ARKANSAS NUCLEAR ONE

QUALITY ASSURANCE MANUAL OPERATIONS

REVISION 16

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VICE PRESIDENT, OPERATIONS ANO

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REVISION NUMBER	DESCRIPTION	DATE
16	Page A-1: Added Entergy Operations Vice President, Operations Support, Director, Human Resources, and Director, Materials, Purchasing, and Contracts to executives responsible for the procedural implementation of the QA program within the assigned area. Deleted Vice President, Planning and Assurance and Vice President Human Resources.	7/22/93
16	Page A-1 and A-2: Title changes - Chairman and CEO to President and CEO and President and COO to Executive Vice President and COO.	7/22/93
16	Page A-3: Title change - Manager, QA to Supervisor, QA and changed N.S. Carns to J.W. Yelverton.	7/22/93
16	Page B-5: Changed ASME 1986 to 1989 Code.	7/22/93
16	Page B-6: Clarified use of ASME Code through 1989.	7/22/93
16	Section 1.0: Incorporated new titles and rearranged functions to reflect flattening of organization.	7/22/93
16	Page 2-3: Section 2.2.5 title change - Manager, QA to Supervisor QA	7/22/93
16	Page 2-4: Section 2.3.1 title change - Chairman and CEO to President and CEO.	7/22/93
16	Page 2-5: Title changes - Superintendent Supplier QA to Manager, Quality, Supervisor, Core Reload Design to Supervisor, Fuel Fabrication, Nuclear Engineering Design to Nuclear Engineering Analysis, and Manager, QC to Director, Quality	7/22/93

RECORD OF REVISIONS

REVISION NUMBER	DESCRIPTION	DATE
16	Page 2-6: Section 2.5.2 title change - Manager, QA to Supervisor, QA.	7/22/93
16	Page 2-9: Section 2.6.6 changed PSC composition from 8 members to as described in Technical Specifications. Section 2.7.1 title change - Manager, QA to Supervisors, QA.	7/22/93
16	Page 3-5: Section 3.5.4 title change - Manager, QC/QE to Supervisor, QE.	7/22/93
16	Page 4-2: Changed QA section to appropriate sections within Quality.	7/22/93
16	Page 5-2: Section 5.3.2 outlined PSC as described in Technical Specifications.	7/22/93
16	Pages 7-1 and 7-2: Sections 7.2.1 and 7.2.2 title change - Superintendent, Supplier QA to Manager, Quality.	7/22/93
16	Pages 7-4 and 7-5: Section 7.3.2, 7.3.3 and 7.4.3 added source verification. Title change - Superintendent, Supplier QA to Manager, Quality and Supplier QA to Quality.	7/22/93
16	Page 10-4: Section 10.3.2.3 title change - Manager, QA to Director, Quality. Section 10.4.1 changed Manager, QC/QE to Quality personnel and Manager, QC/QE to Director, Quality.	7/22/93
16	Page 11-2: Section 11.3.2.1 added SAR.	7/22/93
16	Page 13-4: Section 13.5.5 title change - Manager, QC/QE to Supervisors, QC and Manager, QA to Supervisors, QA.	7/22/93

RECORD OF REVISIONS

REVISION NUMBER	DESCRIPTION	DATE
16	Page 14-5: Section 14.3.2 added Managers, Maintenance Unit 1 and 2 and changed Plant Manager, to General Manager, Plant Operations.	7/22/93
16	Page 15-4: Section 15.5 title change - Manager, Plant Assessment to Manager, Standards or designee.	7/22/93
16	Page 16-1: Sections 16.1 and 16.2.1 deleted reference to abnormal occurrences.	7/22/93
16	Pages 18-1, 18-2, 18-3, and 18-5: Sections 18.2.1, 18.3.1, 18.3.3, 18.4.4, and 18.4.5 title change - Manager, QA to Supervisors, QA and Superintendent, Supplier QA to Manager, Quality.	7/22/93
16	Page 18-6: Title change - Supervisors, Services QA to Manager, Quality and Services QA to Supplier QA.	7/22/93
16	Pages F-1 through F-8: Revised to reflect flattening of organization.	7/22/93
16	Pages T3-1 and T3-2: Title change - Manager, QA to Supervisor, QA and Manager, QC/QE to Supervisor, QC/QE/NDE. Added procedure approval as described in the Technical Specifications.	7/22/93
16	Pages AB-1: Changed Fire Protection Program Manual to Fire Hazards Analysis.	7/22/93
16	Page AB-4: Title change - Plant Manager, Central to General Manager, Plant Operations	7/22/93

REVISION NUMBER	DESCRIPTION	DATE
16	Page AB-5: Title change - Director, Engineering to Director, Design Engineering, Manager, Engineering Standards and Programs to Manager, Engineering Programs, and Superintendent, Engineering Programs to Supervisor, Engineering Programs.	7/22/93
16	Page AB-6: Title change - Vice President, Operations to Vice President, Operations ANO.	7/22/93
16	Page AB-7: Title change - Director, Engineering to Director, Design Engineering. Changed Technical Specifications to SAR.	7/22/93
16	Page AB-11: Section 12.2 changed Technical Specifications to SAR.	7/22/93

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ARKANSAS NUCLEAR ONE POLICY STATEMENT

QUALITY ASSURANCE PROGRAM FOR OPERATIONS

It is the policy at Arkansas Nuclear One, Units 1 & 2 (ANO) and its supporting organizations that the Quality Assurance Program for Operations (QA Program) meets the requirements of the Code of Federal Regulations, Title 10, Part 50, Appendix B, with respect to operation, maintenance, refueling, repair and modifications, and inservice inspection. The QA Program shall also meet the requirements of the ASME Boiler and Pressure Vessel Code with respect to items constructed, repaired or replaced to Code requirements.

The Entergy Operations President and Chief Executive Officer has the ultimate responsibility for the safe and reliable operation of the Entergy Operations Nuclear Sites.

Under the QA Program, the Vice President, Operations ANO is the final on-site management authority responsible for assuring that this policy statement and the QA Program are implemented within ANO. The Entergy Operations President and Chief Executive Officer; Executive Vice President and Chief Operating Officer; Entergy Operations Vice President, Operations Support; Entergy Operations Vice President, Engineering; Director, Human Resources; and Director, Licensing and Quality Assurance are responsible for the procedural implementation of the QA Program within their assigned areas.

The General Manager, Plant Operations; Director, Engineering; Director, Quality; Director, Support; and Director, Licensing are responsible for the daily implementation of the QA Program's procedural requirements at ANO, in their respective areas.

The Director, Quality is responsible for establishing the QA Program. Responsibility for approval of the QA Program shall be identified within this manual.

Quality personnel reporting to the Director, Quality are responsible for auditing the QA Program as necessary and internal inspecting/monitoring activities required by the QA Program to assure compliance with its requirements. Disputes involving quality, arising from difference of opinions between Quality personnel and other personnel, which cannot be settled interdepartmentally, shall be presented to the Vice President, Operations ANO for resolution. The Director, Quality has direct access to the Entergy Operations President and Chief Executive Officer and the Entergy Operations Executive Vice President and Chief Operating Officer on matters concerning quality.

The Director, Quality through the Supervisors, Quality Assurance is to provide for an annual review of the adequacy and overall effectiveness of the QA Program. Any defects in the implementation of either this policy or the QA Program that are revealed during the review are to be reported to appropriate levels of management together with appropriate recommendations.

Implementation of this policy is necessary in order to achieve the reliability and safety required at ANO. Each person involved in activities concerning ANO is to be responsible for assuring quality in his own work, and for compliance with the requirements of the QA Program. The QA Program policies, manuals, and procedures are mandatory requirements which must be implemented and enforced by all responsible organizations and individuals.

J. W. Yelverton

Vice President, Operations ANO

Date: 7/22/93

N45.2.13-1976	Quality Assurance Requirements for Control of Procurement of Items and Services for Nuclear Power Plants
N45.2.23-1978	Qualification of Quality Assurance Program Audit Personnel for Nuclear Facilities
N18.1-1971	Selection and Training of Nuclear Power Plant Personnel
N18.7-1976	Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants
N3.1-1981	Selection, Qualification, and Training of Personnel for Nuclear Power Plants

The above requirements are implemented by controlling activities as described in this manual and by procedures referenced in this manual.

The following codes and standards are also utilized within the QA program as applicable to those activities to which they are referenced within various sections of this manual:

ASME Section III, Division 1 - 1989 Edition, No Addenda*
ASME Boiler and Pressure Vessel Code - Nuclear Power Plant Components

ASME Section XI - 1986 Edition, No Addenda (ANO Unit 2)**
- 1980 Edition, Winter 81 Addenda (ANO Unit 1)**
ASME Boiler and Pressure Vessel Code - Rules for Inservice Inspection of Nuclear Power Plant Components

ASNT SNT-TC-1A-1984 (Endorsed thru ASME Code Case N-415, dated 5/7/87) Recommended Practice for Nondestructive Testing Personnel Qualification and Certification (This edition shall be used in lieu of earlier editions that might be referenced in other codes or standards to which ANO is committed).

AWS D1.1-1990
American Welding Society Structural Steel Welding Code

* In lieu of the original Construction Code, all or portions of later editions/addenda of the Code (through the 1989 edition) may be specified for repair or replacement (including system changes) of components or systems, within the rules of ASME Section XI. If later editions/addenda are selected, design, fabrication, and examination requirements shall be reconciled with the Owner's specification.

** Repair/replacement activities shall be to the 1986 Edition, No Addenda

Definitions of terms applicable to the QA Program are found in the Terms and Definitions section of this manual.

1.0 ORGANIZATION

1.1 SCOPE

This section describes the Nuclear Organizational structure and responsibilities for establishing and executing the QA Program for Arkansas Nuclear One, Units 1 & 2 (ANO) in compliance with 10CFR50, Appendix B and applicable licensing commitments identified in the Introduction. It also includes a description of the interfaces with other organizations which may be delegated the work of establishing and executing portions of the QA Program. The Arkansas Power & Light Company's (AP&L) and Entergy Operations, Inc.'s (Entergy Operations) Corporate Organizations relevant to the operation of ANO are shown in Figure 1.

1.2 GENERAL RESPONSIBILITIES

The on-site responsibility for ANO, including quality assurance, lies with the Vice President, Operations ANO. He provides management assessment of the QA Program through review of reports generated by the Quality Organization and reports of NRC activities.

1.3 NUCLEAR ORGANIZATION

The Nuclear Organization, headed by the Vice President, Operations ANO is responsible for activities related to the operation of ANO. These activities include as a minimum: design, operation, maintenance, inservice inspection and test, modification and those additional activities discussed in Sections 2.0 through 18.0 of this manual. The Vice President, Operations ANO, who reports to the Entergy Operations Executive Vice President and Chief Operating Officer is responsible for the formulation, licensing, implementation and discharge of operating policies and procedures relative to nuclear plant operations, nuclear

quality and training. The Nuclear Organization is shown in Figures 1 thru 8. The Vice President, Operation ANO's duties include the following:

(1) Providing technical direction and administrative guidance to the:

a. General Manager, Plant Operations
b. Director, Quality
c. Director, Support
d. Director, Licensing
e. Manager, Training & Emergency Planning
f. Manager, Modifications

(2) Providing priority of engineering tasks to the Director, Engineering

(3) Ensuring conformance to the QA Program by instituting the necessary procedures and instructions within the Nuclear Organization

(4) Providing for review and approval of design and engineering performed for ANO

(5) Providing for review and approval of procurement documents for equipment, material and services

(6) Providing for liaison between ANO and applicable regulatory agencies

(7) Providing and maintaining a qualified and suitable staff to carry out required departmental functions

(8) Assuming overall responsibility for the fire protection, emergency planning and radiation protection programs implemented at ANO

1.3.1 General Manager, Plant Operations

The General Manager, Plant Operations reports to the Vice President, Operations ANO and has direct responsibility for operating ANO in a safe, reliable and efficient manner. He is responsible for operating ANO in accordance with the provisions of the operating licenses. The Operations Department's organization is shown in Figure 2. The General Manager, Plant Operations has the authority to shut down either unit if required. The General Manager, Plant Operations provides technical direction and administrative guidance to the:

(1) Plant Manager, Unit-1
(2) Plant Manager, Unit-2
(3) Manager, Industrial Support
(4) Manager, Standards
(5) Manager, Radiation Protection and Radwaste
(6) Superintendent, Chemistry
(7) Technical Assistant to General Manager, Plant Operations

1.3.1.1 Plant Managers, Unit-1 & 2

The Plant Managers, Unit-1 & 2 report to the General Manager, Plant Operations and are responsible for the actual operation of their assigned nuclear unit, the maintenance of plant equipment and facilities and the planning/ scheduling of plant work activities. The Units' Operations organizations are shown in Figures 3 and 4. The Plant Managers, Unit-1 & 2 provide technical direction and administrative guidance to their respective:

(1) Manager, Operations, Unit-1 & 2
(2) Manager, Maintenance, Unit-1 & 2
(3) Project Manager, Outages, Unit-1 & 2
(4) Manager, System Engineering, Unit-1 & 2
(5) Technical Assistant to Plant Manager
(6) Senior Engineers

1.3.1.1.1

The Managers, Operations, Unit-1 & 2 are responsible for directing the actual day-to-day operations of their assigned unit. They supervise each unit's operating staff and interface with the respective Managers, Maintenance, Unit-1 & 2 to accomplish operation-related maintenance activities. They are responsible for coordination of the daily review of operating surveillance tests and coordination of operation-related maintenance activities. The Managers, Operations, Unit-1 & 2 are also responsible for supervision of core refueling, which includes advance planning for the outage, plant preparation, equipment checkout and the refueling operations. The Managers, Operations each hold an NRC Senior Reactor Operator License. The Managers, Operations, Unit-1 & 2 provide technical direction and administrative guidance to the Superintendents, Shift Operations of their assigned unit.

1.3.1.1.1.1

The Superintendents, Shift Operations report to the applicable Manager, Operations and are responsible for the actual operation of the unit and for the activities of the Operators during their assigned shifts. The Superintendent, Shift Operations is cognizant of operation activities being performed while on duty. The Superintendent, Shift Operations on duty has the authority to shut down the unit if, in his judgement, conditions warrant such action. The Superintendent, Shift Operations each hold an active Senior Reactor Operator License. The Superintendents, Shift Operations provide technical direction and administrative guidance to the:

(1) Control Room Supervisors (Holders of active Senior Reactor Operations License)
(2) Shift Engineers
(3) Control Board Operations (Holders of active Reactor Operator License)
(4) Waste Control Operators
(5) Auxiliary Operators

1.3.1.1.2

The Managers, Maintenance, Unit-1 & 2 report to the applicable Plant Manager, Unit-1 & 2 and are responsible for the maintenance of plant equipment and facilities as defined by plant maintenance program implementing procedures and ensuring that maintenance of equipment is performed in compliance with applicable standards, codes, specifications and procedures. The Manager, Unit 1 Maintenance, has responsibility for activities common to Unit 1 and Unit 2 administered by the Superintendent, Maintenance Engineering. The Manager, Unit 2 Maintenance has responsibility for activities common to Unit 1 and Unit 2 administered by the Superintendent, Central Support Maintenance. The Managers, Maintenance, Unit-1 & 2 are also to coordinate

operation-related maintenance activities with the applicable Managers, Operations, Unit-1 & 2 and are responsible to make repairs on any structure, system or component under their control. The Managers, Maintenance, ANO-1 & 2 provide technical direction and administrative guidance to the Maintenance Technical Staff.

1.3.1.1.3

The Project Managers, Outages Unit-1 & 2 report to the applicable Plant Manager, Unit-1 & 2 and are responsible for management and direction of activities to prepare for and control scheduled and non-scheduled unit outages. The responsibilities include detailed planning, preparation and scheduling of refueling outages and other scheduled or forced outages requiring cold shutdown, and directing activities during outages.

1.3.1.1.4

The Managers, System Engineering, Unit-1 & 2, report to the applicable Plant Manager, Unit-1 & 2 and are responsible for reactor, performance, and system engineering activities required for the safe and efficient production of electricity. These activities include resolving plant related engineering issues that do not alter the design bases of the respective plants.

1.3.1.1.5

The planning and scheduling of plant work activities are executed under the ANO Plant Manager for Unit 1 & 2, respectively. The unit outage manager reports to the respective unit plant manager and is responsible for scheduling outage and non-outage work activities for that unit, supervising the scheduling staff, and interfacing with the respective unit maintenance manager, who has responsibility for planning and execution of plant work activities.

1.3.1.2 Manager, Industrial Support

The Manager, Industrial Support reports to the General Manager, Plant Operations and provides planning, direction, control and overall supervision to the Fire Protection, Fire Prevention, and Safety sections, in operating and maintaining ANO. Responsibilities involve the development and administration of programs which support the capability of ANO to meet or exceed industry standards and regulatory requirements. Responsibilities also involve the supervision of personnel and daily work activities involving the safe, efficient and reliable operation of ANO. The Manager, Industrial Support provides technical direction and administrative guidance to the:

(1) Specialists, Safety and Fire Prevention
(2) Technical Assistant, Industrial Support

1.3.1.3 Manager, Standards

The Manager, Standards reports to the, General Manager, Plant Operations and provides planning, direction, control and overall supervision to the Standards Department in developing and maintaining policies and procedures for the surveillance and maintenance programs of ANO, and the coordination of assessments when requested. Responsibilities involve the development and administration of programs which support the capability of ANO to meet or exceed industry standards and regulatory requirements. Responsibilities also involve the Chairpersonship of the Plant Safety Committee which reviews the various aspects of operation,

maintenance, modification and support to assure the safety of ANO. The Manager, Standards provides technical direction and administrative guidance to:

(1) Administrative Coordinators (PSC)
(2) Planning & Scheduling Coordinators (Surveillance)
(3) Operations Coordinators
(4) Supervisor, Safe Assessment
(5) HPES Coordinator
(6) Safety Assessors

1.3.1.3.1

The Supervisor, Safety Assessment reports to the Manager, Standards and is responsible for providing assessments of plant and industry operating experiences, oversight of plant experiences, oversight of selected key station programs, and assisting station management in monitoring and evaluating ANO performance to ensure that effective management programs are developed, implemented and maintained to achieve the goals and Standards of Excellence as prescribed by senior management. This responsibility is accomplished through a variety of methods including: evaluating plant programs or functional areas, independent investigations of selected plant events or conditions, and a periodic assessment of overall plant activities. The Safety Assessment Department provides independent, objective assessments (outside the traditional auditing role) of the overall effectiveness of nuclear programs to help assure that performance expectations are being met. The inputs to this process include the assessment of prior and current ANO performance contrasted against comparable industry performance, the Standards of Excellence identified by INPO, and the evaluation of industry strengths and good practices for applicability to ANO, and

other applicable nuclear industry requirements. The Supervisor, Safety Assessment manages the plant operation experience review program in accordance with INPO guidelines.

1.3.1.4 Manager, Radiation Protection and Radwaste

The Manager, Radiation Protection and Radwaste reports to the General Manager, Plant Operations and is responsible for implementing the Nuclear Organization radiation protection and health physics policies, programs, and procedures. The Manager, Radiation Protection and Radwaste is directly responsible for implementing controls which will minimize personnel radiation exposure (ALARA), minimize personnel contamination, minimize radwaste volume, and establish uniform procedures and methods for contamination control and radiation protection.

1.3.1.5 Superintendent, Chemistry

The Superintendent, Chemistry reports to the General Manager, Plant Operations and is responsible for implementing the Nuclear Organization chemistry policies, programs, and procedures. The Superintendent, Chemistry is directly responsible for implementing controls as required to maintain chemistry and radiochemistry parameters in specification and establish chemistry and radiochemistry controls conducive to maximizing plant life.

1.3.2 Director, Quality

The Quality Department's organization shown in Figure 5 is under the direction of the Director, Quality who reports to the Vice President, Operations ANO.

The Quality Organization performs reviews, analysis, surveillance, inspection, nondestructive examination and audit functions during the operational phase of ANO. The Quality Organization is also independent of plant operations and has sufficient independence from cost and schedule when opposed to safety considerations. The Director, Quality has direct access to all management levels, which assures his staff the ability to: identify quality problems; initiate, recommend or provide solutions through designated channels; and verify implementation of solutions.

The qualification requirements of the Director, Quality are established within his job description which include the following prerequisites:

(1) Possess a degree from an accredited school in engineering or a related scientific discipline or equivalent

(2) Possess a minimum of four years experience in the field of quality assurance/control with at least two years in the nuclear field or equivalent number of years of nuclear plant experience in a supervisory position with at least one year experience in the implementation of the quality assurance program

(3) Exhibit the ability to plan, schedule and direct the activities of others assigned to or functioning within the Quality Organization

Duties and responsibilities of the Director, Quality include the following:

(1) Technical direction, administrative guidance and supervision to the Coordinator, Quality; Supervisors, Quality Assurance; Supervisors, Quality Control; Supervisor Quality Engineering; Supervisor, In House Events Analysis; and Sunervisor NDE

(2) Approval of the QA Manual Operations and revisions thereto

(3) Approval of QA and QC/QE procedures and revisions thereto as established within Quality procedures

1.3.2.1 Coordinator, Quality

The Coordinator, Quality reports to the Director, Quality. Duties and responsibilities of the Coordinator, Quality include assisting the Director, Quality with his duties and responsibilities.

1.3.2.2 Supervisors, Quality Assurance

The Supervisors, Quality Assurance report to the Director, Quality. Duties and responsibilities of the Supervisors, Quality Assurance include the following:

(1) Developing the QA Program requirements for operation, maintenance, and modification activities related to safety-related (Q-listed) systems, structures and components

(2) Auditing of the quality activities as described in Section 18.0 of this manual

(3) Providing to the Director, Quality, on an annual basis, the results of a review of the QA Program to determine the effectiveness and proper implementation of the QA Program

(4) Authority to stop work where conditions exist that prohibit effective quality programs, or if faulty materials, incorrect workmanship or procedures are detected

(5) Ensuring approval and control of quality assurance programs for outside organizations participating in the QA Program

(6) Providing and maintaining a qualified and suitably trained staff to carry out required staff functions

(7) Formulating programs for maintaining the professional competence of personnel within the Quality Assurance section and providing assistance in Quality Assurance training and indoctrination programs for management, engineering and plant personnel whose activities affect quality

(8) Providing technical direction and guidance to the Quality Assurance staff

(9) Inspecting, auditing or reviewing practices, records, files, instructions, directions or documents concerned with all areas affecting quality

(10) Scheduling and coordinating audits or surveillance efforts in the areas assigned, documenting findings and reporting results to the Director, Quality and management of the audited area

1.3.2.3 Supervisors, Quality Control/Quality Engineering/NDE

The Supervisors, Quality Control/Quality Engineering/NDE report to the Director, Quality and are responsible for verifying the implementation of the Quality Control program at ANO. The duties and responsibilities of the Supervisors include the following:

(1) Interface with plant staff in developing quality control requirements and inspection points for operation, maintenance and modification activities related to safety-related (Q-listed) and fire protection-related (F-listed) systems, structures and components

(2) Interface with the Supervisors, Quality Assurance or their representatives for technical assistance in resolving significant conditions adverse to quality

(3) Authority to stop unsatisfactory work and authority to place an item in a nonconforming status when such an item is determined to be in violation of purchase documents, applicable codes and standards or SAR requirements

(4) Assuring surveillances, inspections, examinations, and reviews of plant activities and documents are conducted in accordance with approved procedures

(5) Providing technical direction and guidance to their staffs

(6) Providing and maintaining a qualified and suitably trained staff to carry out required staff functions and formulate programs for maintaining the professional competence of personnel within the Quality Control/Quality Engineering/NDE sections

(7) Reviewing, approving and ensuring the verification of quality assurance requirements placed upon contractors or vendors that provide equipment, material or services for ANO

1.3.3 Director, Support

The Director, Support reports to the Vice President, Operations ANO and is responsible for managing the nuclear five-year business plan, including establishing the budget and managing the goals and objectives program for the Nuclear Organization. Management of payroll, accounting and materials management is also provided by the Director, Support. He also provides planning, direction, control and overall supervision to Fitness for Duty Department and Plant Security Department. Additionally, the control and maintenance of ANO records are a responsibility of the Director, Support. The Nuclear Support Department's organization is shown in Figure 6. The Director, Support is responsible for providing direction and general supervision to the

following technical and administrative individuals in support of the Vice President, Operations ANO:

(1) Manager, Site Business Services
(2) Manager, Materials, Purchasing & Contracts
(3) Medical Review Officer/Physician
(4) Superintendent, Administrative Services
(5) Superintendent, Plant Security
(6) Coordinators, Special Projects

1.3.3.1 Manager, Materials, Purchasing and Contracts

The Manager, Materials, Purchasing and Contracts reports to the Director, Support and has direct responsibility for procurement, receipt, storage and issue of materials, parts and components to be used in plant maintenance and modification activities. The Materials Organization is shown in Figure 6. The Manager, Materials, Purchasing and Contracts provides technical direction and administrative guidance to the following:

(1) Superintendent, Procurement Engineering
(2) Superintendent, Stores Operations
(3) Superintendent, Inventory Control
(4) Supervisor, Purchasing

1.3.3.2 Superintendent, Plant Security

The Superintendent, Plant Security reports to the Director, Support and is responsible for plant security including coordination of efforts of the security force and managing the operation of the security system.

1.3.4 Director, Licensing

The Director, Licensing reports to the Vice President, Operations ANO and has overall responsibility for the management and oversight of NRC inspection activities, industry operation experiences, and interactions with the NRC regional and Washington, DC offices. The Licensing Department's organization is shown on Figure 7. The Director, Licensing provides technical direction and administrative guidance to the:

(1) Supervisor, Industry Events Analysis
(2) Supervisor, Licensing-Region
(3) Supervisor, Licensing-NRR

1.3.4.1 Supervisor, Industry Events Analysis

The Supervisor, Industry Events Analysis reports to the Director, Licensing and observes the nuclear industry for indicators and lessons learned which can be of use to correct existing ANO problems or to avoid problems others have experienced. The section assesses applicability of current industry issues to ANO and develops proposed action plans for consideration and implementation by line management. Inputs to this function are SOER's, SER's, O&MR's, SEE-IN documents, NRC Information Notices and vendor notifications (including 10CFR21 reports). Additionally, this section is the interface for reporting to Nuclear Network concerning events that occur at ANO.

1.3.4.2 Supervisor, Licensing-Region

The Supervisor, Licensing-Region reports to the Director, Licensing and is responsible for the following duties:

(1) Interfacing with on-site and regional regulatory agencies and the Director, Licensing pertaining to Licensing and regulatory matters

(2) Providing evaluations and recommendations in meeting regulatory commitments

(3) Establishing and maintaining a system for monitoring License Event Reports and NRC Inspection Reports

(4) Performing SAR updates

(5) Providing technical direction and administrative guidance to the Nuclear Safety and Licensing Specialists

1.3.4.3 Supervisor, Licensing-NRR

The Supervisor, Licensing-NRR reports to the Director, Licensing and is responsible for the following duties:

(1) Interfacing with NRC, Washington, DC offices and the Director, Licensing pertaining to Licensing and regulatory matters

(2) Establishing and maintaining programs for the maintenance of Licensing Base Documents (Operating License, SAR, Technical Specification, Emergency Plan, QA Manual Operations) with the assistance of other department's expertise

(3) Responding to Generic Letters and Bulletins

(4) Reviewing NRC Correspondence (incoming and outgoing) and related industry documents to remain cognizant of activities that may affect ANO

(5) Providing technical direction and administrative guidance to the Nuclear Safety and Licensing Specialists

1.3.5 Manager, Modifications

The Manager, Modifications reports to the Vice President, Operations ANO and provides direction, control and overall supervision to the Modifications Department in directing and overseeing the implementation of plant modifications and the performance of related support activities at ANO. Responsibilities include: directing the activities of the ANO Maintenance and Modifications Contractor and other contractors performing modification work at ANO; monitoring the effectiveness of the ANO Plant Modifications Program, and coordinating the resolution of related problems and the implementation of needed program improvements; and providing engineering services to support the review, preplanning, installation, testing, inspection, and closeout of Modification Packages. The Manager, Modifications provides technical direction and administrative guidance to the:

(1) Superintendent, Modifications
(2) Supervisor, Cost Estimating
(3) Supervisor, Startup
(4) Supervisor, Modifications Central Support

1.3.6 Manager, Training and Emergency Planning

The Manager, Training and Emergency Planning reports to the Vice President, Operations ANO and is responsible for the training and retraining of plant personnel and general office personnel as established by approved procedures. The Manager, Training and Emergency Planning is also responsible for the implementation and maintenance of the ANO Emergency Plan. The Manager, Training and Emergency Planning directs the activities of the ANO training staff and provides technical direction and administrative guidance to the:

(1) Superintendent, Operations Training
(2) Supervisor, Engineer Training
(3) Supervisor, Emergency Planning
(4) Supervisor, Training Standards
(5) Supervisor, Maintenance Training
(6) Supervisor, Technical Support Training

1.3.7 Director, Design Engineering

The Director, Design Engineering reports to the Vice President, Engineering and provides direction, planning, support and overall supervision to Mechanical/Civil/Structural Design, Electrical/I&C Design, Engineering Programs, Engineering Support (configuration management, design documentation, engineering standards, drafting, and engineering training); and Nuclear Engineering Design. Responsibilities include the development of programs, policies, procedures and providing engineering services in support of design, evaluation, analysis, installation, testing, inspection, and operation of ANO. This position is also responsible to ensure effective design modifications to correct deficiencies in plant systems and equipment, improve plant availability, efficiency, safety or productivity and assure thorough and complete

design documentation to support effective configuration management for ANO. The Engineering Department's organization is shown in Figure 8. The Director, Design Engineering provides technical direction and administrative guidance to:

(1) Manager, Mechanical, Civil, Structural Design
(2) Manager, Electrical, Instrumentation & Control Design
(3) Manager, Engineering Support
(4) Manager, Engineering Programs
(5) Manager, Nuclear Engineering Design
(6) Technical Assistant to Director

1.3.7.1 Manager, Mechanical/Civil/Structural Design

The Manager, Mechanical, Civil, & Structural Design reports to the Director, Design Engineering and directs engineering activities in support of ANO, primarily in the areas of plant modifications, operability assessments and maintenance of the Mechanical Engineering, Civil Engineering & Structural Engineering design bases of ANO, the primary benefit of which is safe efficient operation of ANO in compliance with applicable regulatory requirements. This position provides technical assistance in the resolution of Operations & Maintenance concerns at the request of plant staff, and is directly related to power generation operations.

1.3.7.2 Manager, Electrical/Instrumentation and Control Design

The Manager, Electrical, Instrumentation and Control Design reports to the Director, Design Engineering and directs engineering activities in support of ANO, primarily in the areas of plant modifications, operability assessments and maintenance of the Electrical Engineering

and Instrumentation & Control Engineering design bases for ANO; the primary benefit of which is safe efficient operation of ANO in compliance with applicable regulatory requirements. This position provides technical assistance in the resolution of Operation & Maintenance concerns at the request of plant staff, and is directly related to power generation operations.

1.3.7.3 Manager, Engineering Support

The Manager, Engineering Support reports to the Director, Design Engineering and directs configuration controls, drafting and administrative activities in support of ANO, primarily in the areas of plant modifications, computer support, engineering standards, technical manual and engineering data bases, and cost and schedule controls for department activities, the primary benefit of which is safe, efficient operation of ANO in compliance with applicable regulatory requirements. The position directs the Design Configuration Documentation Project and is directly related to power generation operations.

1.3.7.4 Manager, Engineering Programs

The Manager, Engineering Programs reports to the Director, Design Engineering and is responsible for monitoring and over-viewing fire protection programs and design fire protection modifications, providing on-site engineering program services, implementation and coordination of the inservice inspection, inservice testing, and on-site welding. The Manager, Engineering Programs provides technical direction and administrative guidance to the:

(1) Supervisors, Engineering Programs
(2) Fire Protection Engineers/Specialists/Technicians

1.3.7.5 Manager, Nuclear Engineering Design

The Manager, Nuclear Engineering Design reports to the Director, Design Engineering and directs nuclear engineering activities in support of ANO. The position provides nuclear engineering, nuclear safety analysis, environmental qualifications, technical assistance in the resolution of operations and maintenance concerns at the request of plant staff, and is directly related to power generation operations.

1.3.8 Independent Review Organizations

In addition to the responsibilities of key individuals within the Nuclear Organization who are involved with the overall quality program, the following committees have been established as management tools to independently review activities occurring during the operational phase of ANO.

1.3.8.1 Safety Review Committee (SRC)

The SRC is chaired by the Vice President Operations ANO and is responsible for providing independent reviews and/or audits relating to: the Safety Analysis Reports, Technical Specifications, procedures and changes thereto; unreviewed safety questions; violations, deviations and reportable events; and any other matter involving safe operation of ANO which the committee deems appropriate or is referred to them by the on-site operating group. The SRC is also to review the reports and meeting minutes generated from the Plant Safety Committee.

1.3.8.2 Plant Safety Committee (PSC)

The PSC reports to the General Manager, Plant Operations and is responsible for reviewing activities specified in the Technical Specifications for the purpose of:

(1) Rendering determinations in writing with regard to whether or not an unreviewed safety question (defined by 10CFR50.59) is involved

(2) Furnishing written recommendations to the General Manager, Plant Operations for approval

These activities include changes to plant procedures and Technical Specifications, proposed modifications to plant systems, changes to plant security and emergency plans and review of facility operations to detect potential nuclear safety hazards.

1.3.8.3 Committee Structure

The organizational structure and administrative requirements specific to each committee are described in the Technical Specifications for each operating unit and in internal procedures/documentation.

1.4 ENTERGY OPERATIONS OFFSITE ORGANIZATION

1.4.1 President & Chief Executive Officer

The President & Chief Executive Officer has the ultimate responsibility for the safe and reliable operation of the Entergy Operations' nuclear sites. He provides guidance with regard to quality assurance and internal audit policy, coordinates foreign visits, interfaces with World Association of Nuclear Operations, interfaces with the state public service commissions, and oversees strategic planning.

He delegates authority and responsibility for the operation and support of ANO through the Executive Vice President & Chief Operating Officer; the Director, Business Services; the Director, Nuclear Fuels; and the Director, Total Qualit;

1.4.2 Executive Vice President & Chief Operating Officer

The Executive Vice President & Chief Operating Officer has the responsibility to oversee all operations and engineering functions of Entergy Operations. He delegates authority and responsibility for the operation and support of ANO through the Vice President, Operations ANO; the Vice President, Engineering; the Vice President, Operations Support; and the Director, Materials, Purchasing and Contracts. It is the responsibility of the Executive Vice President & Chief Operating Officer to assure that all safety related activities under his direction are performed following the guidelines of the Echelon Quality Assurance Program and the ANO QAMO.

1.4.2.1 Vice President, Operations Support

The Vice President, Operations Support is responsible for the Echelon Support functions of Supplier QA, Licensing, Maintenance Support, Security, Emergency Planning, and Nuclear Support. Operations Support provides technical support to nuclear plant operations. In addition, the incumbent is responsible for the Echelon QA program and the Echelon audit program. The authority for the accomplishment of the above is delegated to the incumbent's staff.

1.4.2.1.1

The Director, Licensing and Quality Assurance is responsible for the overall direction of the Supplier Quality Assurance organization. It is the responsibility of the Director, Licensing and Quality Assurance to assure that all safety related activities are performed following the guidelines of the Echelon Quality Assurance Program and the Quality Programs of the Entergy Operations' nuclear sites. He delegates the authority of the accomplishment of Supplier Quality Assurance activities to the Manager, Quality.

1.4.2.1.1.1

The Manager, Quality is responsible for the performance of supplier audits, surveys, assessments, product inspections, evaluations and surveillances for ANO. He also develops, maintains and controls the Qualified Supplier List (QSL). Additional duties include the development, maintenance and control of procedures that govern the supplier quality assurance activities; development and maintenance of the Echelon Quality Assurance Program and Echelon Administrative procedures; performance of audits/assessments of the sites' Quality Assurance programs,; performance of audits of safety related activities performed at Echelon; and performance of audits/surveillances of the nuclear fuel procurement and fabrication process.

He delegates authority and responsibility for Supplier Quality Assurance activities at ANO to the Supervisor, Supplier Quality Assurance Audits and the Supervisor, Supplier Quality Assurance Programs. The Supervisor, Supplier QA Programs is the designated individual through which supplier related interface and communication with ANO is maintained.

Supplier Quality Assurance personnel are responsible for surveillance/audits at vendor/contractor shops when deemed necessary, based upon safety significance, complexity, method of acceptance and past history of the vendor, to establish product quality and to assure that quality assurance and quality control programs function in accordance with ANO requirements. They also ensure review, approval, and control of vendor quality manuals and procedures and revisions thereto.

1.4.2.1.2

The Manager, Plant Support and Assessments reports to the Vice President, Operations Support and is responsible for Nuclear Assurance, Nuclear Safety Oversight, and Planning and Professionalism. He establishes, directs or conducts programs, studies and analyses of the nuclear safety, engineering, and operations activities.

1.4.2.2 Director, Nuclear Fuels

The Director, Nuclear Fuels, is responsible for the procurement of nuclear fuel for ANO, the provision of nuclear fuel cash flow and cost projections for use in company business plan and fuel financing activities, the maintenance of the Official Entergy Operations Nuclear Operating Schedule, and the oversight of nuclear fuel accounting activities.

1.4.2.3 Vice President, Engineering

The Vice President, Engineering is responsible for providing nuclear engineering services for ANO, as requested. The incumbent is responsible for Design Engineering, fuel design and core design.

1.4.2.4 Director, Materials, Purchasing & Contracts

The Director, Materials, Purchasing and Contracts is responsible for the procurement of materials, parts and components requested by Nuclear personnel offsite and for supporting procurement activities at ANO. The incumbent is also responsible for the oversight and development of purchasing policies and procedures consistent across Entergy's nuclear sites and Echelon.

1.4.2.4.1

The Manager, Purchasing is responsible for the following activities:

(1) Preparing ANO purchase orders based upon receipt of reviewed and approved purchase requisitions.

(2) Performing the commercial interface functions between ANO and vendors.

(3) Ensuring that quality documentation prepared by ANO personnel is included in appropriate procurement documents.

He delegates authority and responsibility for purchasing activities at ANO through the Supervisor, Purchasing-ANO.

1.4.3 Vice President, Human Resources & Administration

The Vice President, Human Resources & Administration is responsible for the administration of functions associated with Corporate Services and Human Resources. He delegates authority and responsibility for the accomplishment of the above activities through the Director, Human Resources. It is the responsibility of the Vice President, Human Resources & Administration to assure that the safety related activities under his direction are performed following the guidelines of the Echelon Quality Assurance Program and the ANO QAMO.

1.4.3.1 Director, Human Resources

The Director, Human Resources is responsible for functions associated with programs dealing with employees compensation, benefits, employee and labor relations, affirmative action, recruitment, industrial safety, succession planning and human resource development. He delegates authority and responsibility for employee relations activities at ANO through the Manager, Human Resources-ANO.

1.5 ORGANIZATIONAL INTERFACES AND RESPONSIBILITIES

AP&L and Entergy Operations are joint licensees under the facility operating license condition, each responsible for specific areas and jointly responsible for regulatory compliance and response. AP&L is licensed to possess the facility and Entergy Operations is licensed to possess, use and operate the facility.

Each supplier of equipment, material or services and each maintenance or modification contractor is responsible for administering the applicable quality assurance/quality control functions as required by ANO. The Quality Organization is responsible for assuring by surveillance, inspection, audit or review of objective evidence that onsite functions are accomplished for systems, structures and services that affect the safety and integrity of the plant.

2.2.4

The quality program for fire protection is addressed in Appendix B of this manual and in the applicable section of the SAR for each operating nuclear unit and implemented through appropriate approved procedures. The effectiveness of the fire protection program is verified through scheduled audits conducted by the Quality Organization, under the cognizance of the SRC.

2.2.5

The SLQL (as part of the SAR) is under the control of the Director, Licensing. The Licensing department ensures that reviews, approvals, and changes thereto are performed in accordance with approved procedures. Changes to the SLQL require review/approval by the applicable Manager, Engineering; Supervisors, Quality Assurance; and Director, Licensing. ANO Document Control shall make distributions to the SAR in accordance with approved procedures.

2.2.6

The CLQL is maintained on a computer data base (SIMS) and is controlled in accordance with approved procedures. Engineering is responsible for the technical adequacy of the CLQL and the administrative controls of the CLQL within SIMS. Evaluations, reviews and approvals to changes to the CLQL are performed in accordance with applicable procedures.

2.2.7

The Component Level F-list (CLFL) is maintained on the SIMS component data base by Engineering. Components classified as "F" on this list fall under the requirements of Appendix B of this manual. The controls for this list are similar to the controls utilized for the Q-list.

2.2.8

Components that are not Q-listed or F-listed and which are subject to ASME code requirements or similar design standards, regulatory requirements or licensing commitments or other ANO commitments are classified as "S" in the SIMS component data base. The controls for this list are similar to controls for the Q-list. This list is also referred to as the Component Level S-list (CLSL).

2.3 RESPONSIBILITIES

2.3.1

ANO recognizes that quality assurance is an interdisciplinary function involving many organizational groups, encompasses many functions and activities and extends to various levels in all participating organizations (from the Entergy Operations President and Chief Executive Officer to all workers whose activities may influence quality). The QA Program designates responsibilities and duties of specific individuals, which may be performed by their appointed designees.

2.3.2

The QA Program assigns the responsibility for quality to the departments performing the work and includes as a basic requirement that individuals responsible for verification of conformance are qualified and do not perform or directly supervise the work.

Additionally, independent reviews, audits and surveillances are provided by individuals not reporting to the groups responsible for performing the work.

2.3.3

The QA Program also includes provisions that require suppliers, contractors, subcontractors, consultants, etc. to maintain and use quality assurance programs reviewed and approved by the Manager, Quality. Audits or surveillances by Supplier QA provide assurance of compliance with applicable procedures.

2.3.4

On-site quality control of nuclear fuel is the responsibility of System Engineering and is implemented through the use of plant administrative procedures. These procedures include the receipt, inspection, handling, storage and accountability of Special Nuclear Material (SNM). Individuals who perform receipt inspections are qualified in accordance with paragraph 2.6.3 of this manual. The Director, Quality or designee maintains a listing of those individuals qualified to perform receipt inspection on nuclear fuel.

2.4 PROCEDURES

2.4.1

Activities which affect quality are defined in appropriate procedures, which are developed to cover administration and control. The procedures

state the policies and instructions necessary to fulfill the intent of the QA Program. Procedures provide for standard forms, lists, and checkoffs used in documenting the inspections, certifications, reviews, surveillances and audits. Programs and procedures are modified or supplemented from time-to-time as the need for change arises during the life of the plant. Quality program policies, procedures and instructions are contained in the documents listed in Table 3.

2.4.2

Procedures assure that activities affecting quality are performed under suitably controlled conditions. Controlled conditions include the use of appropriate equipment, suitable environmental conditions for performing the activity such as adequate cleanness and assurance that required prerequisites for the given activity have been satisfied. Administrative procedures also assure that the need for special controls, processes, tests and equipment to attain the required quality and the need for verification of quality by inspections, evaluations or tests is taken into account.

2.5 PROGRAM REVISION AND CONTROL

2.5.1

Program revision and control shall be the responsibility of the Director, Quality.

2.5.2

Proposed changes to this manual are to be submitted by the Director, Quality to affected management personnel for review and comment prior to approval and transmittal to the Nuclear Regulatory Commission. After resolution of comments, changes are to be approved by a Supervisor, Quality Assurance; Director, Quality; and the Vice President, Operations ANO.

2.6.5

Personnel performing audits of the QA Program are to meet the experience, training and qualification/certification requirements of ANSI N45.2.23-1978, and Regulatory Guide 1.146 (8/80), unless otherwise noted in Table 1.

2.6.6

Personr l appointed to the SRC shall collectively have the experience and competence required by ANSI/ANS N3.1-1981. PSC composition shall be as described in the Technical Specifications.

2.6.7

Training records are to be maintained in accordance with approved procedures. For formal training programs, documentation is to include the objective, content of the program, attendees and date of attendance.

2.7 PROGRAM REVIEW

2.7.1

The Director, Quality through the Supervisors, Quality Assurance is responsible for a review of the QA Program on an annual basis to determine the effectiveness and proper implementation of the QA Program.

3.5.3

During preparation of a design change, the responsible engineering section is to perform a review per 10CFR50.59 to verify compliance with the SAR and to determine if NRC approval of the design change is required. The documented 50.59 review is to be reviewed and approved by the PSC. In addition, any 10CFR50.59 evaluations shall also be reviewed and approved by the SRC.

3.5.4

Design changes are also to be submitted to the Supervisor, Quality Engineering prior to plant implementation to verify the use of appropriate quality codes, standards and inspection requirements in the design documents.

3.6 CORRECTIVE ACTIONS

When design changes are made as a result of design deficiencies or errors, corrective actions (for significant conditions) are to be taken in accordance with Section 16.0 to determine the root cause and to institute appropriate changes in the design process and/or QA Program to prevent recurrence. When a significant design change is necessary because of an incorrect design, the design process and verification procedures shall be reviewed and modified as necessary.

3.7 DESIGN RECORDS

The Superintendent, Administrative Services is responsible for maintaining permanent records of the design documents for the construction and testing phases, and for maintaining records of the upgrading or modification of these documents as described in this section.

identification number may be included on the procurement document in lieu of a design specification. New or revised specifications for replacement items are to be evaluated by the responsible engineering organization against the original specification for the item. The evaluation is to be in accordance with applicable engineering procedures and will result in the establishment of new baseline and technical quality requirements, which are to be used for subsequent procurements.

4.2.3

Procurement documents are also to include the identification of quality assurance program requirements applicable to the items or services procured. Procurement documents also establish requirements for source audits and inspections, extension of the procurement requirements to lower-tier suppliers or subcontractors, and preparation and delivery of documentation. These requirements may either be in the form of documents attached to the PO or Contract or by incorporating them in the specific design specifications. Quality programs are to be specified by invoking the appropriate sections of 10CFR50, Appendix B, the appropriate ANSI standards and/or the appropriate ANO-generated quality requirements for items or services. The appropriate sections of the ASME Boiler and Pressure Vessel Code are to be invoked for items originally designed to meet ASME requirements.

4.3 REVIEW OF PROCUREMENT DOCUMENTS

The appropriate sections within the Quality organization, as identified in the applicable procedures for procurement and contract administration activities, are to review safety related procurement documents to assure that the required quality requirements (including source surveillance and/or inspection) are imposed on suppliers/contractors.

accomplished. Each procedure is to be sufficiently detailed so that a qualified individual may perform the required function(s) without direct supervision and is to include measures to document the activity being performed.

5.2.2

To assure the accomplishment of activities in accordance with approved instructions, procedures and drawings, each supervisor is responsible for quality compliance of his personnel. Verif cation that activities are accomplished in accordance with approved instructions, procedures and drawings is obtained through various levels of surveillance, inspection and audit by the Quality Organization.

5.3 REVIEW OF INSTRUCTIONS, PROCEDURES AND DRAWINGS

5.3.1

Instructions, procedures and drawings are prepared, reviewed and approved in accordance with applicable administrative procedures.

5.3.2

Procedures identified in the Technical Specifications for each unit and intent changes thereto which describe activities required to implement the QA Program are to be reviewed by the PSC, as described in the Technical Specifications, prior to submittal of the procedures to designated department head for approval and subsequent issuance. Overall Administrative procedures (OP-1000.XXX & OP-6000.XXX Series) and Engineering Administrative Procedures (OP-5000-XXX Series) are also reviewed by the Quality Organization to verify compliance to the QA Program requirements.

7.0 CONTROL OF PURCHASED MATERIAL, EQUIPMENT AND SERVICES

7.1 SCOPE

The purchase of material, equipment and services is controlled to assure that, whether purchased directly or through vendors, the material, equipment and services which affect quality conform to the procurement documents. Procurement control includes provisions for source evaluation and selection, objective evidence of quality furnished by the contractor, surveillance and audit at the source, examination of products upon delivery and testing of received material for conformance to procurement criteria. The depth and necessity of procurement controls depend upon the uniqueness and complexity of the item/service, procurement frequency with the same supplier and past supplier performance for the specific items or services covered by the procurement document. The control of purchased material, equipment and services is to be in accordance with the requirements of Regulatory Guide 1.38 Rev. 2 (5/77) and 1.123, Rev. 1 (7/77) unless otherwise noted in Table 1.

7.2 SOURCE EVALUATION AND SELECTION

7.2.1

A Qualified Suppliers List (QSL) is to be maintained and controlled under the direction of the Manager, Quality. The QSL identifies those vendors/contractors that have been evaluated and approved by Supplier QA to furnish material, equipment or services, and identifies any restrictions imposed on the vendor/contractor as a result of their evaluation.

Vendors/Contractors are evaluated and placed on the QSL by any of the following methods, as approved by the Manager, Quality:

(1) Source survey by Supplier QA personnel to verify compliance to applicable 10CFR50, Appendix B, requirements or to applicable ASME Section III quality assurance program requirements.

(2) Evaluation and acceptance of source surveys performed by others (e.g., NUPIC, other utilities, NSSS suppliers, and prime contractors) indicating a program meeting the appropriate requirements of 10CFR50, Appendix B.

(3) A review of the vendors/contractors current quality records supported by evidence of documented qualitative and quantitative information which can be objectively evaluated. This includes review and approval of the vendor's/contractor's quality assurance program, manual and procedures, when available.

(4) Evaluation of the vendor's/contractor's history of providing a product/service which performs satisfactorily in actual use. Evaluation information includes: experience of users of identical or similar products/services of the prospective vendor/contractor; and/or procurement records that have been accumulated in connection with previous procurement activities and operating experiences.

(5) In addition to the above, for ASME Code Suppliers, verification that a vendor is a holder of an ASME Certificate of Authorization issued as a result of an ASME survey.

7.3.2

The need for source surveillance/verification is determined by Supplier QA. Source surveillance/verification may also be requested by the originator of the PR/Contract, or Quality Assurance/Engineering section within the Quality organization during their review of the procurement document (reference section 4.3). Source surveillance is to be performed by Supplier QA personnel or their appointed representative in accordance with surveillance plans approved by the Manager, Quality and the results documented per quality assurance procedures. Reports documenting inspections performed and discrepancies observed are prepared by the person performing the surveillance to document compliance to the procurement documents and for future use as historical quality performance data.

7.3.3

Audits of the vendor's/contractor's quality assurance programs are periodically performed under the direction of the Manager, Quality to verify implementation of a satisfactory quality program on the items or services being procured. Audits performed by others (e.g., NUPIC, other utilities, or prime contractors), as evaluated and approved by the Manager, Quality, may be used as an alternative to audits by Supplier QA personnel to verify the vendor/contractor is implementing a satisfactory quality program. Audits are to be conducted in accordance with Section 18 of this manual.

7.4 RECEIPT INSPECTION

7.4.1

Materials and equipment, including ASME Code materials and equipment, are subject to inspection upon receipt at ANO. The degree of inspection is specified in the procurement documents. Receipt inspection is performed in accordance with approved procedures.

7.4.2

Receipt inspection activities are to be documented and include, as a minimum: examination of material or equipment for shipping damage, proper identification and quantity; and the review of vendor documentation to verify compliance with the procurement document. If a source surveillance has been performed on material and equipment received at ANO, requirements identified in procurement documents that have been addressed in the Source Surveillance report do not have to be re-verified during receipt.

7.4.3

Vendors are to furnish documentation as required by the procurement documents for objective evidence that the material or equipment conforms to the procurement requirements. Review and acceptance of this documentation is to be performed prior to installation or use of such material or equipment and the results documented unless otherwise specified in approved procedures. Certificates of Conformance may be required by procurement documents which identify the requirements met by the vendor. The validity of the vendor's certification program is to be periodically verified through scheduled source surveillance/verification and audit activities or through independent testing of the item by ANO.

7.4.4

Accepted material and equipment is released, identified as to its inspection status and forwarded to a controlled storage area or released for installation per applicable approved procedures.

10.3.2.3

If individuals performing inspections are not part of the Quality Organization, the inspection procedures, personnel qualification criteria, and independence from undue pressure such as cost and schedule are to be reviewed and found acceptable by the Director, Quality or designee prior to initiation of the activity.

10.3.3

If an inspection determined to be required is impossible or disadvantageous, indirect control by monitoring processing methods, equipment and personnel is to be provided to verify conformance with applicable documented instructions, procedures and drawings. Both inspection and process monitoring are to be provided when control is inadequate without both.

10.4 INSPECTION POINTS

10.4.1

Inspection hold points are established within non-routine maintenance procedures and Plant Modification Packages (PMPs) by Engineering and reviewed by Quality Engineering personnel for concurrence and possible assignment of additional inspection hold points to further assure conformance with applicable instructions, procedures, drawings and related documents or to meet appropriate code and regulatory requirements. Inspection hold points for work functions associated with activities other than non-routine maintenance and PMPs are established by the originating department, Quality personnel or other responsible individuals and reviewed by Quality Engineering personnel for concurrence and possible assignment of additional inspection hold points.

Work is not to proceed past a designated inspection hold point until signed by a qualified inspector or waived, in writing, by the Director, Quality or designee.

10.4.2

Inspection hold points are inserted in procedures based upon safety significance, complexity of the item or activity, degree of standardization of the item or activity, past performance of the item or activity and the ability to verify quality by job-site testing.

10.4.3

Inspection responsibilities, requirements, information and acceptance criteria for the work activity are to be identified in appropriate, approved documents (e.g. procedures, checklists, etc.).

10.4.4

For work involving the modification, repair, replacement or inservice inspection of ASME Code materials, parts and components, the work packages are to be made available to the Code Inspector prior to commencing work for his review and assignment of inspection hold points. The department responsible for the work activity is responsible for notifying the Code Inspector when the hold point is reached. Work is not to proceed past a Code Inspector's inspection hold point until signed or waived by the Code Inspector.

11.3 TEST CONTROLS

11.3.1

Tests relating to plant start-up following a unit shutdown or fuel loading are to be conducted per written procedures/instructions in order to evaluate plant performance as the start-up progresses. Initial start-up test programs are to be planned to permit safe fuel loading and start-up, to increase power in safe increments and to perform major testing at specified power plateaus.

11.3.2

Surveillance tests during the operational phase of the plant are to be conducted per written procedures/instructions to assure that failures or substandard performances do not remain undetected and that the required operability is maintained to ensure they will continue to operate, keeping parameters within normal bounds, or will act to put the plant in a safe condition if they exceed normal bounds.

11.3.2.1

Mandatory in-plant surveillance tests and inspections required to assure operation within the limiting conditions of operation are identified in the SAR and Technical Specifications applicable to each unit. To ensure that the required tests are performed as scheduled within the specified time interval, surveillance procedures are established and maintained for mandatory surveillances identified in the SAR and Technical Specifications. These procedures are to specify the component or system, type of surveillance activity, frequency of activity and the cognizant individual responsible for completion of the surveillance activity.

13.5.3

Only items which have completed the receiving process are to be placed in a controlled storage area. Records of the items' location(s) are to be provided by the Manager, Materials Purchasing and Contracts (see paragraph 13.3.2 for control of radioactive sources, low-level waste material and SNM) to identify those items currently in storage and to facilitate inspection and maintenance planning. Issuance of items from storage for installation or use is to be documented and controlled in accordance with approved procedures.

13.5.4

Items identified as requiring maintenance during storage are to be maintained in accordance with a documented maintenance program.

13.5.5

Storage areas are to be monitored by individuals responsible for the storage areas so that the integrity and security of stored items are effectively maintained. Inspections and examinations under the control of the Supervisors, Quality Control are to be performed and documented on a periodic basis to assure that the integrity of the items and their containers is being maintained. Periodic audits under the control of the Supervisors, Quality Assurance are also performed to assure compliance with storage requirements.

13.6 HANDLING CONTROLS

13.6.1

Special handling requirements are to be specified in the procurement documents and approved procedures to protect the quality of items

14.3.2

A preventive maintenance program, including procedures and instructions for systems, structures and components, is to be established and maintained, which prescribes the frequency and type of maintenance to be performed in order to preclude equipment malfunctions. The preventive maintenance program requirements, including associated procedures and task instructions will be maintained by the appropriate Manager, Maintenance as applicable based on the specific maintenance discipline. The associated engineering evaluations will be maintained under the Manager, Unit 1 Maintenance. Implementation of the program is the responsibility of the General Manager, Plant Operations and is implemented by qualified maintenance personnel in accordance with approved procedures and instructions which specify the work activities, acceptance requirements and the control measures to assure adequate quality. When equipment malfunctions occur, the cause is to be promptly determined, evaluated and recorded per approved procedures and Section 16.0 of this manual.

14.4 OVERALL PLANT STATUS

14.4.1

The Supervisors, Shift Operations are provided sufficient knowledge of the overall plant status of equipment, structures and systems to control operation of the plant in a safe manner. The shift operators are to maintain a ready reference of plant systems, equipment and component alignments, as well as a status board summary of their conditions.

14.4.2

The turnover of duties to personnel on succeeding shifts is conducted in accordance with approved procedures. These procedures include documented turnover action appropriate to the duty station acknowledging the status of the nuclear power plant, its structures, systems and components (including design changes/modifications which may affect the performance of their duties) and transfer of authority.

15.4 RECORDS

15.4.1

Upon completion of disposition and verification activities, the completed nonconformance report, and related documents generated to ensure proper disposition and resolution of the nonconformance, are to be forwarded to and maintained by the Document Control Center.

15.5 DEFICIENCY TRENDING

The Manager, Standards or designee is to maintain and issue a trending report, at least quarterly, of nonconformances to the Vice President, Operations ANO for review.

16.0 CORRECTIVE ACTION

16.1 SCOPE

A corrective action system is established to assure that conditions adverse to plant safety, such as failures, malfunctions, deficiencies, deviations, defective materials and equipment, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to safety, this system is to assure that the cause of the condition is determined and corrective action taken is documented and reported to appropriate levels of management for independent review.

16.2 GENERAL

16.2.1

When deviations, deficiencies, malfunctions, nonconformances or other conditions are encountered, they are to be reported to responsible authorities for review and disposition in accordance with approved procedures.

16.2.2

Cognizant supervisors are to review discrepancies discovered during the course of plant operations and take appropriate action to resolve the discrepancies. For significant conditions adverse to safety, they are to initiate action to identify their root causes and take necessary corrective action to preclude repetition.

16.2.3

Evaluation of the corrective action is to be performed by the individual/group identified within approved procedures to determine its

In addition to the provisions of this manual, inspections and surveillances are addressed in applicable portions of the SAR for each nuclear unit.

12.0 TEST CONTROL

12.1 A test program is to be established and implemented to ensure that testing is performed and verified on applicable systems and components to demonstrate conformance with design and system readiness requirements. The tests are to be performed in accordance with written test procedures and test results evaluated for conformance to the test objectives.

12.2 The control of testing activities is described in Section 11.0 of this manual. Surveillance testing requirements are identified in the Safety Analysis Report for each nuclear unit.

13.0 CONTROL OF MEASURING AND TEST EQUIPMENT

13.1 Section 12.0 of this manual is not applicable for the control of measuring and test equipment. No particular measuring and test equipment controls have been identified in BTP-APCSB 9.5-1, Rev. 2. Measuring and test equipment is controlled in accordance with applicable approved procedures and practices.

18.0 AUDITS

18.1 SCOPE

18.1.1

A comprehensive system of planned and periodic audits is provided to ensure and verify compliance with all aspects of the administrative controls and quality assurance program. Audits are to be planned and performed in accordance with written procedures, plans and checklists and are to conform to the applicable portions of Regulatory Guides 1.144, Rev. 1 (9/80), and 1.146, Rev. 0 (8/80), unless otherwise noted in Table 1.

18.1.2

The audit program is to include provisions to determine the compliance with and effectiveness of the QA Program in controlling structures, systems, components and activities in accordance with the rules set forth in the codes, standards and regulations identified in the Introduction of this manual.

18.2 AUDIT PERSONNEL

18.2.1

The Supervisors, Quality Assurance and the Manager, Quality have assigned auditing responsibility within the QA Program and are responsible for the selection and assignment of auditors. Auditors are to be independent of any direct responsibility for performance of the activity which is to be audited and are not to report to a management representative who has direct responsibility for the activity being audited.

18.2.2

Auditors assigned auditing responsibilities are to have experience and training commensurate with the scope, complexity and/or special nature of the activities to be audited. When audit assignments are made, considerations are given to special abilities, specialized technical training, prior pertinent expertise, personal characteristics, education and capability. If no one within the Quality Organization meets these prerequisites completely, technical specialists are to be used to assist in the auditing of the activity. Technical specialists are to meet the requirements of paragraph 18.2.1 of this manual.

18.2.3

Audit personnel are provided appropriate training to assure their competence for performing the required audits. Proficiency of audit personnel is maintained by one or more of the following methods:

(1) Regular, active participation in the audit process
(2) Review and study of codes, standards, procedures and instructions
(3) Participation in training or orientation programs

18.3 AUDIT SCHEDULE

18.3.1

Audits are to be performed on a planned and periodic basis in accordance with an audit schedule. Audit schedules are to be prepared at the beginning of each year by the Quality Organization and approved by the Supervisors, Quality Assurance; Director, Quality; and the SRC.

18.3.2

Audit schedules assure that, as a minimum, those audit areas identified within the Technical Specifications applicable to each nuclear unit are audited, under the cognizance of the SRC, at the indicated frequencies within ANO.

18.3.3

Audits of vendor/contractor activities are to be scheduled as identified in paragraph 7.3.3 of this manual. These audits are to evaluate and verify their quality assurance program, procedures and activities, to assure compliance with the procurement documents and to verify they periodically review and audit their suppliers' quality assurance programs. Audit schedules for vendor/contractor audits are approved by the Manager, Quality.

18.3.4

Periodic reviews of the audit programs are to be performed by the SRC or their appointed management representative at least semiannually to assure that audits are being accomplished in accordance with the requirements of the Technical Specifications, this manual and Regulatory Guide 1.33, Rev. 2 (2/78), unless otherwise noted in Table 1.

18.3.5

Regularly scheduled audits may be supplemented, as required, to cover unforeseen events or changed requirements.

18.4.4

Internal audit reports pertaining to plant operations activities are to be independently reviewed by the SRC to determine if additional corrective actions need to be initiated to assure continued safe operation of ANO. Internal audit reports pertaining to other than plant operations activities are to be independently reviewed by the SRC. In addition to this review, the audit reports are to be distributed, as a minimum, to the Director, Quality; Supervisors, Quality Assurance; and appropriate levels of management having responsibility in the area audited to assure their awareness of the findings.

18.4.5

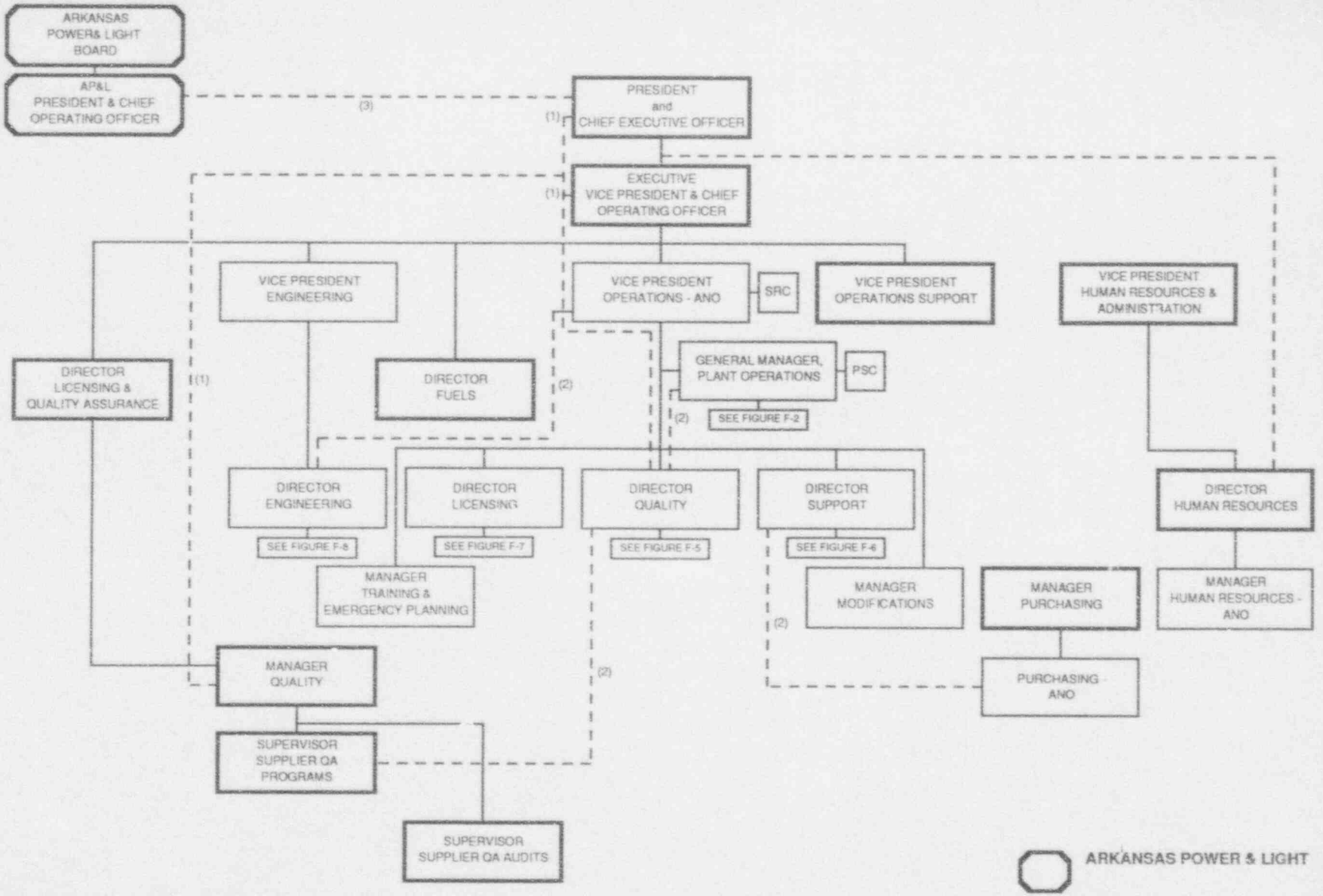
Audit results and findings related to external audits conducted by Supplier QA personnel are to be recorded and distributed to the Supervisors, Quality Assurance and a designated representative of the audited organization as a minimum. Deficiencies are to be recorded and the audited organization is to describe actions taken to correct deficiencies and prevent recurrence. Corrective actions are to be verified by Supplier QA personnel and documented.

18.5 RECORDS

Written internal/external audit reports, including checklists, QAFR's, vendor/contractor findings, and related documentation supporting the follow-up activities are to be forwarded to the Document Control Center for storage in accordance with Section 17.0 of this manual.

18.6 NUCLEAR FUEL AUDITS

The Manager, Quality has the responsibility for performing those quality assurance functions necessary to assure that its nuclear fuel is designed and fabricated in accordance with regulatory requirements and accepted codes, standards and specifications. Supplier QA monitors the design and fabrication of the fuel through a program of audits of the fuel fabricator, including both design review audits and fuel fabrication audits. Supplier QA also conducts audits of component suppliers as deemed necessary to assure the quality of the fuel, and issues formal audit reports to document audit activities and to identify nonconformances or other items requiring action by the fuel fabricator. Resolution of nonconformances or other items requiring action is verified by Supplier QA and documented in follow-up reports. An ANO Supervisor, Quality Assurance is on distribution for all audit and follow-up reports. These audit reports are to be forwarded to ANO and stored in accordance with Section 17.0 of this manual.

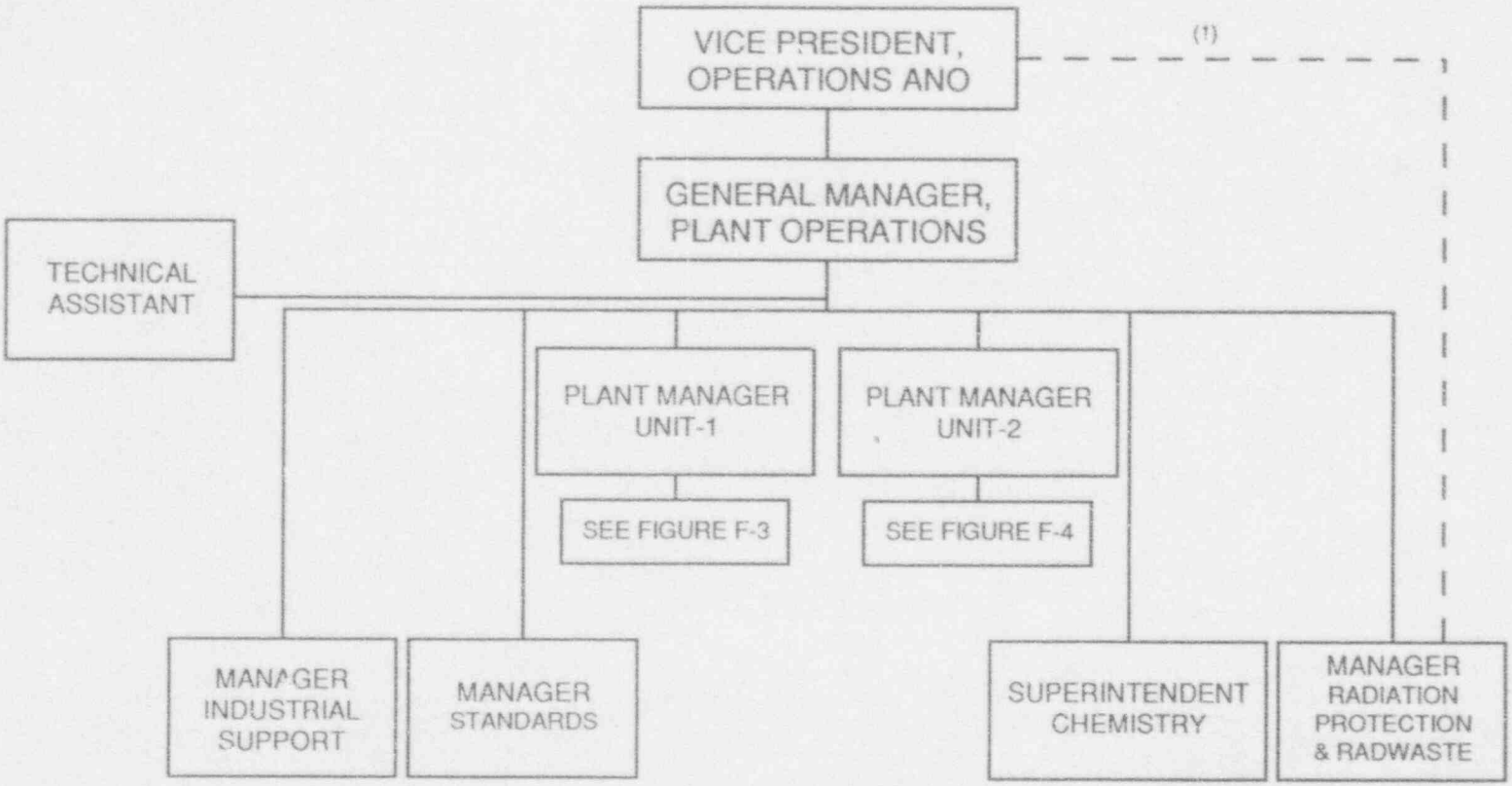


(1) ACCESS ON MATTERS CONERNING NUCLEAR QUALITY

(2) SITE INTERFACE / COMMUNICATIONS

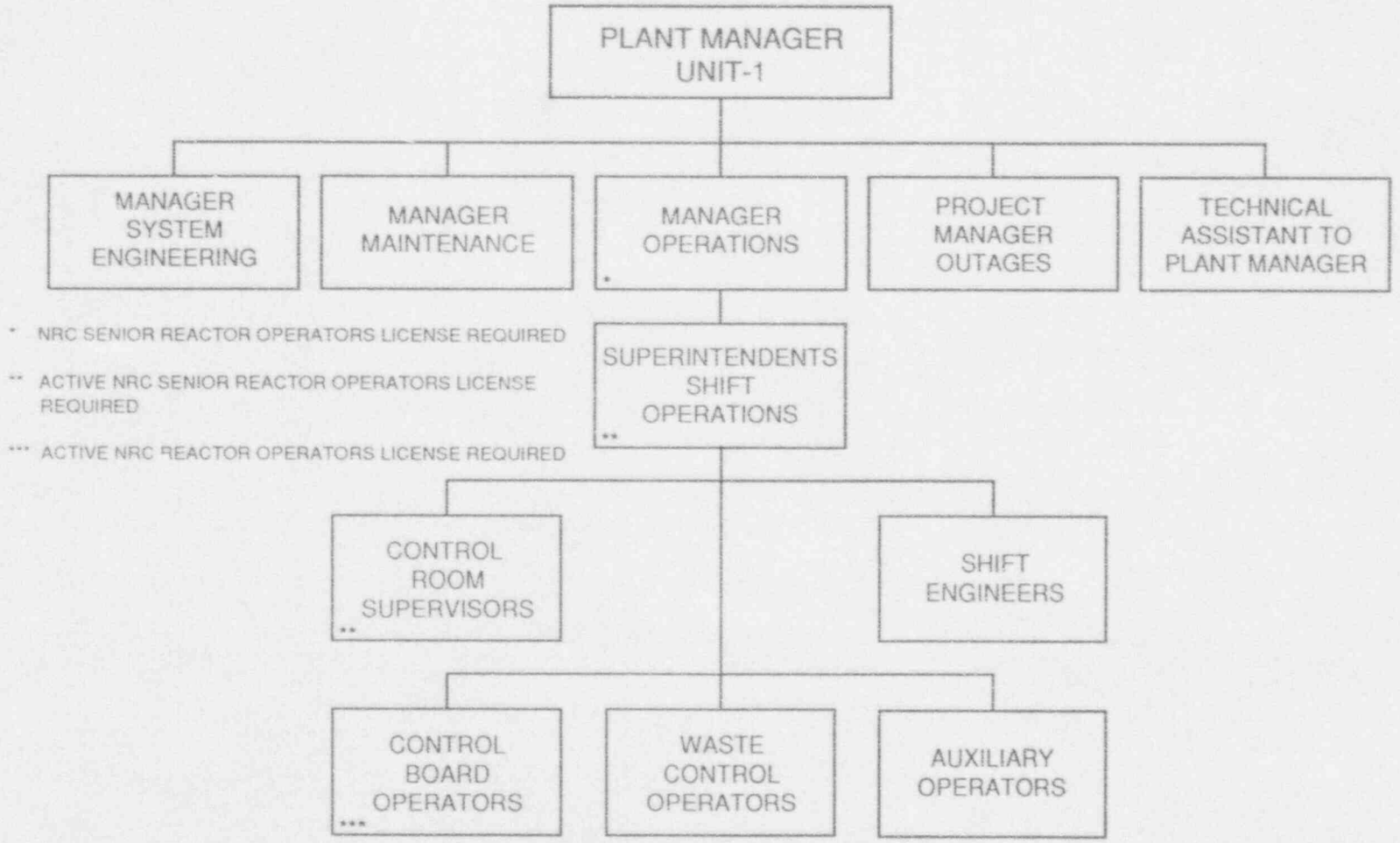
(3) COMMUNICATIONS

ENTERGY OPERATIONS - ANO & CORPORATE ORGANIZATIONS

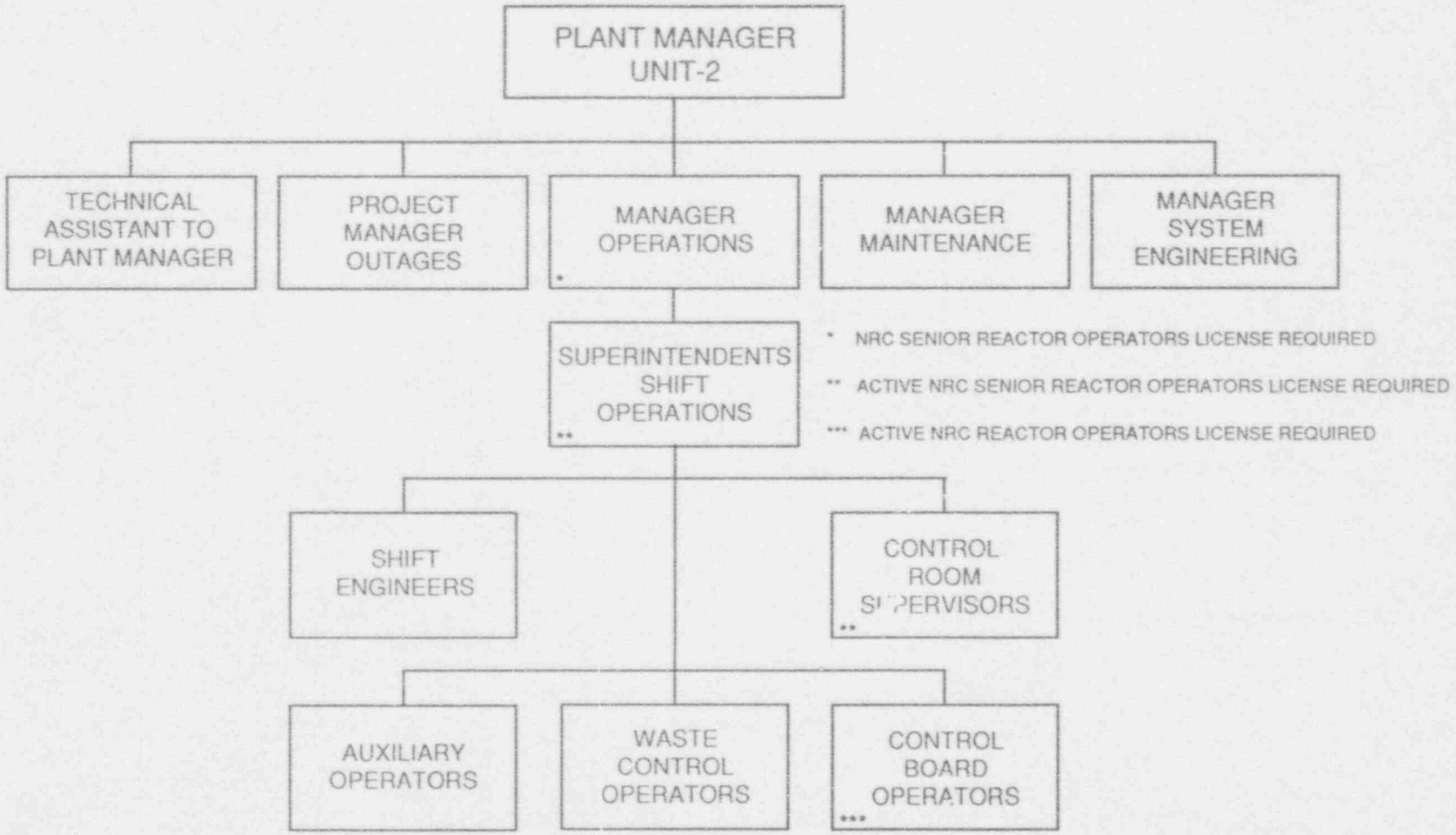


(1) THE MANAGER, RADIATION PROTECTION & RADWASTE REPORTS TO THE GENERAL MANAGER, PLANT OPERATIONS IN ADMINISTRATIVE MATTERS AND ROUTINE RADIATION PROTECTION AND RADWASTE CONCERNS AND TO THE VICE PRESIDENT, OPERATIONS ANO IN MATTERS OF RADIOLOGICAL HEALTH SAFETY AND POLICY.

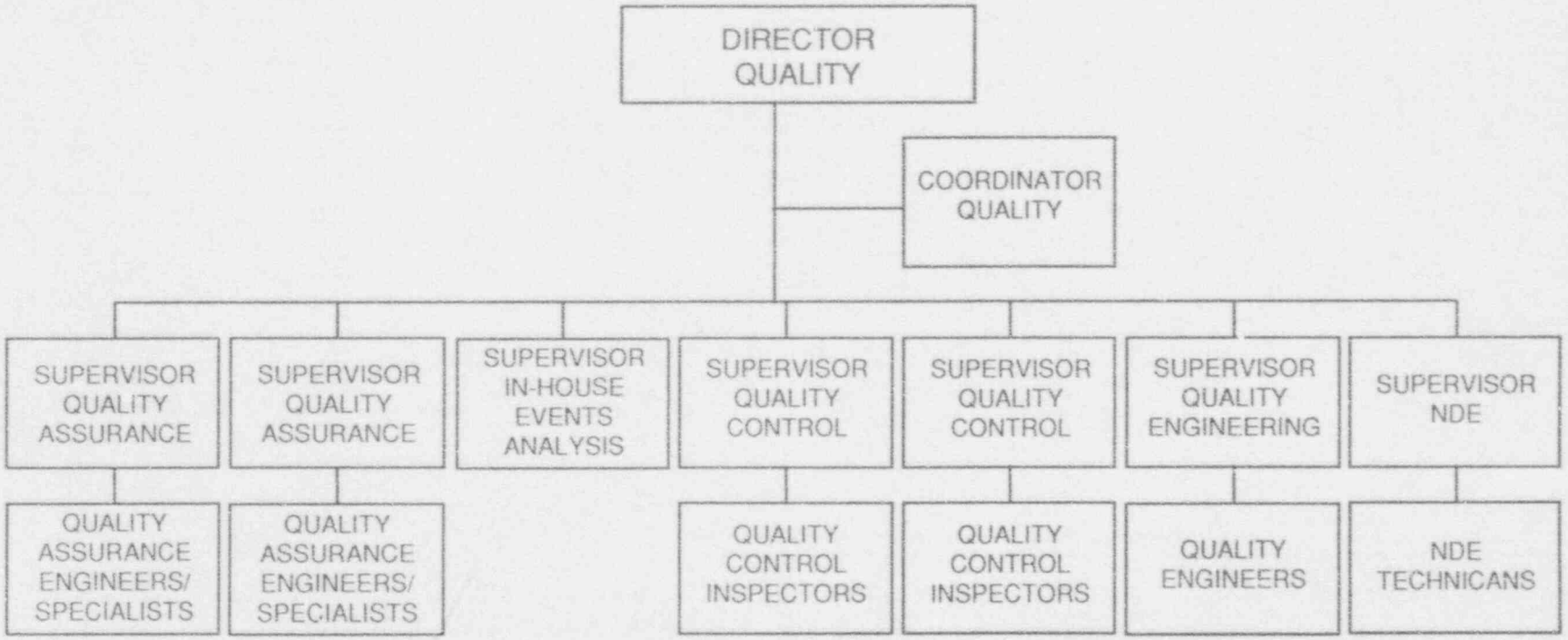
PLANT OPERATIONS DEPARTMENT



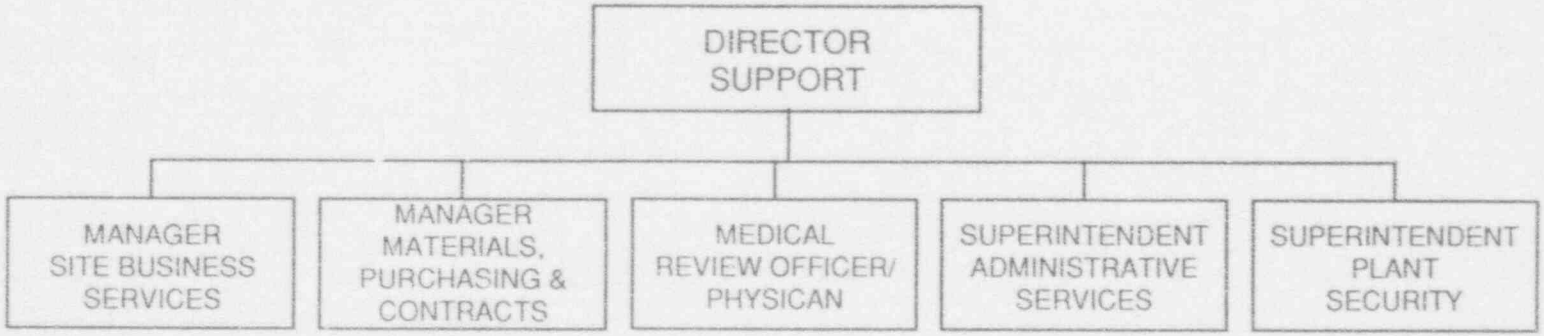
UNIT 1 OPERATIONS ORGANIZATION



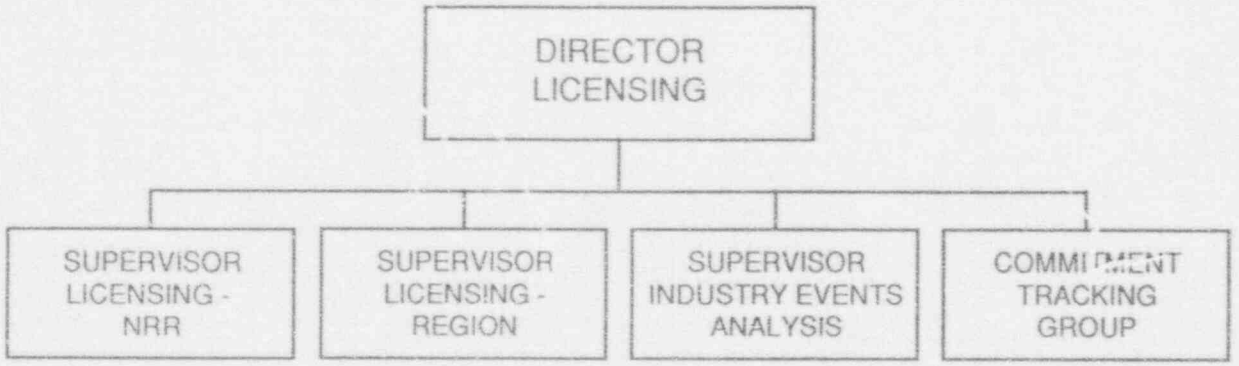
UNIT 2 OPERATIONS ORGANIZATION



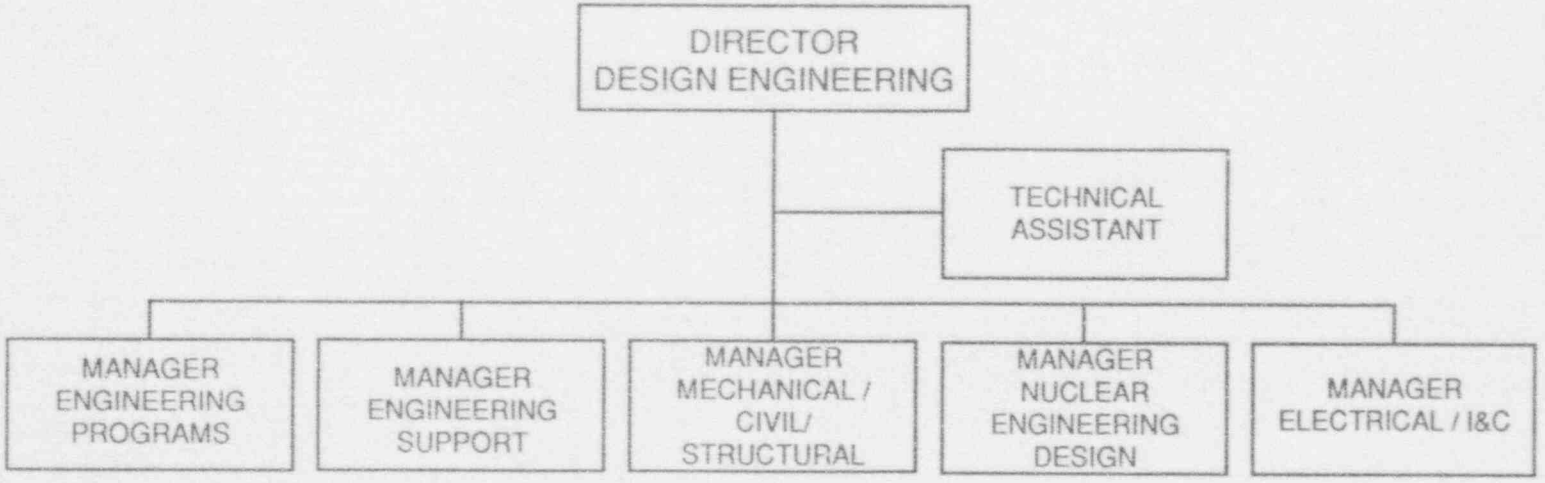
QUALITY DEPARTMENT



SUPPORT DEPARTMENT



LICENSING DEPARTMENT



ENGINEERING DEPARTMENT

TABLE 3

QUALITY PROGRAM POLICIES, PROCEDURES AND INSTRUCTION MANUALS LIST

1. Quality Assurance Manual Operations

The Quality Assurance Manual Operations establishes the policies and guidelines of the QA Program for ANO. This program is to be followed by all organizations involved in safety-related work applicable to ANO.

2. Overall Adminstrative Procedures

The Nuclear Organization employs a system of procedures designated as Overall Administrative Procedures (OP-1000.XXX or OP-6000.XXX series). These procedures implement the QA Program requirements and control safety-related activities. Overall Administrative Procedures and changes thereto are prepared by the responsible department, reviewed by the Plant Safety Committee and approved by the Vice President, Operations ANO. The procedures and revisions are also reviewed by a Supervisor, Quality Assurance to assure that the QA Program commitments are met. Review and approval of Quality administrative procedures is described in paragraph 4 below.

3. Departmental Procedures

Each department (excluding Quality) within the Nuclear Organization has developed procedures in support of the Overall Administrative Procedures and the QA Program. These procedures provide technical and administrative instructions to the respective departments to aid in implementing their responsibilities within the QA Program. Each Department Head is responsible to perform a review of their procedures to assure conformance with the QA Program.

Procedures required by the Technical Specifications are reviewed and approved as described in the Technical Specifications.

4. Quality Procedures

The Quality Organization employs a system of procedures developed to assure proper implementation of the QA Program. These procedures provide technical and administrative instructions to the Quality staff to aid in implementing their responsibilities within the QA Program. These procedures are reviewed/approved by a Supervisor, Quality Assurance and/or Supervisor, Quality Engineering and the Director, Quality.

The Supplier QA organization employs a system of procedures developed to assure implementation of their responsibilities within the QA Program. Supplier QA management assures conformance with the QA Program.

APPENDIX B

QUALITY PROGRAM FOR FIRE PROTECTION

1.0 INTRODUCTION

1.1 The fire protection program was developed to define the organizational responsibilities, procedural controls, fire brigade staffing and training and the quality assurance provisions that have been established for the nuclear plant. The overall objective of the fire protection program is to minimize both the probability and consequences of postulated fires and to maintain the capability to safely shut down the plant if a fire should occur.

1.2 The scope of the fire protection program includes those fire protection and detection systems, and those structures and components (such as fire doors, fire dampers, and penetration seals) which, as identified in the plant's Fire Hazards Analysis Program Manual, are required to restrict the damage caused by a single exposure fire to safety-related equipment and equipment required to achieve and maintain safe plant shutdown to within those limits set forth in Section 1 of Appendix R to 10CFR50.

1.3 The quality program for fire protection is designed to comply with the requirements of this manual and with the quality assurance guidelines identified in BTP-APCSB 9.5-1, Rev. 2, July 1981, Guidelines for Fire Protection for Nuclear Power Plants, subject to exceptions noted in this Appendix.

3. The Manager, Industrial Support is responsible for the establishment and monitoring of fire prevention aspects of the program at the plant including control of combustibles, ignition sources and postings, and is also responsible for the fire protection aspects of the program at the plant, such as evaluation of fire detection and suppression equipment, fire barriers and alternate shutdown equipment protection. The Manager, Industrial Support reports directly to the General Manager, Plant Operations. The Manager, Industrial Support is responsible for:

(1) Implementing, maintaining and assessing the fire prevention aspects of the program as defined in plant procedures (Combustible controls, fire watches and fire drills)

(2) Performing fire protection evaluations

(3) Developing inspection and surveillance criteria

(4) Coordinating ANI, NRC, and other fire protection inspections at the plant

(5) Providing guidance and technical support to the nuclear plant in the area of fire protection

(6) Assuring that applicable regulatory requirements are included in the fire protection program

(7) Assuring reviews for procedures & minor fire protection modifications are performed (e.g., plant changes and limited plant changes)

(8) Assuring Fire Protection Systems Engineering functions are performed (suppression, detection, barriers, fire pumps and water supplies)

(9) Maintenance and revision of the Pre Fire Plans

(10) Classification of F-list components for the component level F-list

4. The Manager, Engineering Programs is responsible for monitoring and over-viewing fire protection programs and design fire protection modifications. The Manager, Engineering Programs reports directly to the Director, Design Engineering. Reporting to the Manager, Engineering Programs is the Supervisor, Engineering Programs. Under his direction are Fire Protection Engineers/Specialist/Technicians who are responsible for:

(1) Implementing, maintaining and assessing the fire protection aspects of the program as defined in plant procedures

(2) Performing fire protection evaluations for the penetration seal program

(3) Providing guidance and technical support to the nuclear plant in the area of fire protection

(4) Assuring that applicable regulatory requirements are included in the fire protection program

(5) Assuring design reviews for fire protection modifications are performed

(6) Assuring that evaluations/assessments of the fire protection program are performed and results reported to management

(7) Maintenance and revision of the Fire Hazards Analysis (FHA) Calculation

(8) Classification of F-list components for the Component level F-list

5. The Director, Quality is responsible for assuring that the fire protection program is implemented in accordance with the QA Manual Operations, SAR and applicable procedures. This is accomplished by the performance of audits and other provisions of the QA Manual Operations. He shall assure that corrective action, when necessary, is taken. He reports directly to the Vice President, Operations ANO.

6. The Director, Licensing is responsible for providing other responsible organizations with regulatory information and interpretations on regulatory issues related to fire protection. He is also responsible for providing interface with the NRC on fire protection matters, engineering evaluations and analysis of fire protection systems, as related to regulatory commitments and control of license-based documents relating to fire protection. He reports directly to the Vice President, Operations ANO.

7. The Director, Design Engineering is responsible assuring that the technical requirements specified in the Operating License, Safety Analysis Report, and other design basis documents, with respect to fire protection, have been satisfied in design modifications and design documents affecting ANO.

3.0 QUALITY ASSURANCE PROGRAM

3.1 This quality program is to ensure that the fire protection systems for safety-related areas (as defined in paragraph 1.2 of this Appendix) are controlled in accordance with applicable NRC regulations, industrial standards and codes, policies, rules, procedures and licensing documents. The quality program is implemented through approved procedures. The effectiveness of the fire protection program is verified through surveillances and scheduled audits conducted by the NQ Organization, under the cognizance of the SRC. General requirements for this program are also described in subsections 2.4 through 2.7 of this manual, except that personnel performing inspections need not be certified to ANSI N45.2.6, when inspections are performed on equipment not listed on the Q-list.

In addition to the provisions of this manual, inspections and surveillances are addressed in applicable portions of the SAR for each nuclear unit.

12.0 TEST CONTROL

12.1 A test program is to be established and implemented to ensure that testing is performed and verified on applicable systems and components to demonstrate conformance with design and system readiness requirements. The tests are to be performed in accordance with written test procedures and test results evaluated for conformance to the test objectives.

12.2 The control of testing activities is described in Section 11.0 of this manual. Surveillance testing requirements are identified in the Safety Analysis Report for each nuclear unit.

13.0 CONTROL OF MEASURING AND TEST EQUIPMENT

13.1 Section 12.0 of this manual is not applicable for the control of measuring and test equipment. No particular measuring and test equipment controls have been identified in BTP-APCSB 9.5-1, Rev. 2. Measuring and test equipment is controlled in accordance with applicable approved procedures and practices.