment at the operating plant or warehouse~~ receipt of shipment or performance of contract.

This group, through audits and surveillances, assures that the contractors' organizations performing Quality Assurance functions have sufficient authority and organizational freedom to implement effective Quality Assurance programs.

The NDE Level III is responsible for technical direction and monitoring the NDE activities performed by Quality Control at the plant sites (PTN and PSL). He is responsible for preparation, revision and implementation of NDE procedures, and the training, testing and qualification of 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.

- 2) Site Quality Assurance Groups - Turkey Point Nuclear (PTN) and St. Lucie (PSL)

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Quality Assurance activities at the plant sites (PTN and PSL) are accomplished by the respective site Quality Assurance Groups, reporting to the Site Quality Manager. The Site Quality Manager 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 the plant site;
- o perform audits, assessments and other observations as specified in procedures and instructions to verify compliance with Quality Assurance 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;
- o identify requirements, ensure inclusion of commitments in documents and verify implementation of the Quality Assurance Program during construction activities at the plant site through audits of FPL and contractor organizations;
- o recommend stoppage of work or operations adverse to quality at the plant site in accordance with the appropriate Quality Procedures;
- o 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 applicable Final Safety Analysis Report, and the applicable Technical Specifications;
- o assure that the status is tracked for all open items identified by the Site Quality Assurance group, and inform appropriate management when there is an indication that a commitment will not be met on time;
- o maintain a file system for documentation of quality assurance activities performed by the Site Quality Assurance group;
- o review backfit procedures with respect to the FPL Quality Assurance Program (for procedure review requirements see TQR 5.0);

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- o review site generated FPL procurement documents and changes to procurement documents in accordance with the appropriate Quality Procedures;
- o perform audits of the architect engineer and Nuclear Steam Supply System suppliers both on-site and off-site, in conjunction with the Quality Assurance Procurement group.

The interface with the Quality Assurance Procurement 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 Site Quality Assurance group.

The Quality Manager - Turkey Point and Quality Manager - St. Lucie are additionally responsible for the establishment and implementation of quality control aspects of the Quality Assurance Program at the plant site. Reporting directly to the Site Quality Manager is the Quality Control Superintendent who has the authority and freedom to administer the Quality Control program and, when necessary, to stop activities adverse to quality. The Quality Control Superintendent, his staff, and personnel performing Quality Control inspection functions are required to be independent of groups or persons performing activities that they may be required to verify or inspect. Quality Control efforts include preparation and review of plant procedures, PCMs, and quality-related instructions and procurement documents; Quality Control personnel are also responsible for inspection, monitoring, surveillance, and review of plant activities to verify compliance with the provision of the facility operating license and the Quality Assurance Manual. Inspections are also performed 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 Plant. It also includes verification of conformance of an item or activity accomplished during this period to quality requirements (e.g., records review, NDE, inspections). The Quality Control Superintendent shall take corrective action for

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deficiencies identified, where applicable, and shall follow up on corrective action taken by other organizations until close out.

Off-site interfaces for the resolution of quality-related problems and NRC items are with Nuclear Corporate Staff, FPL support departments as indicated in this Topical Quality Assurance Report, the architect engineer and the Nuclear Steam Supply System (NSSS) Quality Assurance Department. The Site Quality Assurance group interfaces with the Plant Vice President and his staff on-site by assisting in the resolution of quality-related problems.

c. **Nuclear Safety Speakout**

The Manager Nuclear Safety Speakout has responsibility for the management and implementation of the Nuclear Safety Speakout Program. Speakout provides a forum for employees and contractors to communicate their concerns to FPL. Concerns are documented, investigated and corrective actions are taken when necessary. The program offers confidentiality. Reporting to the Manager Nuclear Safety Speakout are the Turkey Point and St. Lucie Speakout Supervisors.

1.2.1.4 **Nuclear ~~Administrative Services~~ Analysis and Controls**

The ~~Director~~ Manager Nuclear ~~Administrative Services~~ Analysis and Controls, reporting to the President Nuclear Division, is responsible for coordinating the budget, rate, and cost control support to the plants and staff organizations; and coordinating Division business planning, target setting and monitoring of key performance indicators, and operations analysis activities.; ~~directing the planning, administration and control of computerized information management activities; and coordinating the office services and document control activities, personnel related issues, and human resources for the Nuclear Division staff groups.~~

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Providing support activities for the Nuclear Division are the Corporate Secretary, Environmental Affairs, ~~Power Supply Protection & Control Systems, Computer Operations, and Information Systems~~ and Information Management. The reporting relationship of each department is described in the following sections and is shown in Appendix A.

**1.2.2.1 Corporate Secretary**

Reporting to the Corporate Secretary are the Manager Corporate Records Services and the Supervisor Documentary Files.

**a. Corporate Records Services**

The Manager Corporate Records Services is responsible for: ensuring the Quality Assurance 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 requested by other departments; leading the evaluation of specially designated "Quality Assurance approved" storage facilities and maintaining the records of this evaluation.

**b. Documentary Files**

The Supervisor Documentary Files is responsible for receiving, maintaining, retrieving and storing the Quality Assurance records in connection with licenses and contracts received from other departments.

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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 ~~Environmental Technical Services~~ Hazardous Substances Regulation, the Manager ~~Environmental Resources and Planning~~ New Construction Licensing and Planning, and the Manager ~~Environmental Air and Water Permitting and Programs~~, the Chief Ecologist, and the Environmental Toxicologist report to the Director Environmental Affairs. The Director Environmental Affairs has overall responsibility for implementation of the Environmental Protection Plans at nuclear power plant sites and reports to the Senior Vice President of External Affairs.

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 Protection Plans. The CERG provides review of proposed changes to the Environmental Protection Plans, review of any violations of monitoring and/or limitation requirements of federal and state permits and Environmental Protection Plans and review of plant activities as described in those Environmental Affairs Department Environmental Procedures subject to QA requirements.

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

**1.2.2.3 Power Supply Protection & Control Systems**

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

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~~System~~ Protection & Control Systems 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 & Control Systems include final wiring connection checks, preoperational check-out and test of system protection devices and providing inspection of equipment under their cognizance. Additional responsibilities include ~~Power Supply Technical Services~~ is responsible for providing certain setpoint and checkpoint values for protective devices.

The Director of Protection & Control Systems reports to the Vice President of Power Delivery.

#### 1.2.2.4 ~~Computer Operations~~ Information Management

Information Management consists of Computer Operations, Client Services, and Quality Management reporting to the Vice President of Information Management.

The Computer Operations Department is responsible for the installation and maintenance of the operating system software and the operation of the computer hardware for FPL's corporate computer systems. The application programs used by the nuclear departments executes on these corporate computers.

The Manager Computer Center, the Manager Operations Support Services, and the Manager Technical Systems report to the ~~Director~~ Manager Computer Operations ~~who reports to the Group Vice President and Chief Financial Officer.~~

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**TOPICAL QUALITY ASSURANCE REPORT****TQR 1.0****ORGANIZATION**Rev. **NRC Mark-up**Date **6/10/91**Page **30 of 30****1.2.2.5 Information Systems**

~~Information Systems (IS) is responsible for the development, maintenance, support, and control of corporate non-nuclear computer applications. IS provides support to Nuclear Division in their development and maintenance of Nuclear applications, including data security, and software library controls. In addition, Information Systems is responsible for software libraries on FPL's in-house time-sharing computer system (CMS) that are under its control.~~

**Client Services is responsible for software libraries on FPL's in-house time-sharing Computer System (CMS) that are under its control.**

**Quality Management provides support to the Nuclear Division in their development and maintenance of computer applications in the area of software library controls.**



**TOPICAL QUALITY ASSURANCE REPORT****TQR 2.0****QUALITY ASSURANCE PROGRAM**

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**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 1.2.1.3.a and by Quality Assurance Department audits.

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 Quality Assurance Program of contractors.



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**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;
- 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



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**2.2.2 (Continued)**

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 Quality Assurance 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 Vice President Nuclear Assurance. A listing of corporate level Quality Procedures is contained in Appendix E.

Each Quality Procedure shall be written to further address criteria contained in the Topical Quality Requirements and to further define the FPL Quality Assurance 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 Quality Assurance Program requirements within his department. Quality Instructions shall be reviewed by the Quality Assurance Department at each revision.



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**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.

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 Quality Assurance Program or the FPL Quality Assurance Program, or some FPL approved

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combination thereof.

**2.2.4 (Continued)**

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

The Quality Assurance Department shall review and approve the Quality Assurance 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 Quality Assurance 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 Quality Assurance 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.

Quality Procedures shall also require the head of each department (including the Quality Assurance 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



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**2.2.5 (Continued)**

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 indoctrination 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 Quality Assurance Program within their departments and the involvement of the Vice President Nuclear Assurance and the Quality Manager - Juno Beach in the development, coordination, and review of the Program, the Company Nuclear Review Board (CNRB) shall be apprised of the status and adequacy of the Quality Assurance Program on a periodic basis. The following actions shall be instituted to assure that the CNRB remains informed and meets its Program responsibilities:

- a. The CNRB shall review a summary of the results of management level Quality Assurance audits of FPL Departments.
- b. The Quality Assurance Department shall circulate monthly reports of quality-related activities to members of the CNRB 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 CNRB shall review the status of the Quality Assurance Program on a semiannual basis. The review will include assessment of the Program goals, objectives, and accomplishments.



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**2.2.6 (Continued)**

- d. Periodic audits of the Quality Assurance Department and Program shall be conducted by an independent audit group under the direction of the ~~Chairman of the CNRB~~ Vice President Nuclear Assurance. This audit group shall employ FPL audit procedures and shall distribute the audit report to the Vice President Nuclear Assurance, and to the CNRB 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.



**TOPICAL QUALITY ASSURANCE REPORT****TQR 11.0**~~CONTROL OF MEASURING &  
TEST EQUIPMENT~~ **TEST CONTROL**

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**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.



**TOPICAL QUALITY ASSURANCE REPORT****TQR 11.0**~~CONTROL OF MEASURING &  
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**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;
  - 5) Date of observation; and

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## 11.2.2 Test Procedure and Test Performance (Cont'd)

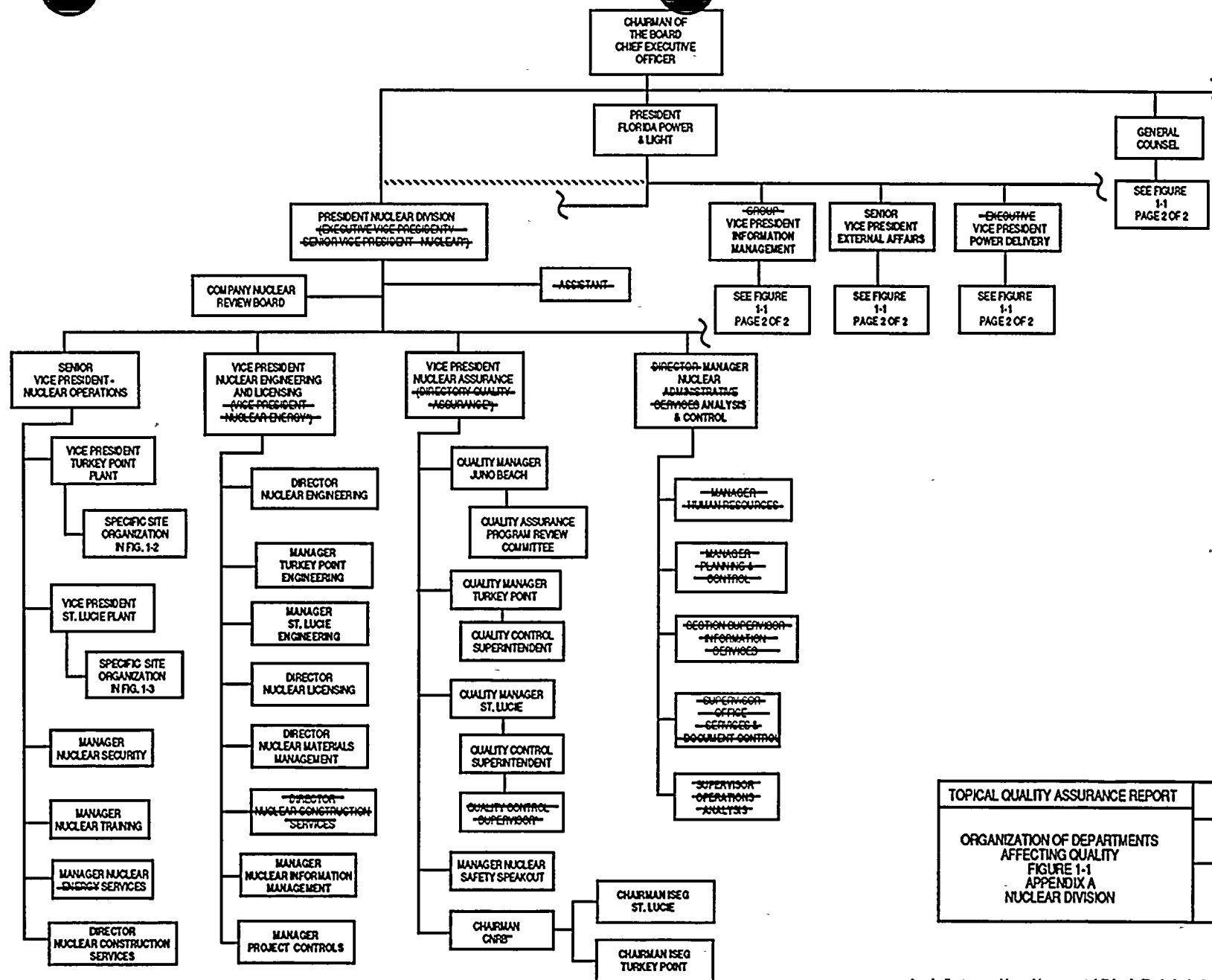
- 6) Deficiencies and nonconformances, and the action taken in connection with these deficient conditions, either by inclusion or by reference to other documents.

## 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.

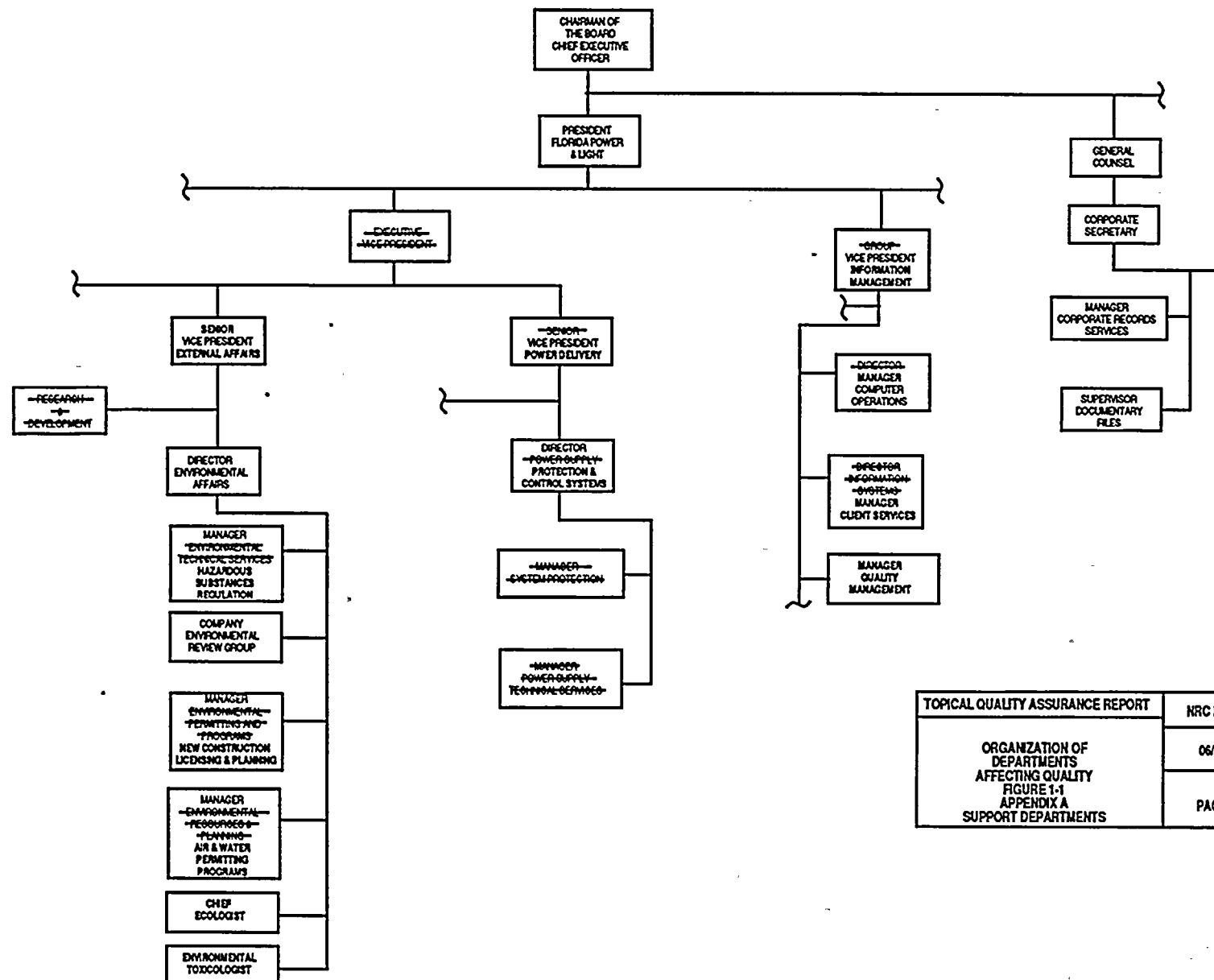




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ORGANIZATION OF DEPARTMENTS AFFECTING QUALITY FIGURE 1-1 APPENDIX A NUCLEAR DIVISION	06/10/91
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\* Indicates position with accountability in Technical Specifications.  
 - Where multiple titles occur, the first position listed shall act in the  
 capacity of the other listed titles.

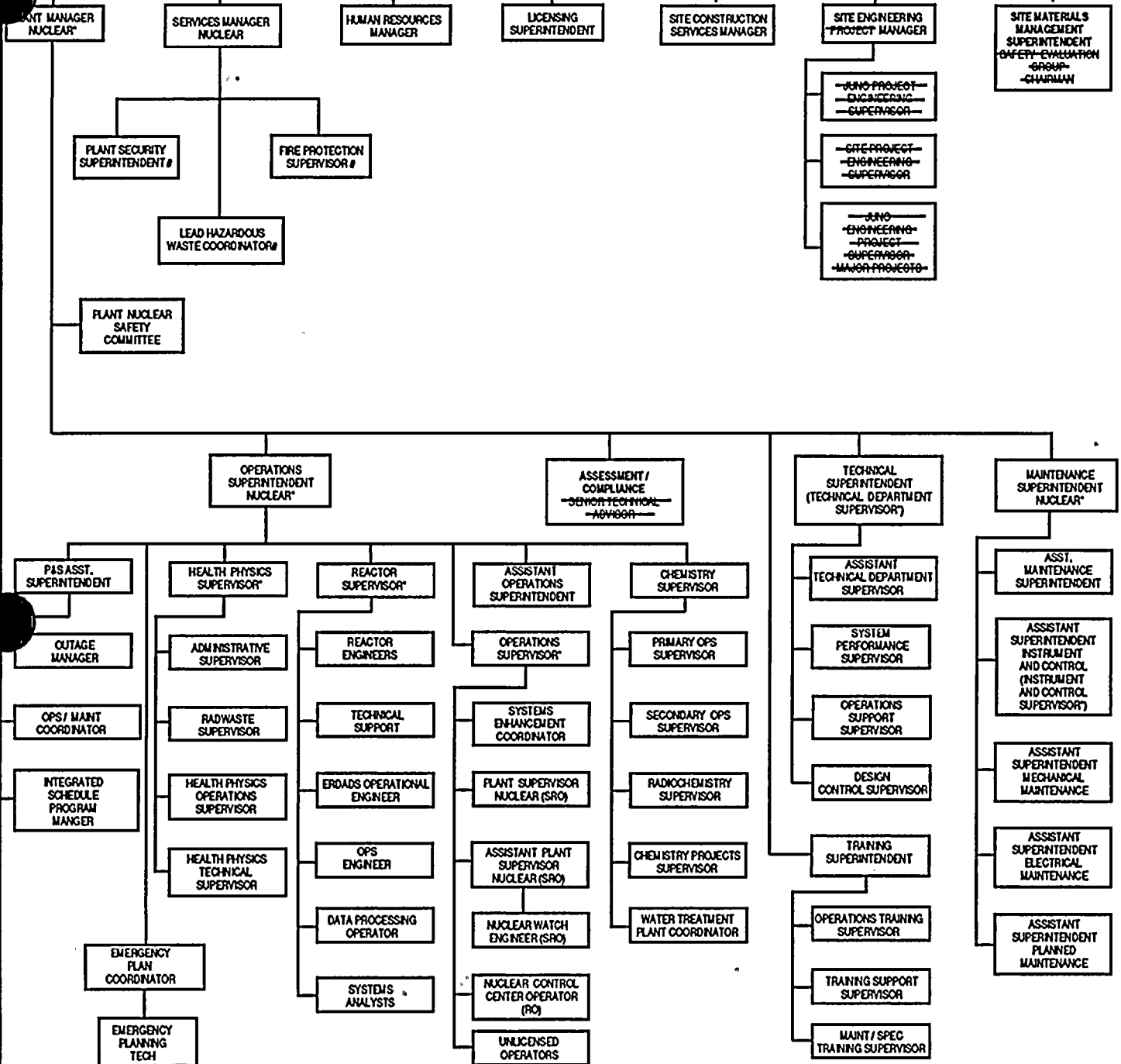




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ORGANIZATION OF DEPARTMENTS AFFECTING QUALITY FIGURE 1-1 APPENDIX A SUPPORT DEPARTMENTS	06/10/91
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VICE PRESIDENT  
TURKEY POINT PLANT

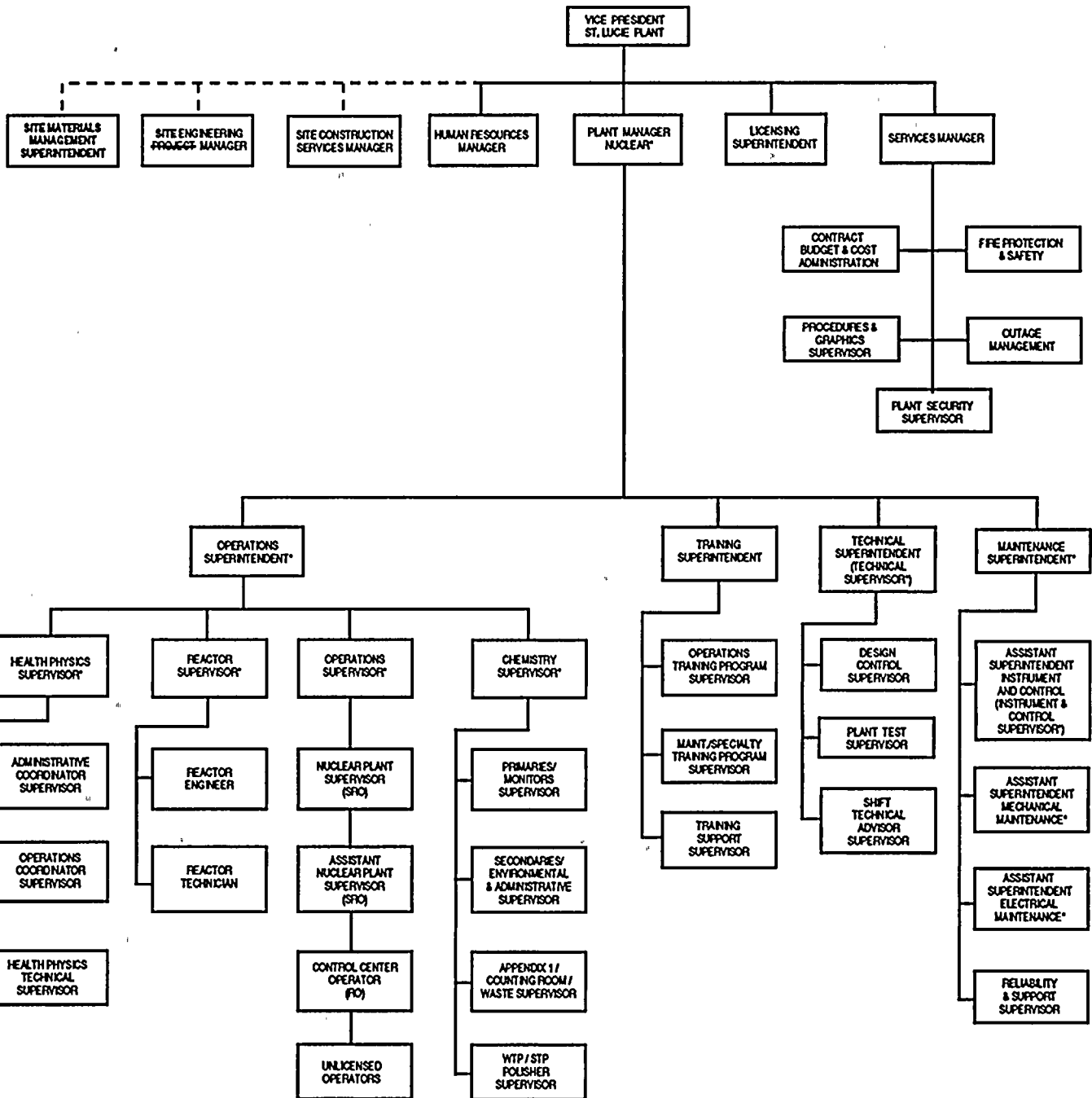


\* - Indicates position with accountabilities in Technical Specifications.  
Where multiple titles occur, the first position listed shall act in  
the capacity of the other listed titles.

# Temporarily reports to Licensing Superintendent when  
the Services Manager Nuclear position is vacant.

TOPICAL QUALITY ASSURANCE REPORT	NRC MARKUP
TURKEY POINT NUCLEAR SITE ORGANIZATION FIGURE 1-2 APPENDIX A	6/10/91
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ST. LUCIE PLANT, UNITS 1 & 2 SITE ORGANIZATION FIGURE 1-3 APPENDIX A	06/10/91
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\* - Indicates position with accountabilities in Technical Specifications.  
Where multiple titles occur, the first position listed shall act in  
the capacity of the other listed titles.

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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.





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<u>GOVERNMENT DOCUMENT</u>	<u>DATED</u>	<u>REFERENCE INDUSTRY STANDARD</u>	<u>DRAFT REV. ISSUED DATE</u>
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

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

TOAR 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".





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ANSI N45.2.4-1972, Paragraph 6.2.1 ~~2.5.2~~ requires that ~~equipment be "suitably marked to indicate date of next required calibration"~~ "Items requiring calibration shall be tagged or labeled on completion indicating date of calibration and identity of person that performed the calibration." In lieu of tagging or labeling 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 1.33, 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.

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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.





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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 contrasting will only be applied to the extent that these colors are dissimilar or otherwise distinguishable. This does not preclude using other tapes when precautions are taken to ensure these tapes do not come in contact with austenitic stainless steel or nickel alloy materials.

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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.





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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

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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

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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.

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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



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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.





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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.

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**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.

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**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:

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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 Quality Manager - Juno Beach, 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 supervision at a constantly monitored central station.





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- 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.



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- (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.

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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.

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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.

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- 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 N18.7-1976/ANS-3.2, Paragraph 4.5 (endorsed by Regulatory Guide 1.33 Revision 2) states in part; "Audits of selected aspects of operational phase activities 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 functions 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,

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(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 postaudit 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.



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**TOPICAL QUALITY ASSURANCE REPORT****APPENDIX C****BASELINE DOCUMENT MATRIX**

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**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 N18.7-1976/ANS 3-2, Paragraph 5.2.7.1; 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.

