TOPICAL QUALITY ASSURANCE REPORT

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GLOSSARY

NEED FOR POLICY

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

STATEMENT OF POLICY

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

RESPONSIBILITY

The Chairman of the Board and Chief Executive Officer of Florida Power & Light Company has delegated responsibility for execution of the Quality Assurance Program for Florida Power & Light Company nuclear plants to the President, Nuclear Division. The authority for developing and verifying execution of the program is delegated to the Director Nuclear Assurance.

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

T. F. Plunkett
President, Nuclear Division

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

The corporate Quality Assurance Manual (FPL-NQA-100A) consists of the Topical Quality Assurance Report and a Glossary of commonly used terms. The Topical Quality Assurance Report delineates the generic requirements and responsibilities by which FPL implements the corporate Quality Assurance Program. Revisions and changes to this report are made in accordance with a Quality Instruction outlined in TQR 2.0.

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

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

The requirements of this Topical Quality Assurance Report apply to safety-related materials, parts, components, systems and structures; services employed for design, procurement construction, operation, maintenance, refueling, repair, and modification; and packaging and shipping of radioactive material (but not design and fabrication of packages for which a license, certificate of compliance, or other approval must be issued by the NRC) in accordance with 10 CFR Part 71. The safety-related systems for each plant are specified in the respective plant Safety Analysis Report.

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

R. J. Acosta

Director Nuclear Assurance

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 Chairman of the Board and Chief 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 and the Director 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 President Nuclear Division has established the Company Nuclear Review Board (CNRB). This organization's responsibilities are defined in Section 1.3.1.

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 Performance Assessment group. Quality Assurance Program changes reviewed by the QAPRC are reviewed and signed by the affected department heads.

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 matters within the member's department, with the Quality Assurance Department, and with other departments.

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

Activities affecting quality may be performed by FPL or be 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.

1.3 RESPONSIBILITIES

The organization charts in Appendix A illustrate the lines of authority and areas of responsibility for each of the organizations that are involved in activities affecting quality. Below are listed the departments and organizations that have quality assurance responsibilities. Organizational responsibilities for implementation of the Quality Assurance Program are described in the Topical Quality Requirements (TQRs).

1.3.1	Nuclear Division	1.3.2	Support Departments
1.3.1.1	Plant Vice Presidents	1.3.2.1	Corporate Records
1.3.1.2	Licensing and Special Programs	1.3.2.2	Environmental Services
1.3.1.3	Nuclear Engineering	1.3.2.3	Protection & Control Systems
1.3.1.4	Nuclear Assurance	1.3.2.4	Information Management
1.3.1.5	Nuclear Business Services		

1.3.1 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 Division's activities including corporate responsibility for overall plant nuclear safety. Reporting to the President Nuclear Division are: the Vice President - Turkey Point Plant, Vice President - St. Lucie Plant, Director Nuclear Assurance, Vice President Nuclear Engineering, Manager of Licensing and Special Programs, and the Director Nuclear Business Services.

The Company Nuclear Review Board (CNRB), reporting to the President Nuclear Division, is comprised of executive level members of management with 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 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. 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 given by the Quality Assurance Department.

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 Director Nuclear Assurance and the CNRB.

1.3.1.1 Plant Vice Presidents

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, including procurement and control of material. The Plant Vice President has overall responsibility for implementation of the Environmental Protection Plans at their respective sites.

Other responsibilities of the site Vice President include the following:

Nuclear Services

- Configuration management.

Nuclear Training

- Preparation of policy documents regarding nuclear training;
- Support to secure the necessary resources to ensure that site personnel are adequately trained. They must have adequate technical and job related skills to provide safe and efficient operation while complying with NRC requirements.

Nuclear Security

- Coordinate with the opposite plant site for overall development and implementation of the FPL Nuclear Security program.

Nuclear Business Systems

- Coordinating contract activities.
- Reviewing contracts to assure that technical and quality requirements developed by others are incorporated into the procurement documents which it authorizes.
- Ensuring that site-based information management programs are in compliance with FPL software QA commitments.
- Business Systems Departments at PSL and PTN are accountable for directing the identification, design, development, implementation, on-going maintenance, and control of all nuclear site specific data processing information management systems (excluding process applications), and identifying applicable site specific software in a Computer Software Index (CSI).

Nuclear Licensing

- Maintenance of the operating license;
- Interface with the NRC;
- Resolution of NRC safety and regulatory issues;
- Administering the Operating Experience and Feedback System.

Nuclear Materials Management

- Negotiation, generation, issuance of procurement documents for required items and services supporting the operation, licensing, maintenance, notification, and inspection of FPL nuclear plants, and for materials and equipment to support Nuclear Division staff;

- o Reviewing procurement documents to assure that technical and quality requirements developed by others are incorporated into the procurement documents which it authorizes.

The organization of Turkey Point Plant and St. Lucie Plant is shown in Appendix A.

The Plant General Manager - PSL and Plant General Manager - PTN, through the respective Plant Vice President, are responsible for the safe operation of the nuclear plant. The Plant General Managers have control of the onsite resources necessary for the safe operation and maintenance regardless of organizational reporting.

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.

1.3.1.2 Licensing and Special Programs

The Manager Licensing and Special Programs is responsible for selected licensing support activities at the Juno Beach Office. This includes:

- o Advising senior Nuclear Division management on a regular basis of important developments in licensing areas which could significantly affect the Nuclear Division;
- o Coordinating with the Law Department for Nuclear Division licensing hearings and legal services;

- Administering special programs, such as:
  - Plant license renewal,
  - Environmental issues,
  - Self assessment,
  - INPO coordination,
  - Serving as FPL liaison in matters of high level waste disposal.

1.3.1.3 Nuclear Engineering

The Vice President Nuclear Engineering is responsible for nuclear plant design and engineering support.

The Nuclear Engineering organization is shown in Appendix A.

a. Nuclear Engineering

Nuclear Engineering 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 Manager - Turkey Point Engineering and the Manager - St. Lucie Engineering provide on-site engineering support and direct 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 and budgets and compliance with regulatory requirements.

Nuclear Engineering is responsible for:

- o power plant design related aspects of the FPL Quality Assurance Program throughout all phases of plant life;
- 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;
- o review of the technical and quality requirements in procurement requisitioning documents and changes thereto for safety related and quality related items and services, as well as configuration control activities for controlled design documentation associated with procurement. The review shall be performed by individuals other than the document originator;

Aspects of the above activities are performed by the Juno Beach Engineering organization as determined by the Vice President Nuclear Engineering.

b. Nuclear Fuel

The Manager Nuclear Fuel is responsible for nuclear fuel engineering and procurement activities including the following:

- o assuring that technical and quality requirements (including inputs from other FPL departments) are incorporated in fuel contracts and letters of authorization;
- 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;
- o all fuel related design, analyses, reviews, and technical assistance necessary to ensure the safe, reliable, and economic operation of the nuclear plants;
- 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.

c. Component Support and Inspections

The Manager Component Support and Inspections is responsible for providing support to the plants as follows:

- 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 establishing the FPL Welding Program to meet the requirements of the Quality Assurance Program and applicable codes and standards;
- o developing, maintaining, and controlling the procedures and instructions to implement the FPL Welding Program; and
- o originating and qualifying welding procedure specifications; and

d. Reliability and Risk Assessment

The Supervisor of Reliability and Risk Assessment is responsible for providing support to the plants as follows:

- o prepare and maintain Probabilistic Safety Assessment (PSA) for each plant;
- o perform Risk Assessments in support of Maintenance activities;
- o perform Risk Assessments in support of the NRC Maintenance Rule.

1.3.1.4 Nuclear Assurance

The Director 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, and the CNRB Subcommittee. The Director Nuclear Assurance serves as the CNRB Chairman. The Director Nuclear Assurance also initiates QA Program policy changes when necessary. In addition, the Director 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 Director Nuclear Assurance and the Company Nuclear Review Board (CNRB).

The Nuclear Assurance organization is shown in Appendix A.

a. Nuclear Safety Speakout

The Nuclear Safety Speakout Program 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.

b. Quality Assurance Department

The Quality Assurance Department is responsible for administering the FPL Quality Assurance Program. This includes developing and verifying implementation of corporate policies, plans, requirements, and procedures affecting quality. 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 QA Supervisor Performance Assessment, QA Supervisor Procurement Quality, Site Quality Manager - St. Lucie, and Site Quality Manager - Turkey Point report administratively and functionally to the Director 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.

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

1) Performance Assessment

The QA Supervisor Performance Assessment directs and administers the Corporate Quality Assurance Program assuring compliance with the baseline documents listed in Appendix C of this Topical Quality Assurance Report. Quality Performance Assessment activities include the following:

- o develop and maintain the corporate Quality Assurance Manual, including the administration of the Quality Assurance Program Review Committee (QAPRC);
- o develop and implement a Quality Assurance indoctrination program for FPL personnel;
- o prepare reports on Quality Assurance Program activities for review by the CNRB;
- o plan, coordinate and implement a comprehensive system of periodic internal audits with support from the other Quality Assurance groups, when necessary;
- o perform periodic activity audits of FPL procurement and associated documents and changes to these documents to assure that the necessary quality requirements are imposed;
- o provide NDE Level III services including technical direction and monitoring of NDE activities performed by Quality Control at the plant sites (PTN and PSL).

2) Procurement Quality

The QA Supervisor Procurement Quality directs and administers the Procurement Quality program in support of both nuclear plants. Procurement Quality activities include the following:

- perform appropriate surveillance of hardware during manufacture;
- develop and implement a program for auditing of supplier Quality Assurance/Quality Control programs including Architect Engineer/Nuclear Steam Supply System Suppliers;
- 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;
- maintain the Quality Assurance Department list of approved suppliers;

For purchased items and services, the responsibility of this group extends through receipt of shipment or performance of contract.

3) Site Quality Assurance

Turkey Point Nuclear (PTN) and St. Lucie (PSL)

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:

- coordinate the development and implementation of quality assurance policies, plans, requirements, and procedures at the plant site;
- perform audits, assessments and other observations as specified in procedures and instructions to verify compliance with Quality Assurance Program commitments;

- perform periodic activity audits of site generated FPL procurement and associated documents and changes to these documents to assure that the necessary quality requirements are imposed;
- recommend stoppage of work or operations adverse to quality at the plant site in accordance with the appropriate instructions;
- review and comment on Quality Instructions or equivalent quality 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;
- perform audits of the architect engineer and Nuclear Steam Supply System suppliers both on-site and off-site, in conjunction with the Procurement Quality group.

The interface with the Procurement Quality 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 are the Quality Control Supervisors who have the authority and freedom to administer the Quality Control program and, when necessary, to stop activities adverse to quality. The Quality Control Supervisors 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 responsibilities include:

- o inspection, monitoring, surveillance, and review of plant activities to verify compliance with the provision of the facility operating license and the Quality Assurance Manual;
- o acceptance of the installed items;

1.3.1.5 Nuclear Business Services

The Director Business Services is responsible for Nuclear Division business and financial planning and analysis and nuclear plant support in the areas of document control and QA records management, division-based and staff computer systems, security, emergency preparedness, and radiological services.

Nuclear Business Services is shown in Appendix A.

*Accountabilities related to division-based and staff computer systems encompass:

- o directing the identification, design, development, implementation, on-going maintenance, and control of division-based information management systems;
- o identifying applicable division-based software in a Computer Software Index (CSI);
- o Coordinating and directing computer hardware and telecommunication planning and control;

- ensuring that the information management programs are in compliance with FPL software QA commitments.

1.3.2 Support Departments

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

1.3.2.1 Corporate Records

The Supervisor Corporate Records is responsible for:

- storage, retrieval and control of Quality Assurance records received from other departments;
- assisting with the development and implementation of records and micrographics programs;
- maintaining a QARSET approved storage facility;
- serving as the Records Official.

1.3.2.1.a The Records Official, reporting to the General Counsel and Secretary is responsible for:

- ensuring the Quality Assurance records program activities are managed in accordance with applicable recordkeeping requirements;
- locating acceptable record storage areas when requested;
- leading the evaluation of specially designated QARSET approved storage facilities, maintaining records of this evaluation, and establishing schedules to assure that re-evaluations are performed every two (2) years.

1.3.2.2 Environmental Services

Environmental Services is responsible for obtaining the federal and state environmental permits required for FPL facilities and operations. Environmental Services is also responsible for providing technical support on environmental regulatory requirements, including regulatory development, enforcement actions, compliance with environmental requirements and environmental assessments and clean-ups at all company facilities, as well as technical support and/or advice on non-radiological environmental monitoring (federal and state) programs at the nuclear power plant sites.

The Site Vice President has overall responsibility for implementation of the Environmental Protection Plans (EPPs) at nuclear power plant sites.

The Environmental Services Department through its functional areas is responsible for providing technical support and/or advice on non-radiological environmental monitoring programs and oversight of other requirements related to the Environmental Protection Plans. The Department provides review of proposed changes to the Environmental Protection Plans, review of plant changes, tests or experiments and review of other plant activities which may be subject to environmental regulations to ensure their compliance.

The Department provides information as necessary to the CNRB Chairman on environmental matters for which requirements are included in Environmental Protection Plans.

1.3.2.3 Protection & Control Systems

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

Protection & Control Systems is responsible for:

- o test, calibration and maintenance of certain high voltage electrical protective relays for safety-related systems of the nuclear plant;
- o final wiring connection checks;
- o preoperational check-out and test of system protection devices;
- o providing inspection of equipment under their cognizance;
- o providing certain setpoint and checkpoint values for protective devices.

1.3.2.4 Information Management

The Corporate Information Management organization is shown in Appendix A.

Information Management is responsible for ensuring the integrity of the operating environment and the applications used by the Nuclear Division. The Director of IT Operations and the Director of Business Systems report to the Vice President of Information Management.

1.3.2.4.a The Director of IT Operations is responsible for:

- o the installation and maintenance of operating system software and the operation of computer hardware for FPL's corporate computer system;
- o executing software production release and change control activities.

1.3.2.4.b The Director of Business Systems is responsible for administering physical databases and providing on-going technical support.

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 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. Portions of the FPL Quality Assurance Program requirements are also applicable to Quality Related items and services. Those portions applicable to specific Quality Related items or services shall be delineated in appropriate instructions.

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 2.2.6.d 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.

2.2 IMPLEMENTATION

2.2.1 Goals and Objectives

As stated in the Policy Statement of the President of the Nuclear Division, 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 activities affecting quality 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, objectives, responsibilities and interfaces regarding the Quality Assurance Program, shall be contained in the FPL Quality Assurance Manual, and used as guidance for the development of Quality Instructions. 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 Instruction. If a program 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.

Each department head shall have the responsibility for implementation of the Quality Assurance Program, which includes compliance with procedure requirements applicable to the department. In addition, each department head 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 the department. Quality Instructions shall be reviewed by the Quality Assurance Department at each revision.

2.2.3 Structures, Systems, and Components

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

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.

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 combination thereof.

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 activities affecting quality. Instructions shall delineate the requirements for an indoctrination program to assure that personnel responsible for performing activities affecting quality are instructed in the purpose, scope, and implementation of the manuals, instructions, and procedures and that compliance to these documents is a mandatory requirement.

Instructions shall also require the head of each department to be responsible for a training plan which assures that personnel performing activities affecting quality are trained in the principles and techniques of the activity being performed. This training shall maintain the proficiency of personnel in the skills necessary through retraining, requalification or reexamination, as appropriate. This training shall be conducted to reflect significant procedure changes, or plant modifications which significantly affect the operation of the department. 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 activities under their direction. Instructions shall specify the requirements for documenting indoctrination and training sessions, including a course description, attendance, location, and date. Records shall contain sufficient information to identify persons in attendance with the corresponding lesson plans.

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 Director Nuclear Assurance and the Supervisor Performance Assessment 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 periodically, but not less than quarterly, circulate reports of activities to members of the CNRB and affected department heads. The 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;

d. Periodic audits of the Quality Assurance Department and Program shall be conducted by an independent audit group under the direction of the Director Nuclear Assurance. This audit group shall employ FPL audit procedures and shall distribute the audit report to the Director 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 activities affecting quality 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.

2.3 RESPONSIBILITIES

2.3.1 Each direct report of the President, Nuclear Division and Department Heads of organizations supporting the Nuclear Division shall be responsible for:

1. Reviewing changes to the FPL QA Manual and determining the need for departmental instructions, revising existing instructions, and approving instructions;

2. Controlling distribution and coordinating the use of the instructions with affected organizations and functions;
3. Submitting Quality Assurance Indoctrination (QAI) lesson plans to the Director Nuclear Assurance for approval to conduct their own QAI.

2.3.2 The Director Nuclear Assurance has overall responsibility for:

1. Development, coordination, and periodic reviews of the status and adequacy of the FPL Quality Assurance Program;
2. Reviewing Regulatory Guides, codes, SAR document commitments and standards for impact on the Quality Assurance program and recommending appropriate program changes;
3. Establishing, conducting, reviewing and authorizing the implementation of FPL's requirements for QAI;
4. Coordinating revisions to the Topical Quality Assurance Report.

3.1 GENERAL REQUIREMENTS

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

Design records shall be developed to provide evidence that the design process and design verification were performed in accordance with the requirements of FPL's Quality Assurance Program.

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

Documents and databases designating safety related and quality related items and any revisions thereto shall be controlled in accordance with the FPL QA Program requirements.

3.2 IMPLEMENTATION

The controlling document for the identification of safety related items shall be the FSAR. Where the FSAR is not definitive for a specified plant, Nuclear Engineering shall develop and maintain documents/databases identifying those items which are safety related (e.g., plant equipment database, drawings, etc). These documents/databases shall clearly identify the boundaries of safety related systems and may take the form of identifying boundaries on engineering drawings. For quality related items, Nuclear Engineering shall specify explicitly those aspects of design, manufacture, procurement, installation, and testing that shall be subject to the FPL QA Program requirements, as appropriate, in the design output documents (e.g., Plant Change/Modification package).

The design organization's Quality Assurance Program for design control shall be approved by the FPL Quality Assurance Department prior to the release of approved design output by the design organization. The design organization is the organization responsible for approval of design output. Quality Instructions shall be developed to delineate design control requirements governing design-related activities performed by Nuclear Engineering and for delegating activities to contractor organizations.

Design data approved by the design organization shall be transmitted in design output documents such as specifications, drawings, and other documents defining technical requirements or in correspondence which may reference these documents. Transmittals shall identify the status of design information or documents provided, and where necessary, identify incomplete items which require further evaluation, review, or approval.

A standard PC/M and numbering system shall be established and used at each plant to ensure that all PC/Ms are handled in a uniform manner and properly documented. Nuclear Engineering shall forward the approved PC/M to the applicable Plant Vice President. Internal plant coordination and review of design control documents shall be controlled by approved instructions.

3.2.1 Design Process

The design organization shall specify and document its design activities to the level of detail necessary to permit the design to be developed in a correct manner and to permit verification that design output documents satisfy design input requirements. Design methods, materials, parts, equipment and processes, including those associated with commercial grade items that are essential to the function of the item shall be selected, reviewed and approved for suitability of application by the design organization.

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

The design organization shall identify aspects of manufacture, construction, inspection and testing critical to achieving the function of the item. Quality standards and quality requirements shall be specified on design output documents. Changes from approved quality- requirements specified in design output, including the reason for the changes, shall be approved, documented and controlled by the design organization.

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

3.2.2 Design Change Control

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

Where a significant design change is necessary because of an incorrect design, Nuclear Engineering shall determine the cause of the incorrect design. As necessary, design and verification procedures shall be reviewed and modified to correct the cause of the incorrect design.

Design changes shall be reviewed to ensure that implementation of the design change is coordinated with any necessary changes to operating procedures and practices, and required Nuclear Assurance activities, such as inspections and surveillances.

3.2.3 Design Interface Control

Quality Instructions shall establish interface controls between participating organizations and between the various technical disciplines within the design organization. These Quality Instructions shall include the assignment of responsibility, and be in sufficient detail to cover the preparation, review, approval, release, distribution and revision of design output documents.

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

3.2.4 Design Verification

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

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

The design organization shall be responsible for determining the extent of design verification and methods to be employed. The methods may include one or more of the following: the performance of design reviews, the use of alternate calculations, or the performance of qualification tests. This shall apply to original design and to changes to approved design output.

Where reverification is not required for a design change, the bases shall be documented by the design organization. Cursory supervisory reviews and mathematical checks for calculation accuracy do not satisfy the independent design verification requirement. Design verification shall normally be completed prior to release of design output for procurement, manufacture or release by the design organization for use in design activities by a participating organization. Verification shall be conducted based on the status of design at the time of release of design documents. Where this timing cannot be met, verification may be deferred provided that the unverified portion of the design output, and all design output documents, structures, systems and components based on the unverified

portion of design are identified and controlled. In all cases verification shall be completed prior to relying on any affected items to perform their design functions.

3.2.5 Computer Programs/Software

Organizations developing software or utilizing purchased or FPL developed computer programs/software in the performance of activities affecting quality as defined in the TQAR, shall maintain instructions or procedures to effect the following:

a. That such programs/software within the scope of the quality assurance program are identified and included in a computer software index. The controlled distribution of this index, electronic or hard copy, shall include the Director, Information Technology (IT) Operations. The method for determining which programs/software fall within the scope of the QA program shall be described in these procedures or instructions;

b. That such programs/software are verified for their particular use using benchmark problems, alternate calculations, comparison with other code or experimental results, requirements and/or design reviews or similar methods;

c. That such programs/software have been qualified for their specific application sufficient to ensure valid results;

d. That such programs/software are provided with user instructions sufficient for a technically competent individual to follow;

e. That configuration controls are provided to assure that such programs/software changes or modifications are documented and controlled;

f. That errors in such programs/software are identified, evaluated, provided with a disposition and corrected.

3.3 RESPONSIBILITIES

3.3.1 The Vice President Nuclear Engineering is responsible for:

a. Determining and documenting which items are nuclear safety related or quality related;

b. The review and coordination of design interfaces;

c. Assuring that design documents are reviewed for possible design interfaces, that interface problems are resolved and that design criteria and design interface changes are reviewed by participating organizations prior to approval of design documents;

d. Preparing design documents, including performing the safety evaluation or screening to determine if the proposed design change involves an Unreviewed Safety Question or a change to the Technical Specifications;

e. Performing design verification, including evaluation of the effects of proposed design changes on overall design adequacy (design integration);

f. Providing Nuclear Engineering approval of design documents;

g. Updating design documents and drawings according to applicable procedures;

h. Coordinating the NRC interface for 10 CFR 50.59 reports.

3.3.2 The Plant Vice President is responsible for:

a. Reviewing, tracking the status of, and maintaining a file on proposed PC/Ms;

b. Reviewing proposed PC/Ms for inclusion of appropriate quality criteria, standards, and hold points, including human factors considerations for design changes involving the Control Room or Remote Shutdown Panel;

c. reviewing completed PC/Ms, after implementation for compliance with governing procedures, including a review of all endorsements, sign-offs, completion of required acceptance testing/inspection, and any necessary changes to operating practices and procedures;

d. maintaining design documents as Quality Assurance records.

e. assuring that all plant design changes and drawing changes are coordinated through Nuclear Engineering;

f. determining whether or not a proposed design change affects nuclear safety;

g. approving or disapproving implementation of the proposed design change after receipt of a recommendation from the Plant Nuclear Safety Committee (PNSC) or Facility Review Group (FRG);

h. ensuring Environmental Services is included in the proposed PC/M review if the design change may have an adverse impact on the environment;

i. reviewing design changes to ensure that the implementation of the design change is coordinated with any necessary changes to operating practices and procedures.

3.3.3 The Plant Nuclear Safety Committee (PNSC) or Facility Review Group (FRG) is responsible for:

a. Reviewing all proposed PC/Ms for plant systems or equipment related to nuclear safety;

b. Rendering a determination in writing (PNSC/FRG meeting minutes) as to whether or not the proposed design change constitutes an Unreviewed Safety Question.

3.3.4 The Director Nuclear Assurance is responsible for:

a. reviewing PC/Ms and other FPL originated design specifications for inclusion of appropriate quality criteria, standards, hold points, and Nuclear Assurance activities.

3.3.5 The Company Nuclear Review Board (CNRB) is responsible for:

a. Reviewing Safety Evaluations for design changes to verify that the design changes did not constitute an Unreviewed Safety Question. CNRB review of evaluations involving screening rather than Safety Evaluation is not mandatory;

b. Reviewing proposed design changes which involve an Unreviewed Safety Question or a change in Technical Specifications or License.

3.3.6 Each direct report to the President, Nuclear Division and Department Heads of organizations supporting the Nuclear Division shall be responsible for:

a. identification of computer programs/software used to accomplish activities affecting quality;

b. establishment of departmental instructions which prescribe the methods and techniques used to meet the QA program requirements for control of computer programs/software.

3.3.7 Director Information Technology (IT) Operations is responsible for evaluating all hardware or operating system software changes or problems occurring on computer systems under IT Operations control to determine if the answers produced or the integrity of data maintained in databases may be affected. If IT Operations determines applications may be affected, then IT Operations is responsible for notifying user departments.

4.1 GENERAL REQUIREMENTS

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

4.2 IMPLEMENTATION

4.2.1 Procurement Document Provisions

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

a. The scope of work to be performed;

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

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

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

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

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

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

4.2.2 Procurement Document Review

Procurement documents shall be reviewed for correctness, and inspectability and controllability of quality requirements in accordance with Quality Instructions to assure that the appropriate provisions of Section 4.2.1 are included. This review shall be documented and performed by designated personnel who have been

trained and qualified in quality assurance practices and concepts. These reviewers shall have access to pertinent information and have an adequate understanding of the quality and technical requirements and intent of the procurement documents.

Spare or replacement parts for safety related structures, systems, and components are subject to technical or quality requirements equivalent to, or better than, those used for the original equipment.

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

4.2.3 Selection of Procurement Sources

It shall be verified that the procurement document has been reviewed and approved, and that the supplier has been approved prior to issuing the purchase order for safety related materials or services. Verbal purchase orders shall be made in accordance with TQAR Appendix C exceptions to ANSI N45.2.13. Supplier approval is not necessary if the important characteristics of the item can be verified by inspection or test.

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

4.3 RESPONSIBILITIES

4.3.1 Direct reports of the President, Nuclear Division, and Department Heads of organizations supporting the Nuclear Division originating a procurement requisition shall be responsible for:

a. Clearly describing the technical and quality considerations for the procurement of items or services;

b. Specifying any special requirements;

c. Specifying documentation required from the supplier;

d. Specifying special handling, preservation, storage, cleaning, packaging, and shipping requirements, as appropriate.

4.3.2 The Vice President Nuclear Engineering is responsible for:

a. Performing technical evaluations to verify and/or establish technical and quality requirements for permanent and temporary power plant items and services;

b. Reviewing technical and quality requirements contained in procurement documents and changes thereto to assure that ordering requirements are technically correct and complete for items and services as specified in 4.2.1;

c. Evaluating the interchangeability of items that are not identical to what is currently installed.

4.3.3 The Director Nuclear Assurance is responsible for:

a. Assisting in the resolution of quality requirements;

b. Approving suppliers for safety related procurement and commercial grade item procurement (when applicable);

c. Identifying surveillance witness and/or hold points at the supplier's facility for safety related procurement when supplier QA program is relied upon and programmatic deficiencies dictate;

d. Performing supplier surveillance.

4.3.4 The Plant Vice President or, for nuclear fuel procurement only, the Vice President Nuclear Engineering is responsible for:

a. Incorporating requisition technical and quality requirements into the procurement documents;

b. Notifying Nuclear Assurance of discrepancies and/or changes in supplier activities which may conflict with the work scope of Nuclear Assurance approved suppliers;

c. Reviewing each procurement document to ensure that it is correct, in accordance with Nuclear Assurance approved supplier work scope and restrictions (when applicable) and the originating procurement requisition;

d. Referencing and attaching appropriate Quality Assurance Program requirements, as referenced on respective procurement requisitions, requests for bid proposals, purchase orders and contracts;

e. Verifying that the procurement document has been reviewed and approved and issuing procurement documents to suppliers, as approved by FPL Nuclear Assurance when supplier QA programs are required;

f. Maintaining traceability of procurement documents until stored in an approved storage facility as a record.

5.1 GENERAL REQUIREMENTS

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

5.2 IMPLEMENTATION

5.2.1 Quality Assurance Program Documents

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

5.2.2 Procedures and Instructions

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

For plant operations, on-site plant procedures shall be prepared, reviewed, and approved in accordance with written instructions which includes a review for concurrence by Quality Assurance or Quality Control personnel and provisions for temporary changes and temporary procedures. These plant procedures include

operating procedures, off-normal and emergency procedures, test procedures, and calibration procedures. Also included are maintenance and repair procedures for subcontracted maintenance and repair activities which are outside the normal scope of plant craft capability. Temporary procedures may be issued during testing, refueling, maintenance, modifications, unusual situations not within the scope of normal procedures, and for short periods when the plant, system or component is performing in a manner not covered by existing detailed procedures or has been modified in such a manner that portions of existing procedures do not apply.

Contractors shall be required to have Quality Assurance Programs which contain written instructions for preparation, review, and approval of procedures, instructions, and drawings affecting quality. In addition, Contractor's site procedures and Quality Control inspection procedures shall be approved by the Plant General Manager, or designee, following reviews by Quality Assurance or Quality Control personnel to assure compliance with Corporate commitment and regulatory requirements.

During the design, modification, and procurement phases, the Architect/Engineer or other contractors may be delegated responsibility for maintaining, issuing and verifying the implementation of appropriate program documents. In this case, Quality Assurance or Quality Control audit or surveillance activities shall assure that such measures are established and implemented. Contractor programs shall clearly delineate the actions to be accomplished in the preparation, review and control of instructions, procedures and drawings, and the methods for complying with the appropriate criteria of 10 CFR 50, Appendix B.

5.2.3 Drawings

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

5.2.4 Acceptance Criteria

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

5.3 RESPONSIBILITIES

5.3.1 Each direct report to the President Nuclear Division and Department Heads of organizations supporting the Nuclear Division is responsible for:

a. Establishment of a documented system for the preparation, review, approval and revision of procedures. This system shall comply with regulatory requirements, the applicable Plant Technical Specifications and Topical Quality Requirements.

5.3.2 The Director Nuclear Assurance is responsible for:

a. Review and concurrence of procedures affecting quality in accordance with Paragraph 5.2.

6.1 GENERAL REQUIREMENTS

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

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

6.2 IMPLEMENTATION

6.2.1 Quality Instructions shall delineate the control measures that provide for:

6.2.1.1 Identification of individuals or organizations responsible for preparing, reviewing, approving, and issuing documents and revisions thereto;

6.2.1.2 Identifying the proper documents to be used in performing the activity;

6.2.1.3 Coordination and control of interface documents;

6.2.1.4 Ascertaining that proper documents are being used;

6.2.1.5 Establishing current and updated distribution lists.

These control measures shall apply to documents affecting the quality of nuclear safety related structures, systems, and components such as:

a. design specifications;
b. design, manufacturing, construction, and installation drawings;
c. quality program manuals, procedures, and instructions;
d. inspection, manufacturing, and test procedures and instructions;
e. plant operating and maintenance procedures;
f. plant Safety Analysis Reports and related design criteria documents.

The requirements for control of procurement documents are contained in TQR 4.0, Procurement Document Control.

6.2.2 Drawing Control

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

Maintenance, distribution and control of the drawings and the Master Drawing List by FPL during the operation phase shall be assigned to a drawing custodian. Revision to drawings shall be approved prior to release by the drawing custodian. Approval shall be by Nuclear Engineering, or a designated design organization.

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

6.2.3 Design Documents Other Than Drawings

Ascertaining that proper design documents are accessible and are being used shall be accomplished by periodic issuance of master document lists showing the latest applicable revision, or by a document receipting system.

6.3 RESPONSIBILITIES

6.3.1 Direct reports to the President, Nuclear Division, and Department Heads of organizations supporting the Nuclear Division shall be responsible for:

a. the development, maintenance and control of those documents identified in Section 6.2 issued by them as controlled documents;

b. the adequacy of their instructions, including the instructions for control of the documents and changes thereto to preclude the possibility of use of outdated or inappropriate documents.

6.3.2 Each recipient of a controlled document is responsible for ensuring that the appropriate latest revision is being used.

6.3.3 The Vice President, Nuclear Engineering, is responsible for assuring that the Architect-Engineer, Nuclear Steam Supply System vendor, and other contractors, as a minimum:

a. provide for the development, control and distribution of drawings, specifications and procedures; and the development and periodic distribution of a master drawing list for each project;

b. provide that all revisions required as a result of FPL comments, nonconformances, or engineering work are incorporated into revised documents.

6.3.4 The Site Vice President is responsible for establishing a document distribution and control system to assure that the latest appropriate revisions of documents are used for construction and installation at each project site.

7.1 GENERAL REQUIREMENTS

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

7.2 IMPLEMENTATION

7.2.1 Evaluation of Suppliers

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

7.2.2 Verification Activities

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

7.2.3 Receiving Inspection

Quality Instructions shall delineate requirements and responsibilities for the performance of receiving inspection. This inspection shall verify that suppliers have fulfilled their contractual obligation and that the procured items meet the appropriate quality requirements. Receipt inspections shall be planned. The receipt inspection plans shall identify the characteristics to be verified and the documentation to be reviewed at receipt inspection. Receiving inspection shall include, as appropriate:

a. Measures for verifying that the shipment is complete, properly identified, undamaged, and corresponds with the purchase order documentation;

b. Measures for inspection of the item and review of supporting documentation (e.g., mill test reports, NDE reports) as required by the purchase documents;

c. Measures for disposition of items to inspection instructions;

d. Measures for identifying and controlling items including identification of inspection status prior to release from the receiving inspection area;

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

f. Measures verifying completion of Commercial Grade Item dedication requirements.

7.2.4 Supplier Furnished Records

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

7.3 RESPONSIBILITIES

7.3.1 Direct reports of the President, Nuclear Division, and Department Heads of organizations supporting the Nuclear Division are responsible for:

a. Determining the methods of acceptance for services requested by them;

b. The performance of the acceptance methods selected, when assigned to them.

7.3.2 The Vice President Nuclear Engineering is responsible for:

a. Requesting that Nuclear Assurance perform a supplier evaluation;

b. Determining the methods of acceptance for items and services.

7.3.3 The Director Nuclear Assurance is responsible for:

a. Assuring that evaluations of suppliers are performed and the results documented in accordance with approved Quality Instructions;

b. Determining the methods of source verification;

c. Performing receipt inspections in accordance with approved Quality Instructions;

7.3.4 The Site Vice President is responsible for:

a. Requesting that Nuclear Assurance perform a supplier evaluation;

b. Examining items for shipping damage upon receipt;

c. Performing receipt inspection in accordance with approved Quality Instructions.

8.1 GENERAL REQUIREMENTS

Materials, parts, and components, including partially fabricated assemblies, shall be identified and controlled as required throughout fabrication, receipt, handling, storage, installation, and use of the item. The identification of the item shall be maintained by heat number, part number, serial number, assigned traceability number, or other suitable means, and shall be physically marked on the item or on records traceable to the item. The object of these controls shall be to prevent the use of non-inspected, incorrect or defective materials, parts, and components.

8.2 IMPLEMENTATION

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

a. Physical identification shall be used to the maximum extent possible. When physical identification is impractical or insufficient, items shall be physically segregated and identified by batch, lots, etc.;

b. When items are subdivided, their identification shall be maintained by transferring the identification to each of the subdivided parts or their container;

c. Post-installation identification of items that cannot feasibly be physically marked shall be traceable by record verification;

d. Items requiring identification, but whose identification was lost during storage, shall be segregated and documented as nonconforming and dispositioned in accordance with established procedures;

e. Requirements for traceability to appropriate documentation, such as: procurement documents, manufacturing documents, drawings, specifications, inspection and test records, nonconformance or deficiency reports or other Quality Assurance Records, in sufficient detail to preclude any possibility of doubt or confusion concerning the traceability of an item to the documentation, or the documentation to the item;

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

g. Requirements which assure that the method or location of markings are not detrimental to, and do not affect the function or quality of an item; are clear, unambiguous and indelible; are in plain unobstructed view; do not provide conflicts with other requirements; are not obliterated by any surface treatment unless other means of identification are substituted; withstand normal shipping, handling and environmental effects and are able to be retained;

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

i. Requirements to ensure that dedicated Commercial Grade Items are identifiable to the specific component or equipment for which they are dedicated.

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

8.3 RESPONSIBILITIES

8.3.1 The Site Vice President has overall responsibility for:

a. Assuring that an identification and control system is developed and implemented for items to be utilized within the plant;

b. Receiving, controlling and ensuring the security of items;

c. Segregating items until the required receipt inspection is performed;

d. Assuring the placement of any necessary markings on the items as required by applicable procedures or as requested in accordance with applicable purchase orders, specifications or commercial grade dedication packages; and

e. Incorporating applicable pre-installation and/or post-installation inspections, tests, and QC hold points (including Commercial Grade Item Dedication requirements) into applicable work control documents.

8.3.2 The Vice President Nuclear Engineering has overall responsibility for:

a. Determining and specifying end use applications for items.

9.1 GENERAL REQUIREMENTS

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

9.2 IMPLEMENTATION

Special process requirements shall be included in design outputs and changes thereto. Special process procedures shall be developed, reviewed, approved and controlled, and special process personnel and equipment shall be qualified.

9.2.1 Identification of Special Processes

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

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

9.2.2 Procedure Qualification and Control

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

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

Special process procedures shall be:

a. Sufficiently detailed for a qualified person to perform the technique and achieve the desired results;

b. Reviewed and approved prior to use to ensure the procedure complies with applicable codes, standards, and specifications, and that specified materials, equipment, and techniques are suitable for the intended application;

c. Qualified prior to, or during initial use.

Special process procedures and revisions thereto which specify acceptance criteria (other than those identified in the ASME code) shall have the concurrence of the acceptance criteria by Nuclear Engineering prior to issuance and use.

9.2.3 Personnel Qualification and Certification

Procedures or instructions shall specify personnel qualification and certification requirements. Personnel responsible for the performance and verification of special processes shall be trained, tested, and certified as required by applicable specifications, codes and standards. Requirements for the period of certification, retesting, and recertification of personnel shall also be specified. Contractors shall

qualify personnel and maintain records of qualified personnel in accordance with applicable codes, standards, specifications, and contract or procurement document requirements.

9.2.4 Control of Equipment

Equipment that must be of a specific type, range, or accuracy to provide conformance to specified requirements shall be controlled to ensure that it is qualified, maintained, and calibrated in accordance with those requirements.

9.2.5 Special Process Records

Records shall provide objective evidence that special processes were performed in compliance with approved procedures by qualified personnel and equipment.

Results of nondestructive examinations shall be documented and shall be evaluated for acceptance in accordance with applicable specifications, codes and standards by an individual who is certified in the applicable method.

Records shall also be maintained for verification activities when required by procedure, code or specification. For contracted work, these records shall be retained by the vendor or supplied to FPL as required by contract or purchase order. If records are to be retained by the vendor, the contract or purchase order shall specify the retention period and instructions for final disposition of such records.

9.3 RESPONSIBILITIES

9.3.1 Direct reports of the President, Nuclear Division, and Department Heads of organizations supporting the Nuclear Division involved in special process activities are responsible for:

a. Ensuring that special process procedures used by their department are reviewed, approved, controlled, and are qualified prior to or during initial use;

b. Ensuring that special process personnel in their department are qualified and certified;

c. Ensuring that records associated with special processes under their control are reviewed and maintained;

d. Performing special process inspections, examinations, and activities, when assigned to their department, as required by applicable codes, standards, criteria, or other special requirements identified;

e. Ensuring that work documents under their control contain adequate requirements for the identification and control of special processes;

f. Ensuring special process procedures and revisions which specify acceptance criteria (other than identified in the ASME code) have Nuclear Engineering concurrence of acceptance criteria prior to use;

g. Ensuring nondestructive examination documents are reviewed for accuracy and adequacy.

h. Ensuring that welding activities requiring a qualified program are implemented in accordance with the welding program developed by Nuclear Engineering.

9.3.2 The Vice President Nuclear Engineering is responsible for:

a. Determining (as requested) if a specific activity constitutes a special process;

b. Identifying applicable codes, standards, specifications, criteria, and other requirements related to special processes;

c. Preparation, qualification, issuance, and control of Visual Test (VT) and Nondestructive Examination (NDE) procedures, instructions, and technique sheets for all ASME Section XI examination activities;

d. Direction, including technical direction to all personnel, of the welding program to meet the requirements of applicable codes and standards. This shall include the development, maintenance, and control of a welding program;

e. Review and approval of contractor welding programs.

9.3.3 The Site Vice President is responsible for:

a. Welding activities performed at the site including issuance and control of weld documentation packages, welding material and equipment;

b. Maintaining a current report of qualified welders and weld operators and assigning welder symbols;

c. Ensuring that the Authorized Nuclear Inspector/Authorized Nuclear Inservice Inspector (ANI/ANII) is permitted access to all parts of the plant site or supplier facilities while work on an item or system is being performed that concerns the welding fabrication, modification, repair, or replacement of the item or system; including inspections, examinations, and tests.

10.1 GENERAL REQUIREMENTS

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

10.2 IMPLEMENTATION

10.2.1 Inspection Program

For plant operations, maintenance, or modification activities, a program for on-site inspection of activities affecting quality shall be established. This program shall ensure the performance of inspections, surveillance and monitoring of plant activities including operations, maintenance or modifications as required by established plans, schedules and/or procedurally required inspection, witness or hold points. In all cases, the personnel performing the inspection shall be independent of the group performing the work.

For preoperational start-up and testing of plant modifications, Nuclear Division personnel may report functionally to the manager responsible for the start-up and testing and establish plans, schedules and procedurally required inspection, witness or hold points. In all cases, the personnel performing the inspection shall be independent of the group performing the work.

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

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

10.2.2 Inspection Plans and Schedules

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

Inspection planning should include a review for the acceptability of sampling. If sampling is permitted, the sampling procedure shall be based on nationally recognized standard practices.

10.2.3 Inspection Personnel

Inspections shall be performed by individuals other than those who performed or directly supervised the activity being inspected. Inspection personnel shall have current qualifications and certifications in accordance with appropriate codes, standards and/or company training programs. These qualifications and certifications shall be documented.

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

10.2.4 Inspection Procedures

Required inspection, surveillance or monitoring activities shall be performed and documented according to written, approved instructions or procedures.

a. Inspection procedures, instructions or checklists shall contain the following:
   - o Identification of characteristics to be inspected;
   - o Identification of the individual or groups responsible for performing the inspection;
   - o Acceptance criteria or reference to the acceptance criteria;
   - o A description of the method of inspection;
   - o Verification of completion and certification of inspection.

b. Inspection records shall identify:
   - o Inspector or data recorder;
   - o Method or type of observations;
   - o Test or inspection results;

- o Statement of acceptability;
- o Date of observation;
- o Deficiencies and nonconformances, and the action taken in connection with these deficient conditions, either by inclusion or by reference to other documents;

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

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

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

10.2.5 Inspection, Witness, and Hold Point Identification

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

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

FPL procurement documents shall indicate FPL witness or hold points applicable prior to during, or after the manufacture of an item or the performance of a service. A distinction shall be made between witness points and mandatory hold points.

10.3 RESPONSIBILITIES

10.3.1 Direct Reports of the President, Nuclear Division, and Department Heads of organizations supporting the Nuclear Division that perform inspection activities are responsible for:

a. Implementation of a program for inspection activities;

b. Ensuring that this program verifies compliance with applicable portions of Technical Specifications, SAR requirements, procurement documents, other operating license requirements and the QA Manual;

c. Ensuring coordination with QC for incorporation of QC inspection and hold points into procedures and work documents;

d. Ensuring that inspections are not inadvertently omitted or bypassed;

e. Ensuring that personnel assigned to perform inspections are appropriately qualified and certified;

f. Ensuring inspection procedures are reviewed by Nuclear Assurance personnel to determine the need for an independent inspection and the degree and method if such an inspection is required, and to ensure the identification of inspection personnel and the method of documentation of inspection results.

10.3.2 The Director Nuclear Assurance is responsible for:

a. Implementation of a program for inspection and surveillance activities;

b. Ensuring that required QC inspections are incorporated into inspection/test/ maintenance procedures, design change documents, and work process control documents;

c. Ensuring that inspections and surveillances are correctly performed and documented;

d. Reviewing inspection procedures to determine the need for an independent inspection and the degree and method if such an inspection is required, and to ensure the identification of inspection personnel and the method of documentation of inspection results.

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, pre-operational tests, start-up tests, 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. A schedule shall be provided and maintained to provide assurance that all tests are performed and properly evaluated on a timely basis.

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

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

11.2.2 Test Procedure Preparation and Test Performance

Testing shall be accomplished in accordance with written approved test procedures which incorporate or reference the requirements and acceptance limits in the applicable design and procurement documents. Test procedures shall be revised as necessary to assure that tests are performed in accordance with the latest approved information. The test procedure or test program documents shall include or reference the following as a minimum:

a. Instructions for the testing method used (including precautions, limitations, and restoration of normal conditions upon test completion);

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; defined system interfaces; initial plant conditions;

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

g. Test records shall identify:

1) Identification of personnel performing the testing activities;

2) Method or type of observations;

3) Test or inspection results (to include pertinent test data);

4) Specific measuring and test equipment utilized for testing;

5) As found and as left condition (as applicable);

6) Statement of acceptability;

7) Date of observation; and

8) 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 disposition provided in accordance with TQR 15.0 and approved 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.

11.3 RESPONSIBILITIES

11.3.1 The Site Vice President is responsible for:

a. Assuring that plant tests are identified, scheduled, controlled, performed and documented;

b. Assuring that plant test procedures are reviewed and approved.

11.3.2 The Director Nuclear Assurance is responsible for:

a. Assuring that test procedures specify necessary quality requirements such as witness and hold points, and adequate data sheets.

11.3.3 The Director Protection & Control Systems is responsible for:

a. Assuring the identification, scheduling, control, performance, and documentation of tests performed by Protection & Control Systems;

b. Submitting test procedures to the Plant General Manager for review;

c. Coordinating test schedules with the Plant General Manager.

11.3.4 The Vice President Nuclear Engineering is responsible for:

a. Specifying the need for pre-installation and post-installation testing of items within the purview of Nuclear Engineering;

b. Writing test procedures as requested;

c. Evaluating test results as requested.

12.1 GENERAL REQUIREMENTS

Measures shall be established to assure that tools, gages, instruments, and other measuring and testing devices used in activities affecting quality are properly controlled, calibrated, and adjusted at specified periods to maintain accuracy within necessary limits. It is the responsibility of each department maintaining calibrated instruments to provide for the calibration and control of such instruments.

12.2 IMPLEMENTATION

12.2.1 Calibration and Control of Measuring and Test Equipment

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

a. A complete listing of M&TE and installed plant instrumentation and control equipment to be controlled;

b. The frequency of calibration of listed M&TE and installed plant instrumentation and control equipment. The frequency may be based on calendar time or relate to usage and shall be based on such factors as licensing commitments, regulatory requirements, experience, inherent stability, manufacturer's recommendations, purpose of use, frequency of service, or company standards. A schedule for calibration shall be established and shall indicate as a minimum the instrument, calibration frequency, and procedure to be used or the identification of the approved supplier qualified to provide calibration services;

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

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

e. A method to document and maintain the status of M&TE and installed plant instrumentation and control equipment.

M&TE shall be calibrated in environments which will not adversely affect their accuracy. When inaccuracy due to environmental effects cannot be avoided, compensating corrections shall be determined and applied in accordance with the manufacturer technical instructions.

M&TE and reference standards shall be suitably marked so that the calibration status can be determined.

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

12.2.2 Calibration Procedure

M&TE, reference standards, and listed installed plant instrumentation and control equipment shall be calibrated in accordance with written approved procedures. Calibration procedures shall contain, or reference as a minimum:

a. Identity of M&TE or equipment to which the procedure applies;
b. Calibration equipment and reference standards to be used;
c. Acceptance criteria;
d. Sequence of operations;
e. Special instructions (such as, prerequisites, power level requirements, precautions, limitations) as applicable;
f. Documentation and data collection requirements;
g. A requirement that equipment to be calibrated, be checked and results recorded before adjustments or repairs are made;
h. Calibration frequency required.

12.2.3 Calibration Standards

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

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

The meaning of this paragraph may be diagrammed as follows:

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST)

"greater than" tolerance

↓

PRIMARY STANDARD (if applicable)

"greater than" tolerance

↓

SECONDARY STANDARD (if applicable)

"greater than" tolerance

↓

WORKING STANDARD

"1:4 ratio" tolerance (except as noted above)

↓

M&TE (installed instruments and measuring and test equipment used for inspection, maintenance, etc.)

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

12.2.4 "Out of Tolerance" Control and Corrective Action

The reporting, follow-up, and correction of conditions adverse to quality found during calibration or calibration checks shall be documented. M&TE and reference standards, when found out of tolerance, shall be so identified and removed from service, tagged to indicate its status and segregated from M&TE in service, pending disposition of corrective action. A documented investigation shall be conducted to determine the validity of previous inspection or test results gained through use of the instrument, and of the acceptability of items previously inspected or tested.

12.3 RESPONSIBILITIES

12.3.1 Direct reports of the President, Nuclear Division, and Department Heads of organizations supporting the Nuclear Division shall be responsibile for:

a. Assuring that the affected plant departments establish and maintain a calibration control program;
b. Assuring that written procedures governing calibration activities are reviewed and approved prior to use;
c. Assuring that documentation of calibration activities are reviewed and approved.

12.3.2 The Director Protection & Control Systems is responsible for assuring that calibration control procedures for installed plant instrumentation and control equipment under his control are submitted to the Plant General Manager for review, and for coordination of calibration activity schedules with plant supervisors.

13.1 GENERAL REQUIREMENTS

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

Housekeeping procedures and instructions shall require cleanness to be maintained at a level consistent with the work performed to prevent the entry of foreign material into safety related systems. Control of personnel, tools, equipment and supplies shall be established with approved procedures or instructions when the safety function of a system, component or item may be jeopardized and also while the reactor system is opened for inspection, maintenance or repair. Documented cleanness inspections shall be performed prior to system closure.

13.2 IMPLEMENTATION

13.2.1 General

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

13.2.2 Handling, Storage, and Shipping Procedures

Materials and equipment which are to be incorporated into a safety related system of a nuclear power plant shall be handled, stored, and shipped in accordance with written procedures, where necessary, to implement the design document and purchase order requirements. These procedures shall assure that cleaning, handling, storing, packaging, shipping, and preserving materials, components and systems will preclude damage, loss, or deterioration by environmental conditions, such as temperature or humidity.

Site specific procedures or specific work instructions shall be developed which provide guidelines in handling heavy loads that are lifted over, or in proximity to, irradiated fuel or safe shutdown equipment/systems.

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

13.2.3 Cleanness Procedures

Procedures or work instructions for cleaning; cleanness control practices and inspections; examinations or tests to verify cleanness of items; shall be prepared and implemented.

13.2.4 Housekeeping Procedures

Methods and techniques for controlling and maintaining housekeeping and documenting housekeeping surveillances and inspections shall be delineated in procedures or instructions.

13.3 RESPONSIBILITIES

13.3.1 The Site Vice President has overall responsibility for ensuring that handling, storage, shipping, cleanness and housekeeping requirements are identified, and implemented.

13.3.2 The Vice President Nuclear Engineering is responsible for:

a. Identifying special handling and storage requirements for site-fabricated items in applicable design output documents/work instructions;

b. Identifying cleaning and cleanness verification methods in appropriate specifications, drawings or procedures.

13.3.3 The Director Nuclear Assurance is responsible for:

a. Verifying proper handling, storage, and shipping activities at supplier facilities;

b. Verification of housekeeping, handling, storage, shipping and cleanness of items through inspections, surveillances, examinations or tests at the plant site.

14.0 GENERAL REQUIREMENTS

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

14.2 IMPLEMENTATION

14.2.1 General

A suitable system for identifying the inspection, test, and operating status of materials, equipment, systems, and components shall be established. Each system shall be implemented and maintained in accordance with written Quality Instructions. The Architect/Engineer or Contractors shall develop and implement procedures to comply with contractual responsibilities, and applicable codes, standards, specifications, and criteria governing the status identification of procurement items being tested, installed, or fabricated. The Architect/Engineer (where applicable), suppliers and contractors shall be required to maintain a system for identifying the inspection, test and processing status of materials, parts, and components. Elements of this system require that suppliers and contractors have a controlled manufacturing and test operation in order to preclude the inadvertent bypassing of processing, inspections or test, and to provide a positive identification of component status throughout all phases of manufacturing, testing, and inspecting, by means of tagging, routing cards, stamping, manufacturing or test reports, labeling or other appropriate methods. Methods to verify adequacy of the controls shall be established and implemented, as appropriate.

14.2.2 Status Identification and Control

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

14.3 RESPONSIBILITIES

14.3.1 Direct reports of the President, Nuclear Division, and Department Heads of organizations supporting the Nuclear Division shall be responsible for coordinating activities affecting the inspection, test and operating status of material, equipment, systems, and components with the appropriate plant organization.

14.3.2 The Site Vice President is responsible for the establishment, maintenance, and implementation of a suitable system for identifying, inspecting, testing, and providing operating status of material, equipment, systems and components in accordance with written and approved procedures and instructions and the approval of other programs utilized on site which provide for inspections, test and operating status.

14.3.3 The Director Nuclear Assurance is responsible for assuring that requirements are implemented per written instructions and procedures.

15.1 GENERAL REQUIREMENTS

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

15.2 IMPLEMENTATION

15.2.1 Program

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

15.2.2 Documenting and Controlling Nonconformances

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

a. Physical identification of the item as nonconforming;

b. Segregation of nonconforming items until disposition is properly provided.

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

The control of, and the documentation generated by the identification, disposition, correction, and verification of nonconformances may be transferred between processing methods. Adequate controls shall be established to assure traceability between processing methods and the identified nonconforming item and to prevent inadvertent cancellation of the corrective action implementing document.

15.2.3 Documentation

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

15.2.4 Evaluation and Disposition

Nuclear Engineering, or other delegated organizations, as specified by procedure, shall evaluate nonconformances and provide disposition for them based on the results of the evaluations. Nonconforming conditions which cannot be made acceptable utilizing existing design documents shall be evaluated by Nuclear Engineering for disposition. These evaluations and dispositions shall be reviewed, approved and documented in accordance with procedures.

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

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

The determination of the need and the advisability of releasing nonconforming items shall be initiated by the Site Vice President, and approved by Nuclear Engineering. The following factors may be appropriate considerations in making this determination:

a. Effect on the orderly progress of work if items are released;

b. Safety of personnel;

c. Suitability of items in "as-is" condition, i.e., probability of eventual satisfactory resolution of the nonconformance without repair, rework, or replacement;

d. Accessibility of items after release;

e. Cost of removal and repair of replacement should items eventually have to be removed, repaired, or replaced;

f. Impact on plant safety.

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

Nonconformance reports shall be periodically reviewed to identify quality trends. The results of these analyses shall be reviewed with appropriate members of upper-level management.

15.3 RESPONSIBILITIES

15.3.1 Direct reports of the President, Nuclear Division, and Department Heads of organizations supporting the Nuclear Division are responsible for:

a. the generation of instructions/procedures to implement requirements for the identification, control, disposition, and verification of nonconformances within their purview;

b. identifying and documenting nonconforming items within the scope of their departmental responsibilities;

c. submitting nonconformances requiring design evaluations to the appropriate engineering organizations;

d. tracking and control of open nonconforming items within the scope of their departmental responsibilities;

e. providing disposition and verifying the resolution of nonconforming items within the scope of their departmental responsibilities;

f. periodically assessing quality trends related to nonconformances.

15.3.2 The Site Vice President is responsible for:

a. supplier notification and follow-up of nonconformances requiring supplier corrective actions.

b. initiation of release of nonconforming material for use.

15.3.3 The Director Nuclear Assurance is responsible for:

a. periodically assessing quality trends related to nonconformances and reviewing the results of these assessments with appropriate members of upper-level management.

15.3.4 The Vice President Nuclear Engineering is responsible for:

a. the review, evaluation, and disposition of nonconformances submitted by other departments;

b. approval of release of nonconforming items;

c. supplier notification and follow-up of nonconformances requiring supplier corrective actions.

16.1 GENERAL REQUIREMENTS

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

16.2 IMPLEMENTATION

16.2.1 Corrective Action and Follow-Up

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

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

Specific personnel having stop work authority include the Plant General Manager, Site Quality Manager and Plant Vice President.

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

Interdepartmental corrective action shall be requested by use of written correspondence. Audit reports, nonconformance reports, interoffice letters, and other documents may be used for this purpose.

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

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

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

16.2.2 Recurrence Control

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

16.2.3 Incidents and Reportable Events Reporting

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

16.3 RESPONSIBILITIES

16.3.1 The President Nuclear Division is the final authority in the event agreement relating to stop work requests or other proposed corrective action is not reached at lower management levels.

16.3.2 Direct reports of the President Nuclear Division and Department Heads of organizations supporting the Nuclear Division are responsible for:

a. Assuring that timely corrective action within their respective organization;

b. Follow-up and assuring completion of corrective action resulting from their respective department's audits, inspections, surveillances, tests, or operations;

c. Reviewing and investigating audit findings to determine and schedule appropriate corrective action and responding as requested in the audit report.

16.3.3 The Director Nuclear Assurance has the responsibility and authority to recommend that work be stopped or appropriate corrective action taken as a result of QA findings during department audits and reviews or QC activities.

16.3.4 All personnel detecting conditions adverse to quality or significant conditions adverse to quality are responsible for reporting such conditions to the appropriate authority.

16.3.5 The Vice Presidents, PSL, PTN, Nuclear Engineering, and the Director of Nuclear Assurance are responsible for administering a commitment tracking system.

17.1 GENERAL REQUIREMENTS

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

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

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

17.2 IMPLEMENTATION

17.2.1 Records Identification and Classification

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

Quality assurance records shall be classified as lifetime or non-permanent as required by the NRC facility operating license, the NRC construction permit, applicable parts of 10CFR, the FSAR, or other NRC commitments. Retention times shall be established for each record series and provided to the Records Official.

17.2.2 Completeness and Control

Quality assurance records submitted for retention shall be legible, completely filled out, and adequately identifiable and retrievable for each item.

Quality Instructions shall include methods for handling corrections and supplements to existing QA records.

17.2.3 Retrieval

Records shall be filed in an approved record storage area or facility using a documented system to provide retrievability. Documented methods for control and accountability of records removed from the record storage area shall be instituted.

17.2.4 Storage

Construction features and location requirements for record storage facilities shall be established to assure that quality assurance records are protected from possible destruction by causes such as fire, flooding, theft, tornadoes, insects, rodents, and from possible deterioration by a combination of extreme variations in temperature and humidity. Specific instructions regarding the record storage area or facility shall be given for special processed records (e.g. radiographs, magnetic media, and microfilm, etc.).

A QA Record Storage Evaluation Team (QARSET) shall be established to determine if the methods utilized to store and protect QA records are adequate. The QARSET shall consist of the following: the QA Supervisor Performance Assessment, a Risk Management Representative, and the Records Official. The QARSET shall maintain records of evaluations and establish schedules to assure that reevaluations are performed every two (2) years.

The QARSET shall evaluate the status of existing record storage facilities and the adequacy of additional record storage facilities prior to the construction of a new facility or the conversion of existing structures.

When temporary storage of records (such as for processing, review, or use) is required by an organization's procedures, the records shall be stored in a QARSET approved container. The maximum allowable time limit for temporary storage is 24 months.

The requirements of the Topical Quality Assurance Report, Appendix C shall be utilized in the evaluation of potential permanent and temporary record storage facilities.

17.3 RESPONSIBILITIES

17.3.1 Direct reports of the President, Nuclear Division, and Department Heads of organizations supporting the Nuclear Division that generate quality assurance records are responsible for:

a. the technical content and accuracy of the records they generate;

b. transmitting records and indexing information to the appropriate record storage facility or requesting approved storage locations from QARSET;

c. establishing and approving a list of quality assurance records generated by the organization and their retention times and assuring that these quality assurance records are identified in the appropriate quality assurance record index;

d. the storage and retrieval of quality assurance records prior to transmittal to permanent record storage facilities;

e. performing periodic surveys to ensure that their record control system is adequate;

f. transmitting a copy of the records retention schedule to the Records Official for all records maintained by their organization.

17.3.2 The Records Official is responsible for:

a. ensuring the quality assurance records program activities are managed in accordance with applicable recordkeeping requirements;

b. reviewing and retaining copies of record retention schedules received from originating departments;

c. locating acceptable record storage areas when requested;

d. leading the evaluation of specially designated QARSET approved record storage facilities, maintaining records of this evaluation, and establishing schedules to assure that re-evaluations are performed every two (2) years.

17.3.3 The Plant Vice President is responsible for:

a. the storage, retrieval, and control of quality assurance records at the site.

17.3.4 The Corporate Records Supervisor is responsible for:

a. storage, retrieval, and control of records and documents stored at the Corporate Records Center and Documentary Files.

17.3.5 The Quality Assurance Record Storage Evaluation Team (QARSET) is responsible for:

a. evaluating the acceptability of storage locations for quality assurance records;

b. ensuring that evaluations of record storage locations are performed every two years.

18.1 GENERAL REQUIREMENTS

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

18.2 IMPLEMENTATION

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

18.2.1 Personnel

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

18.2.2 Planning and Scheduling

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

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

b. The system of audits devised to verify compliance with aspects of the nuclear plants is described in each unit's technical specifications. Audits of selected aspects of operational phase activities are performed with a frequency commensurate with safety significance. As a minimun, unless otherwise specified by technical specifications, the Code of Federal Regulations or other licensing commitments, these audits are performed at a biennial (2-year) frequency. The audit system is reviewed periodically and revised as necessary to assure coverage commensurate with current and planned activities;

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

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

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

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

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

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

c. Evaluation of bids;

d. Indoctrination and training programs;

e. Receiving and plant inspections;

f. Operation, maintenance/repair and modification;

g. The implementation of operating and test procedures;

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

i. Validity of Certificates of Conformance.

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

18.2.3 Conduct of Audits

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

a. Audits be conducted by trained and qualified personnel;

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

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

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

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

18.2.4 Reporting of Audit Findings

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

18.2.5 Follow-up

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

18.2.6 Reports to Management

The Quality Assurance Department periodically reports on the status of the Quality Program to the members of the Company Nuclear Review Board (CNRB). This status report summarizes the results of QA Department audit activities for the period, keeps all CNRB members apprised of current conditions and program effectiveness, and when necessary, directs management attention to significant trends and problems.

18.3 RESPONSIBILITIES

18.3.1 Direct reports to the President, Nuclear Division, and Department Heads of organizations supporting the nuclear division shall be responsible for:

1. Taking action to correct deficiencies identified in audit reports;
2. Providing a written response within thirty (30) calendar days of receipt the audit report.

18.3.2 The Director Nuclear Assurance is responsible for the following:

a. Scheduling audits on a regular basis;

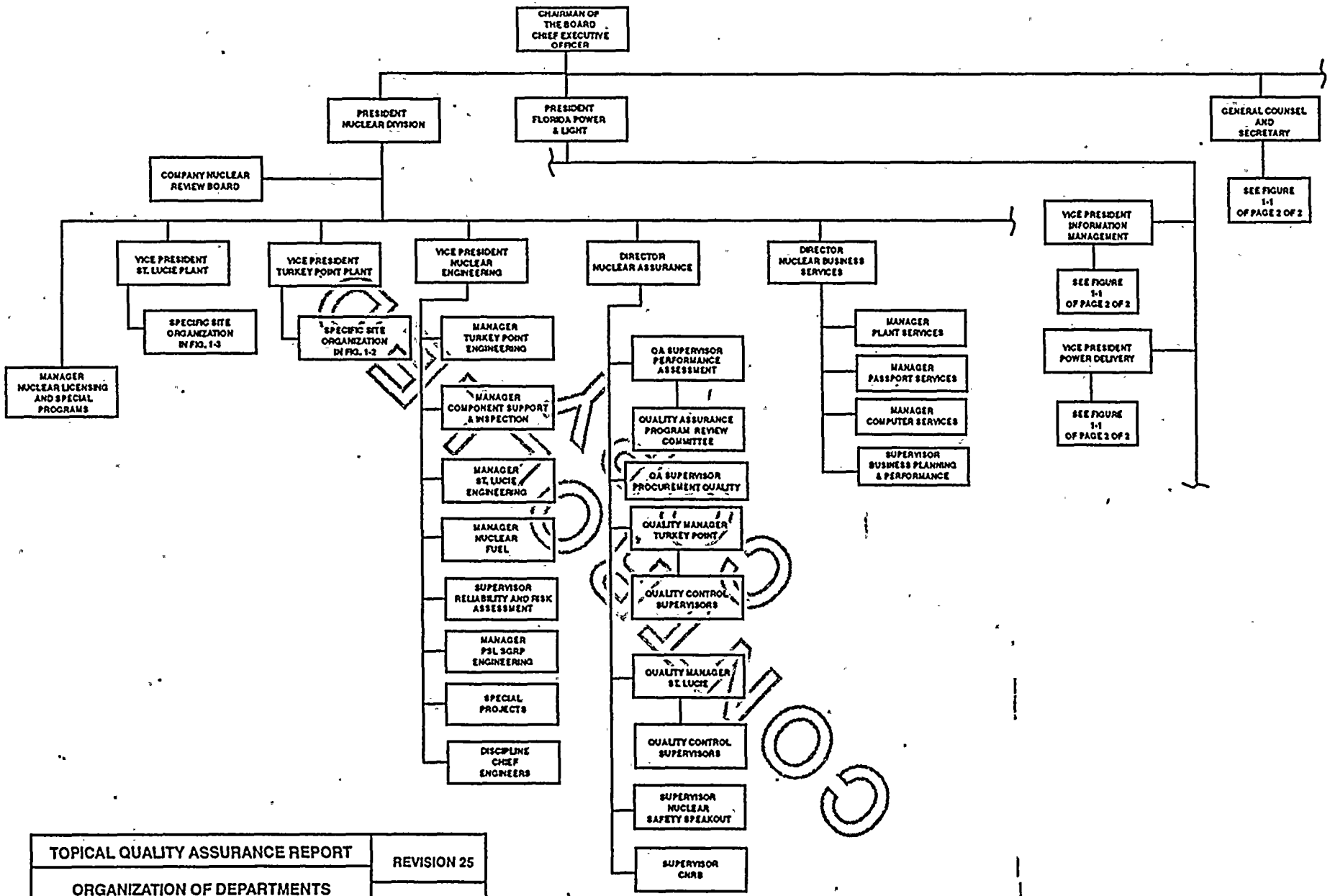
b. Selecting the audit team and the Lead Auditor;

c. Reviewing each audit report for accuracy, completeness, proper format and distribution;

d. Designating a qualified replacement Lead Auditor (in writing) if the audit team leader transfers from the respective QA group or is otherwise unable to continue the assigned audit;

e. The qualification of Lead Auditors.

18.3.3 The Chairman, Company Nuclear Review Board (CNRB) is responsible for review and concurrence of Annual Audit Program Plans, review of individual audit scopes and involvement in the audit program for internal audits as defined by CNRB instructions.



TOPICAL QUALITY ASSURANCE REPORT	REVISION 25
ORGANIZATION OF DEPARTMENTS AFFECTING QUALITY FIGURE 1-1 APPENDIX A NUCLEAR DIVISION	04/30/97
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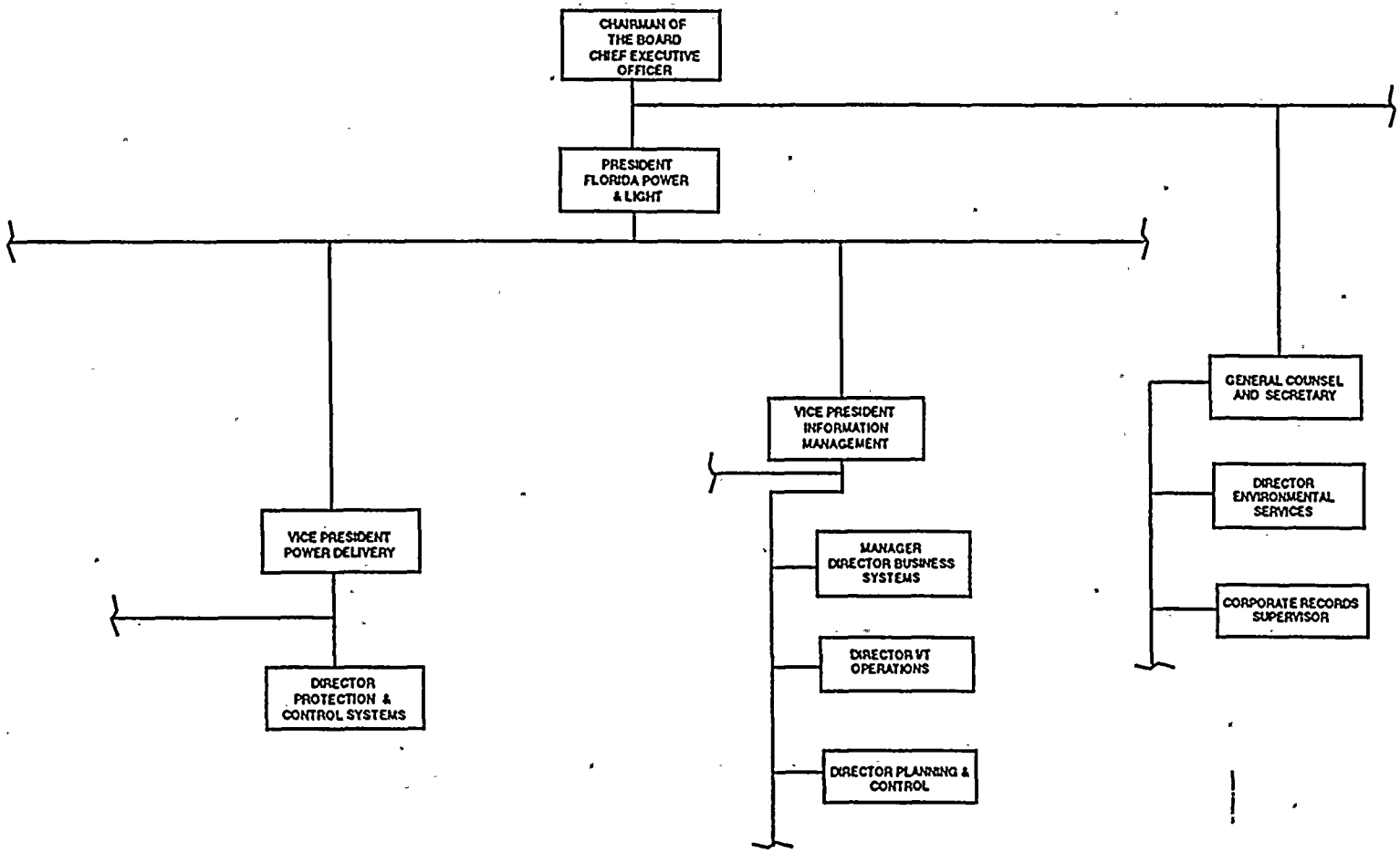

TOPICAL QUALITY ASSURANCE REPORT	REVISION 25
ORGANIZATION OF DEPARTMENTS AFFECTING QUALITY FIGURE 1-1 APPENDIX A NUCLEAR DIVISION	04/30/97
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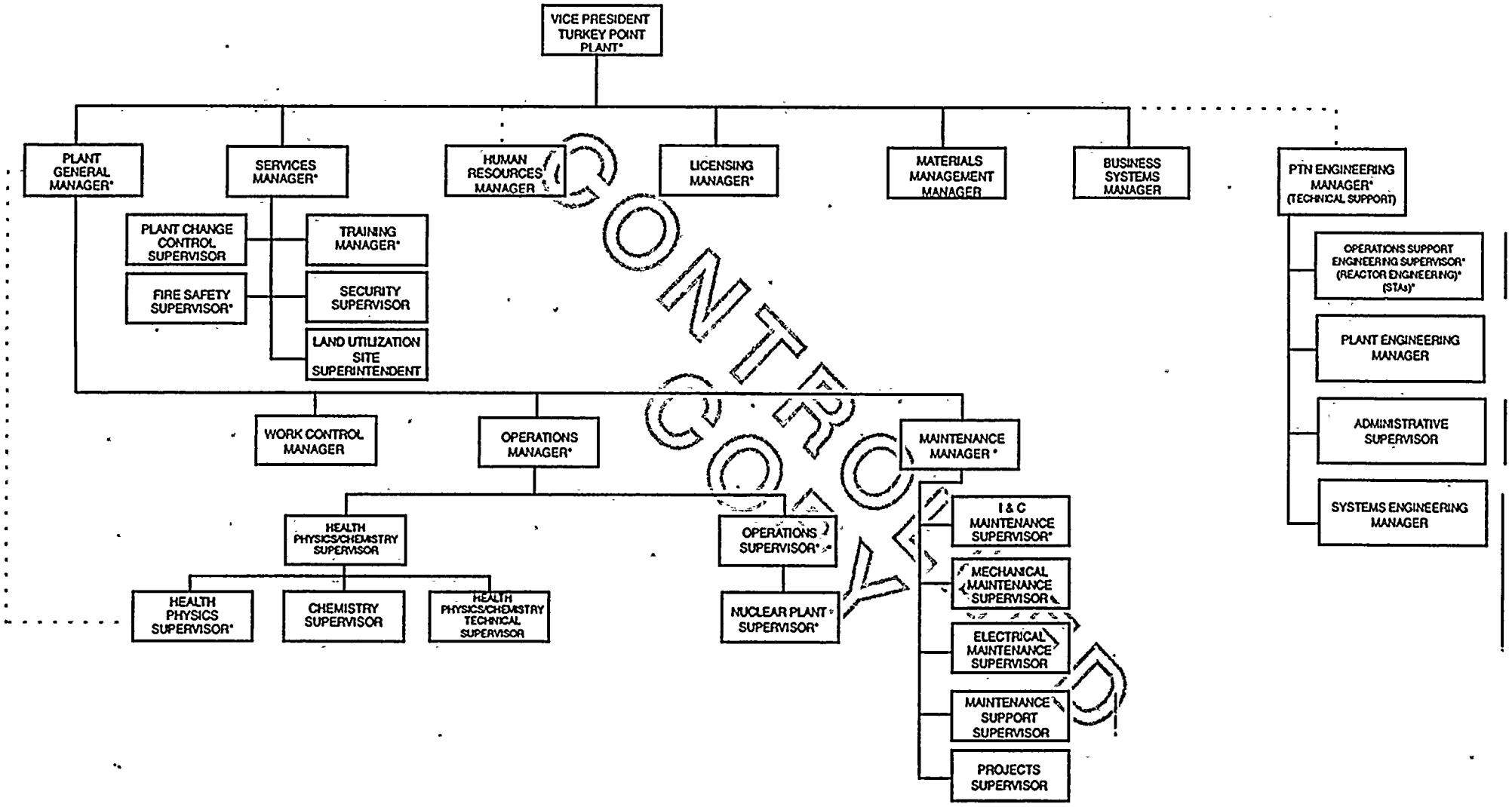

*Indicates position with accountabilities in Technical Specifications.

NOTES

- Although Operations Support Engineering (OSE) personnel may report to the site Engineering Manager, the Plant General Manager shall have direct and unfettered control over those activities necessary for safe operation and maintenance of the plant.
- The Health Physics Supervisor shall have direct access to the Plant General Manager for matters relating to the radiological health and safety of employees and the public.

TOPICAL QUALITY ASSURANCE REPORT	REVISION 12
TURKEY POINT PLANT SITE ORGANIZATION FIGURE 1-2 APPENDIX A	03/28/97
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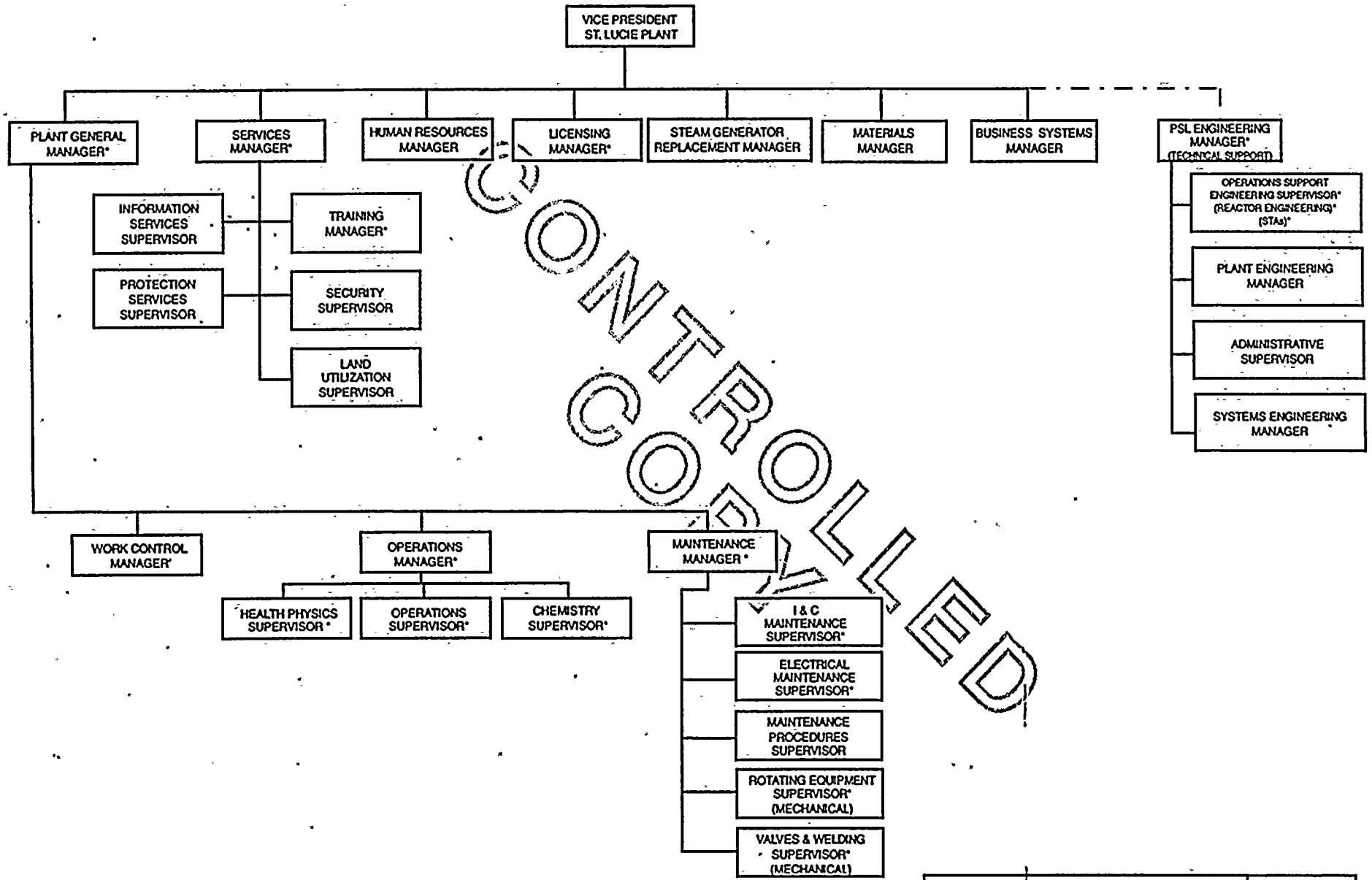

*Indicates position with accountabilities in Technical Specifications.

NOTE
Although Operations Support Engineering (OSE) personnel may report to the Site Engineering Manager, the Plant General Manager shall have direct and unfettered control over those OSE resources necessary for safe operation and maintenance of the plant.

TOPICAL QUALITY ASSURANCE REPORT	REVISION 9
ST. LUCIE PLANT, UNIT 1 & 2 SITE ORGANIZATION FIGURE 1-3 APPENDIX A	03/28/97
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TITLE EXPERIENCE*	EDUCATION AND BACKGROUND
Quality Managers (JB/PTN/PSL)	Shall satisfy the following set of requirements: Graduate of a four year accredited engineering or science college or university, plus seven years of industrial experience, including five (5) years in positions of leadership such as lead engineer, project engineer, audit team leader, etc. At least two (2) years of this five (5) years experience shall be nuclear power plant experience in the implementation of the Quality Assurance Program. Six (6) months of the two (2) years experience shall be obtained within a Quality Assurance organization. A masters degree in engineering or business management is considered equivalent to two (2) years of general industry experience.

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

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.

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

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

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

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

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

ANSI N18.1 describes the training and education requirements for plant staff positions and is endorsed by Reg. Guide 1.8 with an exception. That exception is the requirement 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".

ANSI N45.2.4-1972, Paragraph 6.2.1 requires that "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 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. FPL's Radiological Emergency Plan is a response to NUREG 0654 which provides staffing availability.

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

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

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

FPL meets the intent of Section 5.2.19.3 of ANSI N18.7-1976 as modified by Regulatory Guide 1.33, Rev. 2, as applied to significant changes to operating procedures, by the technical review of the procedure change by knowledgeable plant professionals, by the safety review of the procedure change by the on-site facility review group, by the regulatory and QA review of the procedure by the plant Quality Department, 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.

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

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

Regulatory Guide 1.37/ANSI N45.2.1-1973

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

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

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

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

FPL will meet the requirements of Reg. Guide 1.38, Rev. 2, Position 2C, D and E for safety related applications during preoperational and operational activities. Restrictions imposed for tapes to be color 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.

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

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

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

1. The vendor's recommended handling, shipping, and storage standards.
2. Environmental requirements which may include such requirements as inert gas atmosphere, humidity limits, temperature limits, chemical requirements, acceleration (g force) requirements.
3. Special tools or equipment which are provided and controlled as necessary to ensure safe and adequate handling. These tools or equipment shall be inspected and tested at specified times to verify that they are adequately maintained.

4. Packaging, covering or coatings required to meet environmental requirements such as barrier and wrap material, desiccants, pipe caps, plugs, contact preservatives, etc.
5. Container, crating, skids of sufficient strength to support the item (including stacking).
6. Cushioning, blocking, bracing, and anchoring to prevent movement during shipment or handling.
7. Special handling or storage procedures for unique situations.
8. Marking and identification of the item and its packaging.
9. Anticipated "shelf life" of the item.

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

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

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

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

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

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

Certain mechanical components of the PSL-2 nuclear unit have been designed for a service environment of the site area because portions of the plant are exposed to the temperature, humidity, and ocean salt spray during operations. Extreme air temperature variations, snow or slush are not encountered during operations or in the out-of-doors storage environment. As an alternative to the rigid requirements of storage levels B and C in paragraph 6.1 of ANSI

N45.2.2-1972, FPL proposes to store these particular mechanical components outdoors, but within controlled areas, with sufficient periodic surveillances and inspections to minimize the possibility of damage or lowering of quality due to corrosion, contamination, deterioration, or physical damage. In cases where special environmental conditions are present (i.e., hurricanes, paint sprays, concrete pours, etc.) precautions or additional steps will be taken to further protect the items.

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

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

The zone designations of Section 2.1 of N45.2.3 and the requirements associated with each zone are not consistent with the FPL Housekeeping requirements at our operating nuclear units.

In lieu of the zone designation, cleanliness is maintained at a level consistent with the work being performed, so as to prevent the entry of foreign material into safety related systems. Documented cleanliness inspections are performed immediately prior to system closure. Control of personnel, tools, equipment, and supplies is established with approved procedures when the safety function of a system, component, or item may be jeopardized and also while the reactor system is opened for inspection, maintenance, or repair.

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

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

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

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

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

For all other preoperational and operational inspection, examination and testing performed by operating plant and support personnel, FPL considers that training and qualification to the requirement of ANSI N18.1-1971 and Regulatory Guide 1.8 are sufficient for the type and scope of activities performed and that qualifications to ANSI N45.2.6-1978 is unnecessary and redundant. These preoperational and operational inspections, examinations and 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 when the supervisor is the only qualified individual available within the design organization. These instances are further restricted to designs where the supervisor did not specify a singular design approach, or did not restrict design methods or alternatives, or did not specify design inputs (unless the specified design inputs have already been independently verified). Justification for verification by the designer's immediate supervisor should be documented along with the extent of the supervisor's involvement in the design.

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

Regulatory Guide 1.68 (11/73)

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

Regulatory Guide 1.74/ANSI N45.2.10 - 1973

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

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

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

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

Inspector (Owner's or Installer's)	A qualified inspector employed by the Owner or Installer, whose duties include the verification of quality related activities on installations.
Inspection	Examination, observation, or measurement to determine the conformance of materials, supplies, components, parts, appurtenances, systems, processes, or structures to predetermined requirements.
Procurement Documents	Purchase requisitions, purchase orders, drawings, contracts, specifications or instructions used to define requirements for purchase.
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 inplace storage.
System	An integral part of a nuclear power plant comprised of electrical, electronic, or mechanical components (or combinations thereof) that may be operated as a separate entity to perform a specific function.
Testing	Performance of those steps necessary to determine that systems or components function in accordance with predetermined specifications.

"Requirements" Clarification for Glossary

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

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

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

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

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

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

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

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

The QARSET shall consist of the following: the QA Supervisor Performance Assessment, a Risk Management Representative and the Records Official, 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 QARSET 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 provisions are provided:

   a. Early warning fire detection and automatic fire suppression shall be provided, with electronic supervision at a constantly monitored central station.
   b. Records shall be stored in fully enclosed metal cabinets. Records shall not be permitted on open steel shelving. No storage of 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, eating and 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. For temporary storage, the use of QARSET-approved factory built record protection equipment, such as insulated record containers, fire-resistive safes, and insulated filing devices.

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

(1) Reinforced concrete, concrete block, masonry, or equal construction.
(2) Concrete floor and roof with sufficient slope for drainage; if a floor drain is provided, a check valve (or equal) shall be included.
(3) Structure, doors, frames and hardware should be fire-rated with a recommended two hour minimum rating.
(4) Sealant applied over walls as a moisture or condensation barrier.
(5) Surface sealant on floor providing a hard-wear surface to minimize concrete dusting.
(6) Foundation sealant and provision for drainage.
(7) Forced-air circulation with filter system.
(8) Adequate fire detection and/or suppression system.
(9) No pipes other than those providing fire protection to the storage facility are to be located within the facility.

Regulatory Guide 1.116/ANSI N45.2.8-1975

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

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

The following clarification applies to the above statement. For FPL plants in the construction phase (to the point of plant operation license) temporary use of equipment and facilities may be required 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. The term commercial grade item is defined in the QA Manual Glossary. Commercial items are subject to varying degrees of control as indicated in quality instructions.

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 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. 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 issuance of a written purchase order. 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) Prior to verbally placing the order, it must be verified that the intended supplier is on the FPL Quality Assurance Approved Supplier List.

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

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

1) Technical or material requirements are violated.

2) Requirement in supplier documents which have been approved by the Purchaser is violated.

3) Nonconformances which would affect the quality of the item in regard to function of safety related features. In cases where the supplier cannot make this determination, they shall be submitted to the Purchaser for evaluation.

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

Regulatory Guide 1.144, 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, (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.

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.

APPENDIX D

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

CANCELLED IN ENTIRETY

This Appendix has been deleted in its entirety.

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