NORTHERN STATES POWER COMPANY
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Minneapolis, MN 55401

OPERATIONAL QUALITY ASSURANCE PLAN

REV 16

Reviewed By: David J Mendele Date: 5/18/92
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Power Supply

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1.0 Policy Statement

1.1 Northern States Power Company (NSP) has established and is implementing an Operational Quality Assurance Program. This quality assurance program is applicable to NSP nuclear plants that are regulated under provisions of an NRC Operating License.

1.2 The quality assurance program, as applied to activities affecting safety related functions, shall comply with and be responsive to applicable regulatory requirements and applicable industry codes and standards including:

1. 10CFR50, Appendix B.

2. NRC Operating Licenses.

3. The ASME Boiler and Pressure Vessel Code, Section XI, "Inservice Inspection".

4. 10CFR21 "Reporting of Defects and Noncompliance".

5. 10CFR71, Subpart H, "Quality Assurance".

6. Nuclear Plant Fire Protection Program, Operational Quality Assurance Plan, Appendix C.

7. NSP Plant Security Plans.

8. NSP Radiation Environmental Monitoring Program.

9. ANSI N45.2.6-1978, Qualifications of Inspection, Examination, and Testing Personnel for Nuclear Power Plants, as modified by Regulatory Guide 1.58, Revision 1.

10. ANSI N45.2.12-1977, Requirements for Auditing of Quality Assurance Programs for Nuclear Power Plants.

11. ANSI N45.2.23-1978, Qualification of Quality Assurance Program Audit Personnel for Nuclear Power Plants, as modified by Regulatory Guide 1.146, August, 1980.

1.3 The Operational Quality Assurance Program shall incorporate: (1) the requirements of ANSI N18.7-1976, as modified by Table 1-1 and (2) the requirements of the following standards to the extent specified by ANSI N18.7-1976, as modified by the regulatory position of the Regulatory or Safety Guides referenced below.

1. ANSI N18.1-1971, Selection and Training of Nuclear Power Plant Personnel
(Regulatory Guide 1.8, Rev. 1).

2. ANSI N45.2-1971, Quality Assurance Program Requirements for Nuclear Power Plants

3. ANSI N45.2.1-1973, Cleaning of Fluid Systems and Associated Components During Construction Phase of Nuclear Power Plants
(Regulatory Guide 1.37, 3-16-73).

4. ANSI N45.2.2-1972, Packaging, Shipping, Receiving, Storage and Handling of Items for Nuclear Power Plants (During the Construction Phase)
(Regulatory Guide 1.38, Rev. 2).

5. ANSI N45.2.3-1973, Housekeeping During the Construction Phase of Nuclear Power Plants
(Regulatory Guide 1.39, Rev. 1).

6. ANSI N45.2.4-1972, Installation, Inspection, and Testing Requirements for Instrumentation and Electric Equipment During the Construction of Nuclear Power Generating Stations
(Safety Guide 30, August 11, 1972).

7. ANSI N45.2.5-1974, Supplementary Quality Assurance Requirements for Installation, Inspection and Testing of Structural Concrete and Structural Steel During the Construction Phase of Nuclear Power Plants
(Regulatory Guide 1.94, Rev. 1).

8. ANSI N45.2.8-1975, Supplementary Quality Assurance Requirements for Installation, Inspection and Testing of Mechanical Equipment and Systems for the Construction Phase of Nuclear Power Plants

9. ANSI N45.2.9-1974, Requirements for Collection, Storage and Maintenance of Quality Assurance Records for Nuclear Power Plants
(Regulatory Guide 1.88, Rev. 2).

10. ANSI N45.2.10-1973, Quality Assurance Terms and Definitions
(Regulatory Guide 1.74, February, 1974).

11. ANSI N45.2.11-1974, Quality Assurance Requirements for the Design of Nuclear Power Plants
(Regulatory Guide 1.64, Rev. 2).

12. ANSI N45.2.13-1976, Quality Assurance Requirements for the Control of Procurement of Items and Services for Nuclear Power Plants

13. ANSI N101.4-1972, Quality Assurance for Protective Coatings Applied to Nuclear Facilities
(Regulatory Guide 1.54, June, 1973).

1.4 Management directives and departmental instructions and procedures shall provide for compliance with appropriate regulatory, statutory, license and industry requirements. Specific quality assurance requirements and organizational responsibilities for implementation of these requirements shall be specified in implementing directives and instructions.

1.5 Compliance with this policy and the provisions of the Operational Quality Assurance Program is mandatory for NSP personnel with respect to nuclear plant operational activities or activities which support nuclear plant operation. Personnel shall therefore, be familiar with the requirements and responsibilities of the program that are applicable to their individual activities and interfaces.

1.6 The Executive Vice President Power Supply, through an independent organization, shall periodically have the Operational Quality Assurance Program reviewed to assure its adequacy.

Table 1-1

Exception to ANSI N18.7-1976

1. Documentation required by ANSI N18.7-1976 may be deferred for emergency work. Emergency work is defined as that work that must be completed immediately and which, if delayed, may result in an unsafe condition or significantly interfere with reliable plant operation.

2. Exceptions to Regulatory Guides and ANSI Standards are acceptable for those principal contractors, retained by NSP, such as NSSS contractors and A/E Firms, which exceptions have been approved by the NRC.

3. Section 5.1; delete this section. The provisions associated with identification of the Operational Quality Assurance Program scope are explicitly identified in Section 4 of the Operational Quality Assurance Plan. | 2

4. Section 5.2.2; replace the third sentence with the following - "Procedure changes shall be reviewed and approved as required by the Technical Specifications". Delete the fourth sentence.

5. Section 5.2.5; replace the second and third sentences with "Temporary procedures shall be reviewed and approved as required by the Technical Specifications".

6. Section 5.2.9; delete the reference to ANSI N18.17. The Plant Security Plans contain required security provisions.

7. Section 5.2.11, first sentence; change "abnormal occurrences" to "reportable events".

8. Section 5.2.13.2, fourth paragraph; change the first sentence to read "... installation or use of such items that serve a safety function". Last paragraph; change "quality" to "quantity". This change corrects an error in the standard.

9. Section 5.2.15 of ANSI N18.7-1976 shall govern review, approval, and control of required procedures except that for procedures required by the Plant Technical Specifications, the review and approval requirements stipulated in the Technical Specifications shall be utilized rather than those contained in Section 5.2.15.

10. Section 5.3; change the last sentence to read "Procedures shall be prepared and approved prior to implementation as required by 5.2.15".

11. Sections 5.3.9 and 5.3.9.1; delete these sections. Emergency Operating Procedures shall be consistent with Supplement 1 to NUREG - 0737 - Requirements for Emergency Response Capability (Generic Letter 82-33).

12. Section 6; delete this section. The referenced documents are explicitly referenced in the Operational Quality Assurance Plan. NSP will evaluate new or revised ANSI Standards if appropriate for inclusion in the Operational Quality Assurance Plan.

2.0 Introduction

Northern States Power Company (NSP) is involved in the construction and operation of nuclear, fossil-fueled and hydro power plants. Construction of nuclear plants is conducted under a quality assurance program on a project basis. NSP's nuclear plant operational activities are conducted under the Operational Quality Assurance Program.

The Construction Quality Assurance Program is structured to govern nuclear plant design, fabrication, construction, testing and associated procurement as required by the applicable NRC Construction Permit and pertinent regulations. The Operational Quality Assurance Program is formulated on a company-wide basis, to govern nuclear plant operational activities and associated support activities as required by NRC Operating License provisions and associated regulations. The Operational Quality Assurance Program is implemented, to the extent compatible with construction responsibilities, at least 90 days prior to initial fuel loading and is fully implemented upon satisfactory completion of the preoperational and startup test program.

3.0 Organization

3.1 General Requirements

1. NSP shall be responsible for the establishment and execution of the Operational Quality Assurance Program. NSP may delegate to other organizations the work of establishing and executing the Operational Quality Assurance Program, or any part thereof, but shall retain responsibility therefor.

2. The authority and duties of persons and organizations performing quality assurance functions shall be clearly established and delineated in writing. Such persons and organizations shall have sufficient authority and organizational freedom to identify quality problems; to initiate, recommend, or provide solutions; and to verify implementation of solutions.

3. Assurance of quality requires management measures which provide that the individual or group assigned the responsibility for checking, auditing, inspecting, or otherwise verifying that an activity has been correctly performed is independent of the individual or group directly responsible for performing the specific activity.

3.2 Quality Organization Summary

1. The Power Supply Quality Assurance Department is responsible for the overall administration of the Operational Quality Assurance Program. Specific responsibilities are stated in Section 3.3.2.1 and its subsections.

2. The Quality Services Section for each nuclear site is responsible for the administration of the site quality assurance program and quality control of site activities. Specific responsibilities are stated in Section 3.3.2.2.1.2.

3. The Materials & Special Processes Section of the Production Plant Maintenance Department is responsible for providing technical support for the quality control of special processes at the nuclear plants. Specific responsibilities are stated in Section 3.3.2.3.2.1.

3.3 Corporate Organization With Operational Quality Assurance Program Responsibilities

3.3.1 President & Chief Operating Officer

This position is responsible for all NSP activities associated with operating nuclear plants. This responsibility is implemented by assigning responsibility to the corporate officers of the company (See Figure 1, Corporate Organization With Operational QA Responsibilities, Page 21).

3.3.2 Executive Vice President Power Supply

This position is designated by the President & Chief Operating Officer as responsible for the establishment and implementation of an Operational Quality Assurance Program. Responsibilities include:

1. Engineering, construction and operation of all generating facilities.

2. Establishment of an Operational Quality Assurance Plan that governs activities associated with Federal Regulation (10CFR50, Appendix B).

3. Establishment of Corporate Nuclear Administrative Control Directives that identify quality assurance requirements and positions responsible for implementing those requirements.

4. Providing status reports to management.

Positions reporting to the Executive Vice President Power Supply include: Director Power Supply Quality Assurance, Vice President Nuclear Generation, Vice President Combustion & Hydro Operations, Vice President Transmission & Inter-Utility Services, Director Power Supply Finance & Performance, and Director Power Supply Support Services. | 3 | 4 | 5

3.3.2.1 Director Power Supply Quality Assurance.

This position is responsible for the establishment, maintenance and evaluation of the Operational Quality Assurance Program. Responsibilities include:

1. Controlling revisions to the Operational Quality Assurance Plan.

2. Stop work authority for nonconforming activities until the adverse conditions have been corrected.

3. Assisting other company organizations in implementing quality assurance program requirements.

4. Providing Power Supply Quality Assurance status reports to appropriate levels of management.

Positions reporting to this Director include: Superintendent Supplier Quality Assurance, Manager Nuclear Operations Quality Assurance and Superintendent Site Quality Assurance (Monticello and Prairie Island). | 6 | 7

3.3.2.1.1 Superintendent Supplier Quality Assurance

This position is responsible for control of the supplier qualification program. Responsibilities include:

1. Inspections of nuclear fuel suppliers.

2. Quality assurance audits/source surveillances and qualification of suppliers of materials, equipment and services.

3. Quality assurance reviews of nuclear procurement made by general office organizations.

4. Preparation/review of internal quality assurance programs and procedures.

3.3.2.1.2 Manager Nuclear Operations Quality Assurance

This position is responsible for quality assurance activities associated with general office organizations and internal auditing. Responsibilities include:

1. Internal audits of all levels of the Operational Quality Assurance Program.

2. Review of Corporate Nuclear Administrative Control Directives and Corporate Nuclear Administrative Work Instructions.

3. Maintenance of Corporate Nuclear Administrative Control Directives and Corporate Nuclear Administrative Work

Instructions current with corporate commitments and policies.

4. Program implementation monitoring and periodic trending.

3.3.2.1.3 Superintendent Site Quality Assurance (Monticello and Prairie Island)

These positions are responsible for the administration of Site Power Supply Quality Assurance activities. Responsibilities include: | 8 | 17

1. Implementation of site surveillance program.

2. Quality Assurance review of site procurement documents.

3. Quality Assurance review of modifications & projects.

4. Maintaining and reporting the status of on-site Quality Assurance Program implementation.

3.3.2.2 Vice President Nuclear Generation | 7

This position is responsible for the operation and physical control of the company's nuclear generating facilities. Responsibilities include:

1. Operation of nuclear facilities.

2. Maintenance of nuclear facilities.

3. Modification of nuclear facilities.

4. Nuclear facility fuel utilization.

5. Operational review of new nuclear facility design.

6. Independent review and audit of nuclear plant operations and operating license administration.

7. Training Support for all Power Supply personnel.

8. Providing overall direction and support to nuclear site management in matters of staffing and employee qualifications.

9. Providing emergency preparedness management. | 9 10

Positions reporting to this Vice President include: Director Power Supply Training, General Manager Nuclear Site (Monticello and Prairie Island), General Manager Nuclear Support Group, Manager Special Nuclear Programs, Executive Engineer and Safety Audit Committee Chairman (on matters relating to the Safety Audit Committee).

3.3.2.2.1 General Manager Nuclear Site (Monticello and Prairie Island)

These positions are responsible for the overall management of nuclear site activities, and for ensuring compliance with regulatory requirements. Responsibilities include: | 11

1. Review of plant operating abnormalities, problems, performance, malfunctions, etc., and concurrence in corrective actions.

2. Review of quality assurance status, trend and audit reports, and follow-up of resolution to nonconformances.

3. Review of Safety Audit Committee reports and recommendations.

4. Performance of further actions as required to ensure safety.

5. Nondestructive examinations not associated with inservice inspection.

6. Development and implementation of the following programs:

   a. Material control including receipt inspection.

   b. Site quality assurance and control.

   c. Site physical security and guard force staffing and supervision. | 12 13

7. Technical manual control program.

8. Providing nuclear project management, engineering and construction services.

9. Procurement of items and services for the nuclear site. | 14

Positions reporting to these General Managers respectively include: Plant Manager, Manager Nuclear Projects, Superintendent Quality Services.

3.3.2.2.1.1 Monticello and Prairie Island Plant Managers

These positions are responsible for ensuring that activities and operations comply with applicable regulatory requirements. Responsibilities include:

1. Responsibilities assigned by the operating license and the Corporate Nuclear Administrative Control Directives.

2. Plant managerial control system.

3. Plant operation and maintenance.

4. Plant staffing, including qualifications, hiring, training, discipline, and administration of the labor contracts.

5. Development and implementation of the following programs:

   a. Preventive maintenance.

   b. Surveillance.

   c. Operating, maintenance, and testing procedural systems.

   d. Fire protection.

   e. Operating experience assessment.

6. Coordination of activities performed by non-plant staff personnel with plant operation.

7. Operation and maintenance of the independent spent fuel storage installation (Prairie Island only). | 15

3.3.2.2.1.2 Superintendent Quality Services (Monticello and Prairie Island) | 16

These positions are responsible for the administration of Operational Quality Assurance Program requirements at the site level. Responsibilities include: | 8

1. Implementation of the site quality control inspection program (except ISI).

2. Review of inspection schedules (except ISI), procedures, and results (i.e., those associated with routine maintenance and modification activities, operational activities, technical services, radioactive material packages, emergency equipment, and fire protection).

3. Requesting audits of selected site level activities when determined that the audit will improve site program implementation. | 18

4. Review of site Administrative Control Directives and Instructions. | 19

5. Site program implementation monitoring and periodic trending.

6. Stop work authority for nonconforming activities at the site until adverse conditions have been corrected.

7. Providing site quality assurance status and trend reports to appropriate levels of management.

8. Monitoring contractor quality control activities.

3.3.2.2.1.3 Manager Nuclear Projects (Monticello and Prairie Island) | 20 16

These positions are responsible for the execution of projects assigned to Nuclear Projects and for providing craft labor when requested. Responsibilities include:

1. Design, manufacture, fabrication, construction, installation, and preoperational testing of modification projects. | 14

2. Implementation of assigned on-going projects at nuclear plants. | 21

3. Providing technical support.

4. Performing assigned responsibilities for maintenance activities.

5. Providing craft labor.

6. Performing engineering studies.

7. Management of site design documentation.

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3.3.2.2.2 General Manager Nuclear Support Group
This position's responsibilities include:

1. Support to nuclear plants in licensing, safety, core analysis, and related technical areas.

10

Positions reporting to this General Manager include: Manager Nuclear Support Services, Manager Nuclear Analysis, and Manager Nuclear Radiological Services.

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3.3.2.2.2.1 Manager Nuclear Support Services

This position is responsible for providing support to the nuclear plants in the areas of licensing administration, and safety audit and assessment. Responsibilities include:

1. Independent review functions for operating nuclear plants to verify compliance with operating license requirements as required by NRC regulations.

2. License administration for nuclear plants and liaison to the NRC Office of Nuclear Reactor Regulation.

3. Engineering and technical support to nuclear plants in nuclear safety and licensing areas.

3.3.2.2.2.2 Manager Nuclear Analysis

This position's responsibilities include:

1. Core and nuclear safety analysis for nuclear plants.

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2. Licensable reload core designs for nuclear plants.

3. Technical expertise, information and direction to the Nuclear Support Services Department to ensure licensability of reload core designs, and to ensure adequacy of technical specifications.

4. Technical expertise, information and direction to the Fuel Resources Department in the formulation, coordination and

implementation of reload designs, vendor evaluations and vendor contract negotiations.

5. Technical expertise and direction to the Power Supply Quality Assurance Department to ensure that nuclear fuel meets company and regulatory agency requirements.

6. Feedback and technical expertise to the Production Training Department to ensure that necessary expertise, information and computer physics models are available for training.

3.3.2.2.2.3 Manager Nuclear Radiological Services | 24 | 26

This position is responsible for providing support to the nuclear plants in the areas of radiation protection, chemistry, emergency planning and radiation environmental monitoring. Responsibilities include:

1. Providing a corporate radiation protection support program. | 27

2. Providing a corporate nuclear chemistry support program (BWR and PWR). | 27

3. Administering NRC operating licenses and technical specifications for radiological environmental activities. | 28

4. Reviewing, coordinating and evaluating company emergency preparedness and radiological environmental activities required by the NRC. | 28

5. Conducting a radiological environmental monitoring program to comply with NRC requirements. | 28

6. Reviewing proposed and revised regulations related to radiation protection, chemistry, emergency preparedness and radiological environmental activities. | 27 | 28

3.3.2.2.3 Manager Strategic Issues Group | 9 | 29

This position's responsibilities include:

1. Coordinating and managing, as applicable, the storage, shipment and disposal of spent fuel, low level waste, and high level waste for NSP.

2. Developing corporate positions on legislative and regulatory issues, other than NRC actions, which may impact nuclear operations.

3.3.2.2.4 Executive Engineer

This position is responsible for providing technical consultation on projects and issues which affect nuclear generation.

3.3.2.2.5 Safety Audit Committee (SAC) Chairman

This position is appointed by and responsible to the Vice President Nuclear Generation. This position is normally an NSP Manager. Responsibilities include:

1. The overall administration of the SAC.

2. Appointing SAC members.

3.3.2.2.6 Director Power Supply Training

This position is responsible for evaluating the training needs of Power Supply employees, developing programs to meet these needs, and providing the necessary instruction.

Positions reporting to this position include: Manager Power Supply Training - Nuclear (Monticello and Prairie Island). 31

3.3.2.2.6.1 Manager Power Supply Training - Nuclear (Monticello and Prairie Island) 31

These positions are responsible for the training of Power Supply employees at the sites. Responsibilities include:

1. Providing NRC Reactor Operator and Senior Reactor Operator license training programs.

2. Providing requested training for Power Supply personnel working at nuclear plants. 30

3. Providing required training to personnel temporarily working at nuclear plants.

4. Managing and operating simulator facilities.

5. Providing requested support for Power Supply internal nuclear plant training.

6. Maintaining required training records.

7. Providing fire protection training. 30

8. Maintaining INPO accredited training programs.

9. Providing required training to security personnel at nuclear plants. 12

3.3.2.3 Vice President Combustion & Hydro Operations

This position is responsible for the maintenance and physical control of the company's combustion and hydroelectric power plants, and support to the nuclear plants. Responsibilities include:

1. Support of nuclear plant maintenance program.

Positions reporting to this Vice President include: General Manager Plant Engineering & Construction and Manager Production Plant Maintenance.

3.3.2.3.1 General Manager Plant Engineering & Construction

This position's responsibilities include:

1. Technical support and drafting services for nuclear plants.

Positions reporting to this General Manager include: Manager Plant Engineering.

3.3.2.3.1.1 Manager Plant Engineering

This position's responsibilities include:

1. Drafting services for the nuclear sites. 32

3.3.2.3.2 Manager Production Plant Maintenance

This position's responsibilities include:

1. Assisting in securing maintenance contracts.

2. Providing materials and special process controls.

3. Providing technical support and counsel in assigned areas.

Positions reporting to this Manager include: Superintendent Materials & Special Processes.

3.3.2.3.2.1 Superintendent Materials & Special Processes

This position is responsible for activities associated with special processes, inservice inspection and technical support in areas of quality control for special processes and material properties. Responsibilities include:

1. Developing, preparing, and distributing welding, heat treating and nondestructive examination procedures.

2. Certifying personnel in welding and nondestructive examination and maintaining qualification records.

3. Developing, implementing, and documenting an Inservice Inspection Examination Program in assigned areas for nuclear plants.

4. Providing technical support to plants in the areas of metallurgy, ASME Boiler Codes, welding, heat treating and nondestructive examination.

5. Providing technical instruction in welding and other special processes as required.

3.3.2.4 Vice President Transmission & Inter-Utility Services

This position is responsible for the planning, design, construction, operation and maintenance of the transmission system. 33

Positions reporting to this Vice President include: General Manager System Operations and General Manager Substation/Transmission Services.

3.3.2.4.1 General Manager System Operations

This position is responsible for operation of the company's electrical system. Responsibilities include:

1. Coordinating electrical transmission system operation with generating facility operation.

Positions reporting to this General Manager include: Manager System Control.

3.3.2.4.1.1 Manager System Control

This position's responsibilities include:

1. Coordination and supervision of the operation of NSP's generating and transmission system.

2. Coordination of planned transmission line and generating unit outages.

3.3.2.4.2 General Manager Substation/Transmission Services

This position is responsible for the design, engineering, construction and maintenance of the transmission system. Responsibilities include: | 34

1. Performance of maintenance on plant electrical equipment and the electrical transmission system.

2. Electrical construction testing services for nuclear power plants.

Positions reporting to this General Manager include Manager Electric Maintenance & Protection.

3.3.2.4.2.1 Manager Electric Maintenance & Protection

This position's responsibilities include: | 35

1. Providing administration, supervision, and technical expertise to facilitate maintenance and testing of Power Supply equipment including battery capacity testing. | 36

2. Providing for the maintenance,proper application and functioning of all relay protection, control, energy management, system computer, communication and telemetering equipment, including electrical construction testing, at substations, power plants and control centers. | 25

3.3.2.5 Director Power Supply Support Services | 5

This positions's responsibilities include: | 37

1. Nuclear fuel procurement.

2. Procurement and material management for Power Supply.

3. Provide management for NSP Corporate Security Program. 10

4. Testing Laboratory services. 6

Positions reporting to this Director include: Manager Corporate Security, Manager Fuel Resources, Manager Material Services & Testing and Manager Procurement & Material Management. 24 38 39

3.3.2.5.1 Manager Corporate Security 24

This position's responsibilities include:

1. Implementation of the company's security program, which includes providing trained security personnel at non-nuclear plants. 12 24

2. Nuclear Access Authorization, general employee screening, investigations and other related security services.

3. Development & implementation of Nuclear Generation Fitness for Duty Program.

3.3.2.5.2 Manager Fuel Resources 42

This position is responsible for Power Supply procurement functions of fuel for the company's generating plants. 40

3.3.2.5.3 Manager Material Services & Testing 41 38

This position's responsibilities include:

1. Developing and preparing NDE and Testing Laboratory procedures.

2. Certifying Testing Laboratory personnel and maintaining qualification records. 7

3. Providing chemical, nondestructive examination and physical testing and inspection services including air filter testing.

3.3.2.5.4 Manager Procurement & Material Management 39 42

This position is responsible for Power Supply procurement and material management functions for material, equipment and services.

3.3.2.6 Director Power Supply Finance & Performance | 4

This position's responsibilities include:

1. Financial operations of Power Supply
2. Drawing Control

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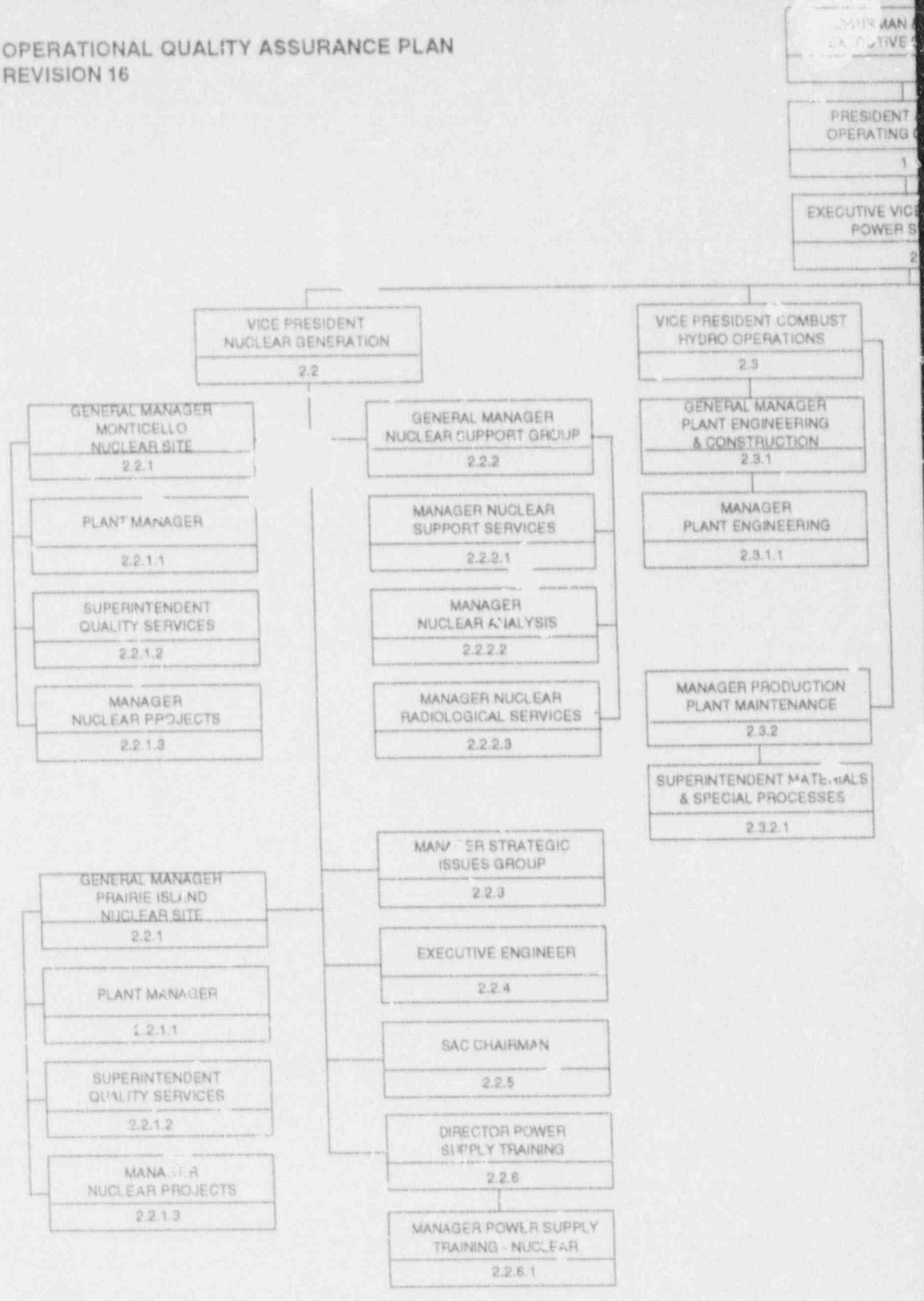
PRESIDENT
OPERATING
1
EXECUTIVE VICE
POWER S
2
VICE PRESIDENT
NUCLEAR GENERATION
2.2
VICE PRESIDENT COMBUST
HYDRO OPERATIONS
2.3
GENERAL MANAGER
MONTICELLO
NUCLEAR SITE
2.2.1
PLANT MANAGER
2.2.1.1
SUPERINTENDENT
QUALITY SERVICES
2.2.1.2
MANAGER
NUCLEAR PROJECTS
2.2.1.3
GENERAL MANAGER
NUCLEAR SUPPORT GROUP
2.2.2
MANAGER NUCLEAR
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2.2.2.1
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MANAGER NUCLEAR
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SUPERINTENDENT
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MANAGER
NUCLEAR PROJECTS
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MANAGER STRATEGIC
ISSUES GROUP
2.2.3
EXECUTIVE ENGINEER
2.2.4
SAC CHAIRMAN
2.2.5
DIRECTOR POWER
SUPPLY TRAINING
2.2.6
MANAGER POWER SUPPLY
TRAINING - NUCLEAR
2.2.6.1

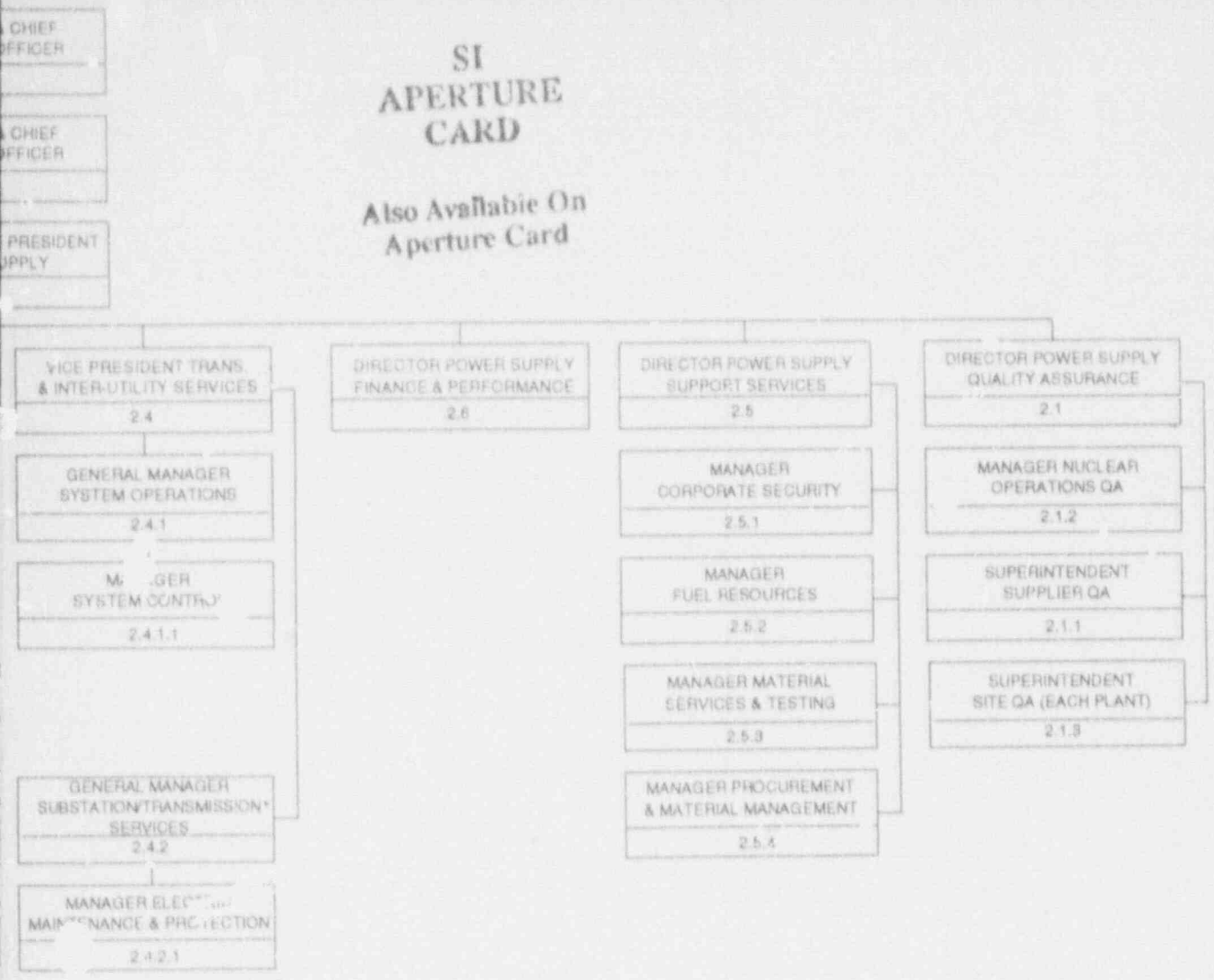

FIGURE 1

CORPORATE ORGANIZATION WITH
OPERATIONAL QA RESPONSIBILITIES

NOTE:
NUMBERS IN TITLE BOXES INDICATE
SUBSECTIONS OF SECTION 3.3
DESCRIBING RESPONSIBILITIES

4.0 Operational Quality Assurance Program

4.1 General Requirements

1. The Operational Quality Assurance Program shall be:

   a. Documented by written Directives, Instructions, or Procedures.

   b. Carried out throughout plant operating life in accordance with those Directives, Instructions, or Procedures.

2. The Program shall include identification of:

   a. The structures, systems, and components to be covered.

   b. The major organizations participating in the Program, together with the designated functions of these organizations.

3. The Program shall provide control over activities affecting the quality of the identified structures, systems, and components to the extent consistent with their importance to safety.

4. Activities affecting quality shall be accomplished under suitably controlled conditions. Controlled conditions include the use of appropriate equipment; suitable environmental conditions for accomplishing the activity, such as adequate cleanliness; and assurance that all prerequisites for the given activity have been satisfied. 45

5. The Program shall take into account the need for special controls, processes, test equipment, tools, and skills to attain the required quality, and the need for verification of quality by inspection and test.

6. The Program shall provide for indoctrination and training of personnel performing activities affecting quality as necessary to assure that suitable proficiency is achieved and maintained.

7. The adequacy and status of the Program shall be regularly reviewed.

8. Management of other organizations participating in the Program shall regularly review the status and adequacy of that part of the Program which they are executing.

4.2 General Description

1. The Operational Quality Assurance Program has been established to govern the operational activities and the activities necessary to support operation of the company's nuclear plants operated under an NRC Operating License. The Operational Quality Assurance Program is thus an overall integrated company-wide program which governs all safety related, fire protection related and 10CFR71 related activities as they pertain to operating nuclear plants.

2. The Program has been initiated by the President & Chief Operating Officer of the Company issuing a single directive to the Executive Vice President Power Supply establishing him as being responsible for formulating and implementing an Operational Quality Assurance Program and identifying the program objectives.

3. The Operational Quality Assurance Program shall utilize the following documents to meet the program objectives:

   a. Operational Quality Assurance Plan (Plan).

   b. Administrative Control Directives (Directives) at the Corporate and Site level. | 19

   c. Administrative Work Instructions (Instructions) at the Corporate and Site level. | 19

   d. Required Procedures (Procedures) at the Plant and Department level.

4. The Plan shall be considered an overall document which governs the implementing documents (i.e., Directives, Instructions, and Procedures).

5. For ease of administration, implementing documents shall be issued at the following program levels:

   a. Corporate: Approving Authority, Power Supply Vice Presidents and Director Power Supply Quality Assurance. | 46

   b. Sites (Prairie Island and Monticello): Approving Authority, General Manager Nuclear Site. | 32 | 47

   c. Departments Providing Nuclear Plant Support: Approving Authority, Department Manager.

6. It should be noted that the Site Level Directives are controlled by the Corporate level Directives (i.e., the Corporate level establishes the minimum requirements associated with the Site level). | 19 | 19

4.3 Operational Quality Assurance Plan

1. The Operational Quality Assurance Plan shall be a document which describes in general terms how compliance with the quality requirements presented in 10CFR50, Appendix B and 10CFR71, Subpart H is accomplished with respect to company nuclear plants regulated by an NRC Operating License.

2. The Operational Quality Assurance Plan shall be issued under the authority of the Executive Vice President Power Supply and shall be reviewed periodically.

3. The Operational Quality Assurance Plan shall be controlled to assure current copies are made available to each Approving Authority of the two Directive levels of the program, to those personnel responsible for administration of the program, and to those individuals or organizations responsible for reviewing the program.

4. All changes to the Operational Quality Assurance Plan shall be approved by the Executive Vice President Power Supply or equivalent management position.

4.4 Administrative Control Directives

1. Administrative Control Directives (Directives) shall be documents which establish responsibility and requirements governing activities associated with plant operation. Directives shall be first tier implementing documents and shall receive a quality review prior to issuance. The quality review shall assure compliance with the Operational Quality Assurance Program objectives. Required Directives shall be controlled and reviewed periodically.

2. Administrative Control Directives shall be issued as necessary. It is mandatory that the Directives at the Corporate level assure compliance with all applicable requirements of 10CFR50, Appendix B and 10CFR71, Subpart H. The Directives issued at the site levels are not expected to satisfy all 10CFR50, Appendix B and 10CFR71, Subpart H requirements but shall implement responsibilities assigned by the higher level Directives. | 19

4.5 Administrative Work Instructions

1. Administrative Work Instructions (Instructions) shall be documents which provide guidelines or instructions for the implementation of the requirements of Administrative Control Directives. Instructions shall be second tier implementing documents and shall receive a quality review prior to issuance. The quality review shall assure compliance with pertinent Directive requirements and assigned responsibilities.

2. Administrative Work Instructions may be issued at the Corporate and Site level. Instructions shall generally be utilized for department interfacing. Required Instructions shall be controlled and reviewed periodically. |19

4.6 Procedures

1. Procedures shall be documents which provide specific instructions for performing an activity. Procedures shall be second or third tier documents utilized to perform safety related, fire protection, and 10CFR71 related activities as required by the applicable NRC Operating License Technical Specifications.

2. Procedures shall be provided where applicable, to assure that activities important to safety are performed in the required manner. Required procedures shall be reviewed and approved as required by the applicable Technical Specifications. Approval of procedures not required by the Technical Specifications shall be by a member of the responsible area management. Review of procedures not required by Technical Specifications shall be by an independent knowledgeable person. Required procedures shall be controlled and reviewed periodically.

4.7 Program Administration

1. Administration of the Corporate level of the Operational Quality Assurance Program shall be performed by the Director Power Supply Quality Assurance. |3

2. Administration of the site level of the Program shall be performed by the Superintendent Quality Services except in the areas of procurement and modification which shall be performed by the Director Power Supply Quality Assurance.

3. Disputes between Quality Assurance personnel and other organizations relative to Program requirements shall be referred to the Approving Authority (as identified in Section 4.2 of this Plan) responsible for establishing the pertinent requirement.

4. Program administration shall include the following activities:

   a. Quality review of Directives.

   b. Quality review of Instructions.

   c. Procurement review.

   d. Performance of required audits.

   e. Reporting to management concerning:

      1. Program status.

      2. Program discrepancies including quality trends.

4.8 Program Boundary

1. The structure, systems, components, and other items requiring quality assurance are listed in Appendices A and B. The Program shall also include shipment of radioactive materials as required by 10CFR71 and systems and activities associated with fire protection as identified in Appendix C.

2. An index shall be established and maintained by the Director Power Supply Quality Assurance which identifies the Directives and Instructions that are utilized to implement the requirements of ANSI N18.7-1976 that are committed to in Section 1.0 of this plan and the requirements identified in the remaining sections of this plan. |3

4.9 Quality Assurance Training

Training programs shall be established for those personnel performing quality-affecting activities such that they are knowledgeable in the quality assurance documents and their requirements and proficient in implementing these requirements. These training programs shall assure that:

1. Personnel responsible for performing quality-affecting activities are instructed as to the purpose, scope, and implementation of the

quality-related Directives, Instructions, and Procedures.

2. Personnel performing quality-affecting activities are trained and qualified, as appropriate, in principles and techniques of the activity being performed.

3. The scope, the objective, and the method of implementing the training programs are documented.

4. Proficiency of personnel performing quality-affecting activities is maintained by retraining, re-examination, and/or recertification as appropriate.

5. Methods are provided for documenting training sessions describing content, attendance, date of attendance, and the results of the training session, as appropriate.

6. Fire protection training is accomplished in accordance with Appendix C.

5.0 Modification Control

5.1 General Requirements

Modifications shall be subject to design control measures commensurate with those applied to the original design and be approved by the organization that performed the original design unless the company designates another responsible organization.

5.2 Uniform Modification Process

A uniform process for controlling modifications to nuclear plants shall be provided in the Operational Quality Assurance Program. Measures shall be established to assure that:

1. The requirements of ANSI N45.2.11-1974 are implemented.

2. Reviews and approvals are performed.

3. Plant documentation is updated.

4. Appropriate installation procedures are prepared and utilized.

5. Tests and inspections are performed as necessary.

6. Site procedures are reviewed and revised as appropriate. | 19

7. 10CFR50.59 is complied with.

8. Fire protection reviews are performed as required by Appendix C.

6.0 Procurement Document Control

6.1 General Requirements

Measures shall be established to assure that applicable regulatory requirements, design bases, and other requirements which are necessary to assure adequate quality are suitably included or referenced in the documents for procurement of material, equipment, and services, whether purchased by NSP or by its contractors or subcontractors. To the extent necessary, procurement documents shall require contractors or subcontractors to provide a quality assurance program consistent with the pertinent provisions of 10CFR50, Appendix B or 10CFR71, Subpart H.

6.2 Technical and Quality Requirements

1. The Operational Quality Assurance Program shall contain provisions for controlling procurement of material, equipment, components, and services that are safety related, fire protection related, or 10CFR71 related and utilized at or for an operating nuclear plant.

2. Procurement documents shall contain specific technical and quality requirements. Renewal, spare, and replacement parts shall be required to meet the original specification (or properly reviewed and approved revision) or construction code, quality assurance documentation requirements, and vendor quality assurance program requirements.

3. Quality assurance requirements that are required of the vendor shall be included. Quality assurance requirements shall be based on ANSI N45.2-1971 (or equivalent standard). Documentation requirements shall include, as applicable, chemical analysis reports, material certification, testing results, and testing reports. Time and frequency of submittals should be included.

4. Procurement documents shall contain provisions which establish the right of access to vendor facilities and records for source inspection and audits as appropriate.

5. Procurement documents for contracting packages for transport of radioactive materials shall require a copy of the package license, certificate, or other NRC approval authorizing use of the package. The procurement documents shall also require copies of all documents referred to in the license, certificates, or other NRC approval as applicable.

6.3 Review and Approval

Documents, and changes thereto initiating procurement of safety related, fire protection related, 10CFR71 related material, equipment, components or services shall be approved by appropriate management personnel and shall be subject to a quality review to insure applicable regulatory requirements, design bases, quality assurance, and other requirements are adequately satisfied prior to release.

6.4 Fire Protection Procurement Control

The additional procurement controls identified in Appendix C shall be applied to purchasing fire protection systems and equipment.

7.0 Instructions, Procedures and Drawings

7.1 General Requirements

1. Directives, Instructions, Procedures, and drawings of a type appropriate to the circumstances shall be provided for the control and performance of activities which affect quality.

2. Directives, Instructions, Procedures, and drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished.

7.2 Directives and Instructions

Directives and Instructions shall be issued which establish procedural requirements for appropriate functional areas. Such procedural requirements shall include the following as appropriate:

1. Procedure review and approval requirements.

2. Procedure control requirements.

3. Procedure content requirements.

7.3 Procedures

1. Procedures of a type appropriate to the circumstances shall be provided for the performance of activities which affect the quality of safety related, fire protection related, or 10CFR71 related structures, systems, or components.

2. The following procedures shall be provided:

   a. Operating procedures.

   b. Emergency procedures.

   c. Surveillance test procedures.

   d. Routine or preventive maintenance procedures.

   e. Calibration procedures.

   f. Plant chemistry and count room procedures.

   g. Radiation protection procedures.

   h. Emergency plan procedures.

   i. Special process procedures.

j. Preoperational and operational test procedures.

k. Audit procedures.

l. Fire fighting procedures.

m. Document control procedures.

n. Radioactive material shipment procedures.

o. Inspection procedures.

7.4 Drawings and Technical Manuals

Drawings and technical manuals of a type appropriate to the circumstances may be used as procedural documents for conducting activities that affect the quality of safety related, fire protection related, or 10CFR71 related structures, systems, or components.

8.0 Document Control

8.1 General Requirements

1. Measures shall be established to control the issuance of documents, such as Directives, Instructions, Procedures, and drawings, including changes thereto, which prescribe activities affecting quality.

2. These measures shall assure that documents, including changes, are:

   a. Reviewed for adequacy and approved for release by authorized personnel, and

   b. Are distributed to and used at the location where the prescribed activity is performed.

3. Changes to documents shall be reviewed and approved by the same organization that performed the original review and approval or another designated responsible organization.

8.2 Directive Control

1. Directives issued to implement the Operational Quality Assurance Program shall be controlled to assure that current copies and appropriate indexes are made available to personnel performing the prescribed activities. Directives shall be reviewed by quality assurance personnel to assure their compatibility with the Operational Quality Assurance Program objectives and shall be approved by the designated management.

2. Changes to Directives shall be reviewed and approved in the same manner as the original.

8.3 Instruction Control

1. Instructions issued to implement provisions of Directives shall be controlled to assure that current copies and appropriate indexes are made available to personnel performing the prescribed activities. Instructions shall be reviewed by quality assurance personnel to assure that they are compatible with pertinent Directive provisions and shall be approved by designated management.

2. Changes to Instructions shall be reviewed and approved in the same manner as the original.

8.4 Procedure Control

1. Required procedures shall be controlled to assure that current copies are made available to personnel performing the prescribed activities. Required procedures shall be reviewed by a knowledgeable individual and shall be approved by a management member of the organization responsible for the prescribed activity. Required procedures shall be reviewed and approved as required by the Technical Specifications. Appropriate indexes of standing procedures shall be formulated and made available to personnel responsible for performing the prescribed activities.

2. Significant changes to required procedures shall be reviewed and approved in the same manner as the original and shall comply with the Technical Specifications.

8.5 Drawing Control

1. Drawings which represent the physical and functional aspects of the operating nuclear plants and which are critical to safe plant operation or safety of personnel shall be maintained in a current status. Appropriate indexes shall be formulated and made available to personnel responsible for plant operation, maintenance, and modification.

2. Measures shall be established for revising site drawings and for distributing revised drawings. Proposed revisions to drawings shall be reviewed by a knowledgeable individual to determine the safety significance and appropriateness of the change. | 32

8.6 Specifications

Plant design specifications shall be controlled to assure that current copies and appropriate indexes are made available to personnel responsible for plant operation, maintenance, and modification.

8.7 Radioactive Shipment Package Documents

All documents related to a specific shipping package for radioactive material shall be controlled by appropriate instructions; all significant changes to such documents shall be similarly controlled.

8.8 Updated Safety Analysis Reports

Updated Safety Analysis Reports shall be updated in accordance with the applicable provisions of 10CFR50.

8.9 Technical Manuals

Technical manuals that are used as procedural documents shall be controlled.

9.0 Control of Purchased Material, Equipment and Services

9.1 General Requirements

1. Measures shall be established to assure that purchased material, equipment and services conform to the procurement documents. These measures shall include provisions, as appropriate, for vendor evaluation and selection, objective evidence of quality furnished by the vendor, inspection at the vendor source, and examination of products upon delivery.

2. Documentary evidence that material and equipment conform to the procurement requirements shall be available at the site prior to installation or use of such material and equipment. This documentary evidence shall be retained at the site and shall be sufficient to indicate that the purchased material and equipment meet the specific requirements of the codes, standards, or specifications.

3. The effectiveness of the control of quality by vendors shall be assessed at intervals consistent with the importance, complexity and quantity of the product or service.

9.2 Quality Review

1. Documents initiating procurement of safety related, fire protection related, and 10CFR71 related material, equipment and services shall be subject to a quality review to ensure applicable regulatory requirements, design bases, quality assurance, and other requirements are adequately satisfied.

2. Quality assurance requirements shall include identification of applicable elements of ANSI N45.2- 1971 (or equivalent) that are required to be included in the vendor's quality assurance program.

9.3 Vendor Evaluation and Verification

1. The adequacy of vendor's quality assurance program specified in procurement documentation shall be verified prior to use of the procured material, equipment, or service. Vendor's adherence to their quality assurance program to the extent appropriate for the procured material, equipment or service shall be verified.

2. Vendor evaluations shall include inspections, audits, or surveillances as appropriate. These activities shall be planned and performed in | 48

accordance with written procedures based upon procurement document requirements.

3. Material and equipment may be procured and used based on appropriate certificates of conformance, provided the validity of such certificates are periodically evaluated by audits, independent inspection or tests and that such certificates comply with applicable code provisions.

9.4 Receipt Inspection

1. Material and equipment shall be inspected upon receipt at the site prior to use or storage to determine that procurement requirements are satisfied. This inspection shall include verification that required documentation is complete. | 32

2. Nonconforming material and equipment shall be controlled to assure such material or equipment is not utilized to fulfill a safety related, fire protection related or 10CFR71 related function prior to an acceptable resolution of the discrepancies.

10.0 Identification and Control of Materials, Parts and Components

10.1 General Requirements

1. Measures shall be established for the identification and control of materials, parts and components, including partially fabricated assemblies. These measures shall assure that identification of the item is maintained by heat number, part number, serial number or other appropriate means, either on the item or on records traceable to the item, as required throughout fabrication, erection, installation and use of the item.

2. These identification and control measures shall be designed to prevent the use of incorrect or defective material, parts and components.

10.2 Spare Parts Control

1. Spare parts held for future use on safety related, fire protection related, and 10CFR71 related components shall be controlled in such a manner that assures they will perform their safety function when utilized.

2. Measures shall be taken which assures these items are in an appropriate condition for use or will be placed in such a condition prior to use.

10.3 Material Control

Material held in storage for use on safety related, fire protection related, and 10CFR71 related systems, structures or equipment shall be controlled in such a manner as to prevent its degradation and to assure the rejection of incorrect or defective material. This material shall be identified by heat number or other appropriate means, either on the item or on records traceable to the item. The method utilized in identification shall not significantly affect the fit, function, or quality of the item being identified.

10.4 Receipt Inspection

Material, parts and components that are to be utilized to fulfill a safety related, fire protection related, and 10CFR71 related function or used for shipment of radioactive materials shall be inspected upon receipt to assure that associated procurement document provisions have been satisfied. Measures

shall be established for identifying nonconforming material, parts and components.

10.5 Nuclear Fuel Control

Measures shall be established to protect special nuclear material against theft or diversion in accordance with applicable NRC regulations.

11.0 Control of Special Processes

11.1 General Requirements

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

11.2 Welding Procedures

1. Safety related welding and brazing shall be performed in accordance with qualified procedures. Safety related welding and brazing procedures shall be qualified in accordance with applicable codes and standards and shall be reviewed to assure their technical adequacy and approved by management.

2. Measures shall be established for controlling welding and brazing procedures that assure such procedures are qualified, reviewed and approved, as required, prior to use.

11.3 Welder Qualification

1. Measures shall be established that assure safety related welding and brazing is performed by qualified personnel. Welders and brazers shall be qualified, and requalified, in accordance with applicable codes and standards.

2. Measures shall be established for controlling welder and brazer qualification and requalification that assure qualified personnel are utilized to perform safety related welding and brazing.

11.4 Heat Treating Procedures

1. Heat treating shall be performed in accordance with procedures formulated and approved in accordance with applicable codes and standards.

2. Measures shall be established for controlling heat treating procedures that assure such procedures are qualified, reviewed, and approved, as required, prior to use.

11.5 NDE Procedures

1. Safety related non-destructive examinations (NDE) shall be performed in accordance with procedures formulated in accordance with applicable codes and standards and shall be reviewed to assure their technical adequacy and approved by management.

2. Measures shall be established for controlling NDE procedures that assure such procedures are reviewed and approved, as required, prior to use.

11.6 NDE Personnel Qualification

1. Measures shall be established that assure safety related non-destructive examinations (NDE) are performed by personnel qualified and requalified in accordance with applicable codes and standards.

2. Measures shall be established for controlling NDE personnel qualification and requalification that assure qualified personnel are utilized to perform safety related non-destructive examinations.

12.0 Inspection

12.1 General Requirements

1. Measures shall be established for inspection of activities affecting quality to verify conformance with the documented instructions, procedures and drawings for accomplishing the activity. Such inspections shall be performed by individuals other than those who performed the activity being inspected or directly supervised the activity being inspected.

2. Examinations, measurements or tests of material or products shall be performed for each work operation where necessary to assure quality. If inspection of processed material or products is impossible or disadvantageous, indirect control by monitoring processing methods, equipment and personnel shall be provided.

3. Both inspection and process monitoring shall be provided when control is inadequate without both.

4. If mandatory inspection hold points, which require witnessing or inspection and beyond which work shall not proceed without prior consent are required, the specific hold points shall be indicated in appropriate documents.

12.2 Plant Operation

1. Measures shall be established that assure periodic inspection of safety related and fire protection related systems, components, and structures. Such inspection of plant systems and equipment shall be performed to assure that such systems and equipment are in the required status and configuration. Routine general inspections of the accessible plant facilities to verify appropriate safety measures are maintained including fire protection shall also be performed.

2. In addition, an inspection of the core shall be performed prior to startup following initial fuel loading or refueling to assure specified fuel and reactor internal configuration.

12.3 Inservice Inspection

Measures shall be established that assure inservice inspection examinations are performed in accordance with applicable provisions of the ASME Boiler and Pressure Vessel Code, Section XI as required by

10CFR50.55 (see Section 13.2 relative to Inservice Inspection functional testing).

12.4 Inspection of Maintenance and Modifications

Measures shall be established which assure that activities associated with plant maintenance and modifications are inspected when determined appropriate by quality or other qualified personnel. Such inspections shall include verification that:

1. Appropriate procedures are available,
2. Plant equipment control exists,
3. Applicable procedures are adhered to,
4. Qualified personnel are utilized,
5. Fire protection measures are established,
6. Radiation protection measures are established,
7. Appropriate materials and replacement parts are utilized,
8. Work is completed as required,
9. Plant equipment is returned to service as required,
10. Activities are appropriately documented, and
11. Redundant equipment is available.

12.5 Modifications and Non-Routine Maintenance

1. Measures shall be established which assure that non-routine maintenance and modification receive prior review by a qualified individual to identify applicable inspections. Such reviews shall include considering: (1) required mechanical inspections, electrical inspections, instrumentation and control inspections, structural inspections, and inspection of non-NDE special processes, (2) appropriate inspection procedures, and (3) appropriate qualification of inspection personnel.
2. Measures shall also be established which assure that the results of identified inspections are evaluated by a qualified individual to verify their adequacy.

12.6 Technical Services

Measures shall be established which assure that activities associated with technical services (such as surveillance testing, instrument calibration, laboratory services, etc.) are inspected by qualified personnel when determined appropriate by quality or other qualified personnel.

12.7 Receipt Inspection

Measures shall be established which assure that received items are inspected by qualified personnel (see Section 9.4).

12.8 Vendor Inspection

Measures shall be established which assure that inspections and process monitoring specified in appropriate procurement documents for materials, components, and equipment are performed by qualified personnel.

12.9 Fire Protection Inspections

Measures shall be established which assure that fire protection inspections required by applicable Technical Specifications are performed by qualified personnel.

12.10 Radioactive Material Packages

Measures shall be established which assure that packages utilized to ship licensed radioactive material off-site are inspected in accordance with the applicable provisions of 10CFR71.

12.11 Emergency Equipment

Measures shall be established which assure that emergency equipment required to implement emergency plans is inspected when determined appropriate by qualified personnel.

12.12 Handling Equipment

Measures shall be established which assure that plant handling equipment (such as cranes, lift trucks, fuel handling tools) is inspected by qualified personnel and when determined appropriate by quality or other qualified personnel.

12.13 Inspection Procedures

1. Required inspections shall be performed in accordance with appropriate instructions, procedures, and checklists. Such instructions, procedures, and checklists shall contain a description of objectives; acceptance criteria and prerequisites for performing the inspections. These procedures shall also specify any special equipment or calibrations required to conduct the inspection. Inspection results shall be documented and evaluated by responsible authority to assure that inspection requirements have been satisfied.

2. Where activities are to be inspected, the activity procedure shall identify hold points in the activity sequence to permit inspection. The activity procedure shall require appropriate approval for the work to continue beyond the designated hold point and identification of those performing the inspection. The inspection procedure or checklist shall require recording the date, identification of those performing the inspection, and as-found condition.

12.14 Personnel Qualification

1. Personnel performing required inspections shall be qualified in accordance with applicable codes, standards and training programs. Required inspections shall not be performed by individuals who performed the inspected activity or directly supervised the inspected activity.

2. Personnel performing inspections required by Sections 12.2, 12.4, 12.6, 12.10, 12.11, and 12.12 shall be qualified based upon experience and training applicable to area of inspected activity and upon training in inspection methods.

3. Personnel performing inspections required by Sections 12.3, 12.5, 12.7, and 12.8 shall be qualified in accordance with ANSI N45.2.6-1978 as modified by Regulatory Guide 1.58, Revision 1.

4. Personnel performing inspections required by Section 12.9 shall be qualified in accordance with Section 14.0 of Appendix C.

13.0 Test Control

13.1 General Requirements

1. Measures shall be established to assure that all testing required to demonstrate that structures, systems and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable documents. Proof tests prior to installation, preoperational tests, and operational tests during nuclear power plant operation, of structures, systems and components shall be included as appropriate.

2. Test procedures shall include provisions for assuring that all prerequisites for the given test have been met, that adequate test instrumentation is available and used, and that the test is performed under suitable environmental conditions. Test results shall be documented and evaluated to assure that test requirements have been satisfied.

13.2 Surveillance Tests

1. A surveillance test program shall be established to assure that testing required to demonstrate that safety related and fire protection related structures, systems, and components will perform satisfactorily in service. Surveillance tests shall be identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable documents. The surveillance test program shall include, as a minimum, those surveillance tests specified in applicable Technical Specifications and functional Inservice Inspection testing of pumps and valves. Surveillance requirements for fire detection and protection systems in other areas of the plants shall be developed using appropriate NFPA for guidance.

2. Surveillance test results shall be documented and evaluated to assure that test requirements have been satisfied or deficient items satisfactorily resolved. Functional Inservice Inspection tests shall be performed by personnel qualified in accordance with applicable requirements.

13.3 Preoperational and Operational Tests

Measures shall be established to assure that appropriate preoperational and operational tests are performed on safety related and fire protection related structures, systems and components that have been subject to modification or significant maintenance. Such tests shall be performed in accordance with the original design and testing requirements or acceptable alternatives. Test results shall be documented and evaluated to assure that test requirements have been satisfied or deficient items satisfactorily resolved.

13.4 Proof Tests

Measures shall be established to assure that appropriate proof tests are specified in procurement documents for safety related and fire protection related replacement material and equipment and that such tests are performed and documented prior to installation.

13.5 Special Tests

Measures shall be established that assure safety related tests are reviewed and approved as required by 10CFR50.59 and applicable Technical Specifications. Such tests shall be performed in accordance with appropriate procedures. Test results shall be documented and evaluated to assure test requirements have been satisfied.

14.0 Control of Measuring and Test Equipment

14.1 General Requirements

Measures shall be established to assure that tools, gauges, instruments and other measuring and testing devices used in activities affecting quality are properly controlled, calibrated and adjusted at specified periods to maintain accuracy within necessary limits.

14.2 Installed Plant Instrumentation

Measures shall be established to assure that installed safety related plant instrumentation is maintained and calibrated at specified periods to maintain accuracy within necessary limits. Maintenance and calibration of safety related instrumentation shall be performed in accordance with appropriate procedures and shall be controlled and documented.

14.3 Measuring and Test Instrumentation

Measures shall be established to assure that tools (micrometer, calipers, etc.), gauges, instruments and other inspection, measuring, test equipment and devices used to verify conformance to established requirements are maintained and calibrated at specified periods to maintain accuracy within necessary limits. Calibration of such measuring and test equipment shall be controlled and shall be traceable to the National Institute of Standards and Technology or where national standards are not available, the basis of calibration shall be documented.

15.0 Handling, Storage and Shipping

15.1 General Requirements

1. Measures shall be established to control the handling, storage, shipping, cleaning and preservation of safety related material and equipment in accordance with work and inspection instructions to prevent damage or deterioration.

2. When necessary for particular products, special protective environments such as inert gas atmosphere, humidity levels, and temperature levels, shall be specified and identified.

15.2 Storage Facilities

Storage facilities shall be provided at each operating nuclear plant for storage of safety related and fire protection related operating and maintenance supplies, spare parts, replacement parts, replacement equipment, materials and tools. These storage facilities shall assure physical protection and protection from environmental conditions including temperature and moisture as appropriate. Storage facilities shall be arranged and equipped to facilitate control of the stored safety related items.

15.3 Nuclear Fuel Storage

Areas shall be provided for storage of nuclear fuel which assure physical protection, subcritical arrangement, adequate cooling, adequate radiation shielding and containment of radioactive material as appropriate for the condition of the stored fuel.

15.4 Radioactive Material Storage

1. Areas shall be provided for storage of radioactive material which assure physical protection, as low as reasonably achievable radiation exposure to personnel, control of the stored material, and containment of radioactive material as appropriate.

2. Handling, storage, and shipment of radioactive material shall be controlled based upon the following criteria:

   a Established safety restrictions concerning the handling, storage, and shipping of packages for radioactive material shall be followed.

b. Shipments shall not be made unless all tests, certifications, acceptances, and final inspections have been completed.

c. Work instructions shall be provided for handling, storage, and shipping operations.

15.5 Storage Control

Stored material, parts and equipment shall be controlled in a manner that assures safe plant operation when and if the items are utilized. Stored safety related and fire protection related items shall be controlled to assure that the item will perform its safety function when utilized.

15.6 Material Handling

Safety related material, supplies, equipment and parts shall be handled in accordance with procurement documentation and in accordance with appropriate material handling practices. Material handling equipment shall be subject to periodic testing and preventive maintenance which assures its operability. Appropriate operating instructions and procedures shall be provided for handling equipment.

15.7 Shipping and Packaging

1. Shipping and packaging requirements shall be prepared for material, equipment, and components that are to be shipped off-site and returned for use at a nuclear plant to perform a safety related function. Such requirements shall assure that the item's safety related function is not significantly degraded while in transit.

2. Shipping and packaging documents for radioactive material shall be consistent with pertinent requirements of 10CFR71.

16.0 Inspection, Test and Operating Status

16.1 General Requirements

1. Measures shall be established to indicate, by the use of markings such as stamps, tags, labels, routing cards, or other suitable means, the status of inspections and tests performed upon individual items of the nuclear plant. These measures shall provide for the identification of items which have satisfactorily passed required inspections and tests, where necessary to preclude inadvertent bypassing of such inspections and tests.

2. Measures shall also be established for indicating the operating status of structures, systems and components of the nuclear power plant, such as by tagging valves and switches to prevent inadvertent operation.

16.2 Maintenance Control

1. Measures shall be established for the control of maintenance to safety related and fire protection related structures, systems and components that assure that:

   a. Affected structures, systems and components are removed from service and secured in a manner consistent with operability and isolation requirements of the Technical Specifications

   b. Repair and modification activities are performed in a manner consistent with its importance to safety.

   c. Upon completion of repairs and modifications the affected structures, systems and components are inspected and tested to determine that the required work was performed satisfactorily and that they will perform their safety function in the required manner.

2. In addition, measures shall be established to control maintenance activities that assure resulting radiation exposure to personnel is maintained as low as reasonably achievable (ALARA) and consistent with pertinent radiation regulations.

3. The above measures shall be implemented by utilizing appropriate work authorization

a. Proposed bypasses to safety related and fire protection related items are reviewed to determine that the plant will be placed in an acceptable status when the bypass is applied.

b. Applied bypasses are independently verified.

c. Removal of bypasses from safety related and fire protection related items are reviewed prior to removal.

d. Application of bypasses to safety related and fire protection related items is authorized by responsible personnel.

2. The application of safety related and fire protection related bypasses shall be considered a temporary measure and shall be reviewed periodically.

3. All required activities associated with the application, review, approval and removal shall be documented.

16.7 Radioactive Material Control

Inspection, test, and operating status of equipment and components associated with shipment of radioactive material shall be established based upon the following criteria:

1. Inspection, test, and operating status of packages for radioactive material shall be indicated and controlled by established procedures.

2. Status shall be indicated by tag, label, marking or log entry.

3. Status of non-conforming parts or packages shall be positively maintained by established procedures.

16.8 Reactor Startup and Restart Control

Measures shall be established for controlling reactor startups and restarts. Such measures shall assure that safety related systems, components and structures have been placed in the required status and reviews have been completed to assure that the cause of any reactor trip (scram) has been investigated and satisfactorily resolved.

17.0 Nonconforming Materials, Parts or Components

17.1 General Requirements

1. Measures shall be established to control materials, parts, or components which do not conform to requirements in order to prevent their inadvertent use or installation. These measures shall include, as appropriate, procedures for identification, documentation, segregation, disposition and notification to affected organizations.

2. Nonconformance items shall be reviewed and accepted, rejected, repaired, or reworked in accordance with documented procedures.

17.2 Receiving Inspection

1. Measures shall be established which assure that safety related and fire protection related material, supplies, equipment, and components are inspected to determine that they conform to specified requirements of pertinent procurement documents upon receipt at the site. The absence of required documentation or discrepant documentation shall constitute nonconformance. | 32

2. Provisions shall be made for identifying nonconforming items and for segregation of nonconforming items. Nonconforming items shall not be used to fulfill a safety related and fire protection related function until the discrepancy is satisfactorily resolved.

17.3 Maintenance Inspection

Equipment, components or parts found nonconforming in a manner that could significantly affect its ability to fulfill its safety related and fire protection related function shall be identified as a nonconforming item and shall be segregated. Nonconforming items shall not be used until the discrepancy is satisfactorily resolved.

17.4 Disposition of Nonconforming Items

1. Measures shall be established which assure that nonconforming items are disposed of in a manner which prohibits their inadvertent use or installation. Provisions shall be made for reviewing the nonconformance and correcting discrepancies by repair or rework if appropriate.

2. The acceptability of such rework or repair of materials, parts, components, systems, and structures shall be verified by reinspection and retesting the item as originally inspected and tested or by a method which is equivalent to the original inspection and testing method. Inspection, testing, rework, and repair procedures shall be documented.

3. Normally, nonconforming safety related and fire protection related items shall not be installed prior to satisfactory resolution of outstanding discrepancies. In exceptional cases nonconforming items may be installed provided specific action is taken, which assures the item is not utilized to fulfill a safety function, prior to resolution of the discrepancy.

17.5 Nonconformance Documentation

1. Nonconformance reports shall be initiated for significant deviations from specified requirements. Such reports shall identify the nonconforming item, describe the nonconformance, the disposition of the nonconformance, and the inspection requirements. Nonconformances shall be reviewed and approved by appropriate quality personnel.

2. Nonconformance reports shall be periodically analyzed to show quality trends and the results of this review shall be reported to the appropriate level of management for review and assessment.

17.6 Reporting

Measures shall be established which assure that defects as defined in 10CFR21 and failures to comply with the Atomic Energy Act of 1954, as amended, or any applicable rule, regulation, order or license of the NRC relating to a substantial safety hazard are reported in accordance with the applicable requirements of 10CFR21.

18.0 Corrective Action

18.1 General Requirements

1. Measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, discrepancies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude recurrence.

2. The identification of the condition adverse to quality, the cause of the condition, and the corrective action taken shall be documented and reported to appropriate levels of management.

18.2 Operating Occurrences and Events

Measures shall be established which assure that operating occurrences and events that could have a significant safety effect are investigated, reviewed, and reported as required by the Technical Specifications. Such measures shall assure that appropriate corrective action is taken and that the event or occurrence is reported to responsible levels of management. Corrective action includes provisions which preclude recurrence.

18.3 Administrative Control Discrepancies

Measures shall be established which assure that significant discrepancies identified during quality assurance program audits are reported to those responsible for the activity and to appropriate levels of management. These measures shall include corrective action designed to preclude recurrence of the discrepancies identified and verification of implementation.

19.0 Quality Assurance Records

19.1 General Requirements

1. Sufficient records shall be maintained to furnish evidence of activities affecting quality. These records shall include at least the following:

   a. Operating logs and the results of reviews, inspections, tests, audits, monitoring of work performance and material analysis.

   b. The records shall also include closely related data such as qualifications of personnel, procedures, and equipment.

   c. Inspection and test records shall, as a minimum, identify the inspector or data recorder, the type of observation, the results, the acceptability, and the action taken in connection with any deficiencies noted.

2. Records shall be identifiable and retrievable.

3. Requirements shall be established concerning record retention, such as duration, location, and assigned responsibility which are consistent with applicable regulatory requirements.

19.2 Operating Records

Measures shall be established which assure that records as they apply to plant operation are generated and retained as required by the Technical Specifications or other regulatory requirements.

19.3 Plant Modification Records

Measures shall be established which assure that adequate records are generated and retained to reconstruct plant modifications that are safety related or fire protection related.

19.4 Plant Maintenance Records

Measures shall be established which assure that records pertaining to maintenance of plant safety related and fire protection related structures, equipment and components are generated and retained.

19.5 Personnel Qualification Records

Measures shall be established which assure personnel qualification records are generated and retained.

19.6 Procurement Records

Measures shall be established which assure that safety related, fire protection related, or 10CFR71 related procurement documents and associated documents are generated and retained.

19.7 Surveillance Test Records

Measures shall be established which assure that records associated with Surveillance Testing, including Inservice Inspections, are generated and retained.

19.8 Audit Reports

Measures shall be established which assure records pertaining to audits of quality activities are generated and retained.

19.9 Radioactive Material Control

Measures shall be established which assure that records associated with radioactive material control are generated and maintained.

19.10 Drawings

Measures shall be established which assure that records of drawing changes made to plant safety related and fire protection related structures, equipment and components are generated and retained.

19.11 Records Management

1. Records management systems shall be established which assure that the required records are collected, stored, and maintained in accordance with ANSI N45.2.9-1974. Such records shall at least be stored in insulated filing devices (rated 350-1 hour by UL as to fire resistance only) located in areas having combustible loading of less than 5 lb/sq ft, or duplicate records shall be maintained in remote locations. Specific records shall be identified in implementing or source documents. Identification shall indicate records required by Technical Specifications, committed to standards, and other regulatory documents.

2. Records management systems shall be established which assure that those records used to demonstrate program implementation are collected, stored, and maintained in accordance with good records management practices. Such systems shall assure that these records are made available to auditors and inspectors in a timely manner.

20.0 Audits

20.1 General Requirements

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

20.2 Required Audits

Measures shall be established which assure that the provisions of the Operational Quality Assurance Program are audited periodically. In addition, an overall audit shall be performed periodically which determines the adequacy of the program with respect to requirements contained in the Operational Quality Assurance Plan. This overall audit shall be performed by an organization other than that responsible for administration or implementation of the program.

20.3 Audit Schedules

1. Required audits shall be performed each year except that this time period may be extended to not more than two years provided such extensions are justified based upon past experience. Special audits may be scheduled on the initiative of quality assurance personnel based upon suspected or known discrepancies or as directed by management.

2. Appropriate audit schedules shall be prepared each year.

20.4 Audit Procedures

Required audits shall be performed in accordance with appropriate audit procedures. Checklists may be used as audit procedures or in conjunction with audit procedures. Procedures shall include auditing requirements at various levels of the Operational Quality Assurance Program.

20.5 Audit Reports

1. Reports of the results of each audit shall be prepared. These reports shall include a

description of the area audited, identification of individuals responsible for implementation of the audited provisions and for performance of the audit, identification of discrepant areas, and recommended corrective action as appropriate.

2. Audit reports shall be distributed to the appropriate management level and to those individuals responsible for implementation of audited provisions.

3. Audit reports and associated nonconformance reports shall be periodically analyzed for quality trends and the results reported to the appropriate level of management for review and assessment.

20.6 Corrective Action

Measures shall be established which assure that discrepancies identified by audits or other means are resolved. These measures shall include notification of the manager responsible for the discrepancy, recommended corrective action, and verification of satisfactory resolution. Discrepancies shall be resolved by the manager responsible for the discrepancy. Line management shall resolve disputed discrepancies.

APPENDIX A

Monticello Structures, ystems, and
Components Subject to Appendix B of 10CFR50

1. STRUCTURES

Reactor Building
Plant Control and Cable Spreading Structure
Off Gas Stack
Intake Structure (Service Water pump area)
Diesel Generator Building
Diesel Fuel Oil Day Tank Rooms
Turbine Building (parts which house, support and/or protect safety related equipment)
Off Gas Compressor and Storage Building (parts which house, support and/or protect safety related equipment)
Emergency Filtration Train (EFT) Building

2. MECHANICAL SYSTEMS AND COMPONENTS

COMPONENTS

Reactor Coolant System

Reactor Vessel
Reactor Vessel Support Skirt
Reactor Vessel Stabilizer
Recirculation System Piping
Recirculation System Pumps and Valves
Main Steam Piping (to and including outermost containment isolation valve)
Main Steam Safety Relief Valves
Main Steam Safety Relief Valve Discharge Piping
Feedwater Piping (to and including outermost containment isolation valve)
Control Rod Drive Housing Supports

Reactor Vessel Internals

Fuel Assemblies
Core Support Structure
Jet Pumps
Control Rods
Liquid Poison Pipe
Core Spray Sparger

Control Rod Drive System

Control Rod Drives
Control Rod Drives Accumulators
Scram Discharge Volume
Scram Piping

COMPONENTS

Standby Liquid Control System

SLC Tank
SLC Pumps
SLC Explosive Valves
SLC Piping

Primary Containment

Drywell
Torus
Drywell Vent Piping/Vacuum Breakers
Torus Ring Header and Downcomers
Containment Penetrations
Containment Piping and Valves (to and including outermost isolation valve)

Secondary Containment

RB Ventilation Isolation Dampers
Standby Gas Treatment Filters and Fans

Residual Heat Removal System

RHR Piping, Pumps and Valves
RHR Heat Exchangers (shell side)

Core Spray System

Core Spray Piping, Pumps, and Valves

High Pressure Coolant Injection System

HPCI Steam Piping and Valves Inside Containment (to and including outermost isolation valve)
HPCI Steam Supply and Exhaust Piping and Valves (outside containment)
HPCI Pump-Turbine
HPCI Injection Piping and Valves
HPCI Suction Piping

Reactor Core Isolation Cooling System

RCIC Steam Piping and Valves Inside Containment (to and including outermost isolation valve)
RCIC Steam Supply and Exhaust Piping and Valves (outside containment)
RCIC Pump-Turbine
RCIC Injection Piping and Valves
RCIC Suction Piping

Service Water System

Emergency Service Water Pumps
Emergency Service Water Piping and Valves
RHR Service Water Pumps
RHR Heat Exchanger (tube side)
RHR Service Water Piping and Valves
EFT Emergency Service Water Pumps, Piping, and Valves

Reactor Water Cleanup System

RWCU Piping and Valves (to and including outermost isolation valve)

Spent Fuel Storage Systems

Spent Fuel Pool

Diesel Generator Support System

Air Start System from Receivers to Air Start Solenoids
Fuel Oil System from Day Tank to Injectors
Diesel Coolers and Associated Piping and Valves (water side)
Diesel Fuel Oil

Heating and Ventilating System

Emergency Filtration Train (EFT) for Control Room and EFT Building Combustible Gas Control System

SECTION 2 NOTES:

1. Mechanical components included within each mechanical system include hangers (up to and including the first anchor supporting a safety related section of piping), fittings, flanges, vessels, tanks, etc. as necessary to perform the system safety functions.

3. ELECTRICAL SYSTEMS AND COMPONENTS

COMPONENTS

4160 Volt Bus 16

Breaker 152-602, 601, 609, 610, Feed Breaker 408
RHR Service Water Pump B Motor
RHR Service Water Pump D Motor
RHR Pump B Motor
RHR Pump D Motor
Core Spray Pump B Motor
480 Volt Load Center 104
No. 12 CRD Pump Feed Breaker 152-606

4160 Volt Bus 15

Breaker 152-502, 501, 509, 511, Feed Breaker 308
RHR Service Water Pump A Motor
RHR Service Water Pump C Motor
RHR Pump A Motor
RHR Pump C Motor
Core Spray Pump A Motor
480 Volt Load Center 103
No. 11 CRD Pump Feed Breaker 152-506

480 Volt Switchgear Load Center 104

480 V MCC 142	(1)	(Essential)
480 V MCC 143A	(1)	
480 V MCC 143B	(1)	
480 V MCC 144	(1)	

480 Volt Switchgear Load Center 103

480 V MCC 133A	(1)
480 V MCC 133B	(1)
480 V MCC 134	(1)

Diesel Generator No. 11 (1)

Diesel Generator No. 12 (1)

250 V DC (Division 1) Distribution Panel D31 (1)

250 V DC (Division 2) Distribution Panel D100 (1)

125 V DC Distribution Panel D-11 (1)

125 V DC Distribution Panel D-21 (1)

120/240 Volt AC Instrumentation Distribution Panel (1)

SECTION 3 NOTES:

1. For those electrical systems or components designated with the Note (1) above, quality assurance electrical program requirements are applicable only to those portions of systems as defined in Section 2 as necessary to perform the system safety function.

2. Electrical components included within each electrical system include power source, breaker, control circuit cable, relaying and operating device (motor, solenoid, heater, relay, etc.) as necessary to perform the system safety function.

3. Certain components are excluded from the quality assurance program requirements if they meet the criteria described in Section 5.

4. INSTRUMENTATION SYSTEMS AND COMPONENTS

Reactor Protection System
Primary Containment Isolation System
High Pressure Coolant Injection System Initiation and Isolation
Reactor Core Isolation Cooling System Initiation and Isolation
Core Spray System Initiation
Low Pressure Coolant Injection System Initiation
Automatic Blowdown System
Neutron Monitoring System (IRM and APRM)
Standby Gas Treatment System Initiation
SJAE Off Gas Radiation Monitor
EFT System Initiation and Operation
Combustible Gas Control System

SECTION 4 NOTES:

1. For those instrumentation systems designated above, quality assurance instrumentation program requirements are applicable only to those portions of systems defined in Section 2 as necessary to perform the system safety function.

2. Instrumentation components included within each instrumentation system include power supply, sensors, relays, wiring and final operating device (solenoid, relay, etc.) as necessary to perform the system safety function.

3. Certain components are excluded from the quality assurance program requirements if they meet the criteria described in Section 5.

5. ELECTRICAL AND INSTRUMENTATION SYSTEM COMPONENT EXCLUSION CRITERIA

1. Any component of an electrical system in Section 3 or instrumentation system in Section 4 is excluded from the quality assurance program requirements if it meets the following criteria:

   a. A failure of the component by electrical shorting, open circuiting, grounding or mechanical failure would not render the system incapable of performing its intended safety function.

   b. A failure of the fluid pressure boundary of the component would not render the system incapable of performing its intended safety function.

2. Small spare parts having no traceability, such as commercial off-the-shelf items, may be purchased as nonsafety-related and then qualified for use in equipment requiring quality assurance. Examples of such items are resistors, capacitors, switches, indicators, coils, wire, connectors, solid state devices and miscellaneous hardware.

APPENDIX B

Prairie Island Structures, Systems, and Components Subject to Appendix B of 10CFR50

1. REACTOR SYSTEM AND FUEL

A. Reactor Vessel and Coolant System

Reactor vessel
Reactor vessel support
Reactor vessel internals
Full length control rod drive mechanism housing
Part length control rod drive mechanism housing
Steam generator (tube side and shell side)
Pressurizer, including instrumentation, piping, and components
Reactor coolant hot and cold leg piping, fittings
Surge pipe, fittings
Loop bypass line
Temperature detector bypass manifold
Reactor coolant thermowell
Reactor coolant thermowell boss
Safety valves
Relief valves
Reactor coolant system boundary valves
Control rod drive mechanism head adapter plugs
Reactor coolant pump
- Pump casing
- Main flanges
- Thermal barrier
- Seal housing
- Pressure retaining bolting

Reactor coolant pump motor
- Shaft coupling
- Flywheel

Reactor coolant pump internals
RCC thimble plug (rod control clusters)
Primary and secondary sources
Electric modules with safety function
Cable with safety function

B. Fuel Assemblies

Fuel assemblies, sub-assemblies, components and materials, including fuel material

2. REACTIVITY CONTROL SYSTEMS

Drive mechanisms including:

Control rod cluster drive shaft assembly, including latch assembly Reactor trip breakers

Control rods and rod cluster assemblies
Control rod guide tube
Control rod drive housing
Electric modules with safety function
Cable with safety function

3. CHEMICAL AND VOLUME CONTROL SYSTEM

Regenerative heat exchanger
Letdown heat exchanger
Reactor coolant filter
Volume control tank
Positive displacement charging pump and motor
Seal water filter
Letdown orifices and letdown valves
Excess letdown heat exchanger
Seal water heat exchanger
Boric acid tanks
Boric acid transfer pump
Boric acid filter
Reactor coolant pump seal and bypass orifice
Piping, inboard of isolation valves
Electric modules with safety function
Cable with safety function
Heat tracing

4. INCORE INSTRUMENTATION

Thimble guide tubes
Seal table

5. BORON RECYCLE SYSTEM

Recycle holdup tanks, piping and valves associated with gaseous radioactive waste

6. EMERGENCY CORE COOLING SYSTEM

Accumulators
High head safety injection pumps
Piping, inboard of isolation valves
Motors, electric modules, with safety function
Cable with safety function

7. CONTAINMENT SPRAY SYSTEM

Refueling water storage tank
Spray additive tank

Spray pumps
Spray rings and nozzles
Piping and valves
Pump motors
Electric modules with safety function
Cable with safety function

8. RESIDUAL HEAT REMOVAL SYSTEM

Pumps and motors
Heat exchanger
Piping and valves with safety function

Electric modules with safety function
Cable with safety function

9. SPENT FUEL POOL COOLING SYSTEM

Piping and valves whose failure could result in significant release of pool water

10. CONTAINMENT FAN COOLER SYSTEM

Ductwork
Fans
Dampers
Fan coolers
Electric modules with safety function
Cable with safety function

11. WASTE PROCESSING SYSTEM

Gaseous and liquid waste piping and valves forming part of containment boundary
Systems handling gaseous radioactive materials
Electric modules with safety function
Cable with safety function

NOTE: The Waste Gas Disposal System shall be maintained in accordance with the guidance established in Regulatory Guide 1.143, Revision 1, October, 1979.

12. SAMPLING SYSTEMS

Valves and piping from the reactor coolant system up to the second isolation valve outside containment
Valves and piping to the first isolation valve from other safety related systems

13. STEAM GENERATOR BLOWDOWN

Piping from steam generator to containment isolation valves

14. REACTOR PROTECTION SYSTEM

Electrical modules
Cable

15. PROCESS RADIATION MONITORS

Radiation Monitors, including electric modules and cable with a safety function, associated with the Shield Building, Auxiliary Building, Spent Fuel Pool and Control Room Ventilation Systems

16. CONTAINMENT HYDROGEN CONTROL SYSTEM

Piping and valves with safety function
Electric modules and cable

17. REACTOR VESSEL SERVICE EQUIPMENT

Containment polar crane
Vessel head handling equipment
Crane structural supports
Crane electrical, cable, controls and instrumentation with safety function

18. REFUELING EQUIPMENT

Spent fuel cask
Auxiliary Building crane
Auxiliary Building crane structural supports
Crane electrical, cable controls and instrumentation with safety function
Fuel transfer tube
Spent Fuel Bridge Crane
Manipulator Crane

19. FUEL STORAGE

New fuel racks
Spent fuel racks
Spent fuel pool structure and enclosure
Spent fuel storage casks
Independent spent fuel storage installation concrete pads

20. CONTROL ROOM PANELS

Electric modules, with safety function
Cable with safety function

21. LOCAL PANELS AND RACKS

Electric modules with safety function
Cable with safety function

22. MAIN STEAM SYSTEM

Main steam piping and valves from steam generators up to and including piping restraints downstream of the main steam isolation valves Main steam piping and valves from main steam lines to auxiliary feedwater pump turbine
Steam line flow restrictor
Safety and relief valves
Piping to first isolation valves and safety and relief valve discharge Electric modules with safety function
Cable with safety function

23. FEEDWATER SYSTEM

Feedwater piping and valves inside containment structure up to and including first isolation valve outside containment structure
Electric modules with safety function
Cable with safety function

24. AUXILIARY FEEDWATER SYSTEM

Piping and valves supplying auxiliary feedwater from and including containment isolation valves to connections with feedwater lines
Auxiliary feedwater pumps (turbine and motor-driven)
Piping and valves supplying auxiliary feedwater from the cooling water system
Electric modules with safety function
Cable with safety function

25. COOLING WATER SYSTEMS

Component cooling water systems (essential)
- Piping (except to turbine building and non-essential equipment)
- Heat exchangers, with safety function
- Pumps
- Pump motors
- Surge tank
- Valves, isolation
- Valves, other, with safety function
- Electric modules with safety function
- Cable with safety function

Cooling water systems (essential)
- Piping (except to turbine building and non-essential equipment)
- Diesel engine pumps
- Strainers, with safety function
- Valves, isolation

Valves, other, with safety function
Screen wash systems, with safety function
Traveling screens, with safety function
Electric modules with safety function

Cable with safety function
Diesel engine pump auxiliaries as follows:
Diesel oil storage tanks
Day tanks
Fuel oil transfer pumps and motors
Fuel oil piping and valves with a safety function
Starting air compressors
Air receivers
Starting air piping and valves with a safety function
Cooling water piping and valves with a safety function
Electric modules with safety function
Cable with safety function
Diesel engine, lubricating oil and jacket cooling systems
Diesel fuel oil

26. INSTRUMENT AIR SYSTEM

Piping and valves associated with containment penetration

27. DIESEL GENERATOR

Diesel oil storage tanks
Day tanks
Pumps and motors, fuel oil transfer
Diesel filter
Valves, with safety function
Piping except vent and fill piping downstream of last valve
Cooling water system pipe and valves
Diesel generator jacket cooling water system
Diesel generator lubricating oil system
Air intake
Electric modules with safety function
Cable with safety function
Diesel fuel oil

28. DIESEL GENERATOR AIR STARTING SYSTEM

Compressor
Air receivers
Piping and valves from receiver to diesel generator
Piping between compressor and receiver

29. ELECTRICAL, CLASS 1E SYSTEMS

Switchgear, transformers, motor control centers, load centers, batteries and chargers, and associated equipment with safety function

NOTE: Point of interface with onsite electric power systems (i.e., at point of interface with Class 1E breakers which isolate main Class 1E onsite buses

from the offsite power system; and including components and circuitry interfaces that affect the proper performance of such interfacing breaker).

4,160 - 480 V switchgear from engineered safety systems (ESF), including ESF buses
4,160 - 480 V transformers (ESF load centers)
480 - 120/208 V transformers (control room and ESF area emergency lighting)
480 V switchgear (ESF load centers)
480 V motor control and motor control centers
125 V station batteries and racks (control and vital instrumentation power supplies)
125 V dc panels and switchgear (vital dc power distribution)
120 V ac instrument bus panels (vital instrumentation ac power distribution)
Containment penetration assemblies
Main control board
Radiation monitor panel
Hot shutdown panel
Control room air conditioning control panel
Post LOCA Hydrogen control panel
Emergency lighting
Emergency communications
Diesel generator and accessories
Diesel generator control panels
Relay boards and racks
Wire and cable raceway system
Underground electrical duct bank system
Cable system (power, control and instrumentation)
Instrument racks
Electrical supports
Heat tracing/freeze protection

30. INSTRUMENTATION AND CONTROL SYSTEM COMPONENTS

Reactor trip system
Engineered safety features (ESF) actuation system
Systems required for safe shutdown
Safety related instruments, tubing and fittings

31. HEATING, VENTILATION AND AIR CONDITIONING SYSTEMS (HVAC)

Control and Relay Room HVAC System
  Air handling units
  Fans, ductwork and dampers
  Filters
  Chillers and chilled water pumps
Auxiliary Building Special Ventilation System
  Fans, ductwork and dampers
  Filters
Screenhouse Ventilation System

Fans and dampers associated with diesel engine ventilation
Shield Building Ventilation System
Fans, ductwork and dampers
Filters
Battery Room Special Ventilation System
Fans, ductwork and dampers
Spent Fuel Pool Special Ventilation System
Exhaust fans, ductwork, dampers
Exhaust filters
Diesel Generator Rooms Cooling System
Fans, ductwork and dampers
Auxiliary Building Normal Ventilation System
Ductwork and dampers associated with steam exclusion
Turbine Building Ventilation System
Ductwork and dampers associated with steam exclusion
Electric modules with safety function
Cable with safety function
HVAC sensors and monitors having safety function

32. CIVIL STRUCTURES AND FOUNDATIONS

Containment and structures
Containment airlocks
Containment isolation (valves, piping, canisters)
Containment penetrations
Shield building
Auxiliary building
Control room
Diesel generator room
Radwaste building
Cooling water intake structure
Electrical tunnels, with safety function
Pipe tunnels, with safety function
Shielding structures
Turbine Building (housing emergency diesel generator cooling water pipes, batteries, safeguards switchgear, auxiliary feedwater pumps)

33. OTHER

A. Fire protection system piping associated with the safeguards ventilation exhaust filters and containment penetration

B. Turbine building crane
Crane structural support
Crane electrical, cable, controls and instrumentation with safety function

APPENDIX C

Nuclear Plant Fire Protection Program

1.0 Policy Statement

Northern States Power Company (NSP) has established a system of Administrative Control Directives (ACDs) that implement the Operational Quality Assurance Plan. This system shall be used to implement the requirements of the operating nuclear power plant fire protection program. The basic requirements of the fire protection program are specified in this appendix to the Operational Quality Assurance Plan.

2.0 Organization

2.1 General Requirements

1. NSP shall be responsible for the establishment and implementation of the fire protection program NSP may delegate to other organizations the work of establishing and implementing the fire protection program, or any part thereof, but shall retain responsibility for the program.

2 The authority and duties of persons and organizations involved in the fire protection program shall be clearly established and delineated in writing.

3. To assure adherence to the fire protection program, management measures shall be established which provide that the individual or group assigned the responsibility for checking, auditing, inspecting, or otherwise verifying that an activity has been correctly performed is independent of the individual or group directly responsible for performing the specific activity.

2.2 Fire Protection Organization Summary

The NSP organization is summarized in Section 3.0 of the Operational Quality Assurance Plan. In addition to that summary, the following additional responsibilities shall pertain to the fire protection program.

1. Director Power Supply Quality Assurance | 3

   a. Scheduling and assuring completion of independent off-site fire protection inspections and audits.

b. Reviewing non-site purchase requisitions related to fire protection.

2. General Manager Nuclear Site (Monticello and Prairie Island)

a. Procurement of equipment for the fire brigades. 49

b. Establishing a policy for the security actions to be taken by the guard force during a fire.

3. Monticello and Prairie Island Plant Managers 50

a. Routine inspection of the plant for fire hazards.

b. Establishing plant fire brigades. 49

c. Ensuring that fire brigade members receive required training and physical evaluations.

Coordinating fire drills and determining their effectiveness.

e. Establishing cooperation with the local fire department, including joint drills and training sessions to familiarize fire department personnel with plant access routes, layout, equipment, and special hazards.

f. Establishing storage requirements to insure no additional fire hazards are created.

g. Establishing a surveillance program for fire protection systems and fire fighting equipment.

h. Establishing a system to control nonconforming items.

i. Reviewing required work processes for fire hazards and possible reduction of fire protection system effectiveness.

j. Reviewing modifications to determine if they would cause an unreviewed fire hazard or reduce the effectiveness of the fire protection systems.

k. Establishing a fire salvage program (when required).

1. Reviewing purchase requisitions initiated by the plant and Nuclear Projects Department that are related to fire protection.

m. Developing instructions for fighting fires in specific areas and identifying effects of fires in specific areas.

n. Preparing news release information for NSP's Communications Department. | 49

4. Manager Power Supply Training - Nuclear (Monticello and Prairie Island) | 51

a. Establishing a training program for the fire brigades.

2.3 Fire Protection Engineer

1. A fire protection engineer (or engineering consultant) shall be used to provide the following types of services:

a. Review of design for a significant modification to a fire protection system.

b. Review of proposed plant modifications which would introduce major hazards not analyzed in the Fire Hazards Analysis.

c. Triennial independent fire protection inspections (see Section 14.2).

2. The fire protection engineer (or engineering consultant) shall meet the following qualifications:

a. A graduate of an engineering curriculum of accepted standing who has completed not less than six years of engineering attainment indicative of growth in engineering competency and achievement, three of which shall have been in responsible charge of fire protection engineering work, or

b. A member in the Society of Fire Protection Engineers.

3.0 Nuclear Plant Fire Brigades

3.1 Monticello

1. A fire brigade shall be established in accordance with the requirements of 10CFR50, Appendix R, Section III.H, and the requirements listed below:

a. Fire brigade composition may be less than the minimum requirements for a period of time not to exceed 2 hours, in order to accommodate the unexpected absence of fire brigade members. Under this circumstance, immediate action shall be taken to restore the fire brigade to within the minimum requirements.

3.2 Prairie Island

1. A fire brigade of five persons shall be on-site at all times in addition to the minimum shift crew complement needed to safely shut down the unit(s).

a. Fire brigade composition may be less than the minimum requirements for a period of time not to exceed 2 hours, in order to accommodate the unexpected absence of fire brigade members. Under this circumstance immediate action shall be taken to restore the fire brigade to within the minimum requirements.

2. Each fire brigade shall have an appointed leader. This leader shall not be the Shift Supervisor (the Unit No. 1 Shift Supervisor at Prairie Island).

3. All new members of the fire brigades shall have an initial physical examination for strenuous physical activity as experienced in fire fighting. Annual follow-up physical examinations shall include respiratory protection qualification testing which screens all respirator users (including fire brigade members) for cardiopulmonary deficiencies. Physical examinations shall be conducted by a physician. A program shall be established by NSP's corporate physician to ensure that all respirator users, when subject to even the most severe working conditions, are physically fit to wear a respirator. The program shall include pulse, blood pressure, and spirometry testing, and a medical history review in which the possibility of past or present heart disease is determined. The program shall be administered by nursing personnel who will perform the necessary cardiopulmonary screening function.

4.0 Fire Protection Training

4.1 Monticello and Prairie Island

1. Level I fire protection training shall be general training given to operations and maintenance personnel assigned to nuclear power plants. Following initial training, these topics shall be

reviewed at least annually with required personnel. Level I shall cover, as a minimum, the following areas:

a. Basic principles of fire chemistry and physics.

b. Fire hazards.

1) Common fire hazards.

2) Combustibles, general.

3) Flammable liquids.

4) Flammable gases.

c. Fire detection systems.

d. Types of extinguishing systems.

e. Special fire hazards associated with nuclear power plants.

f. Emergency Plan with emphasis on fire emergency.

2. Basic instruction in fire protection shall be given to contractor personnel before granting them unescorted access to safety related areas of the plant.

4.2 Monticello

1. Fire brigade training shall be conducted in accordance with the requirements of 10CFR50, Appendix R, Section I.

4.3 Prairie Island

1. Level II fire protection training shall be given to all fire brigade members. An initial training program with annual retraining shall be conducted. Retraining shall repeat all Level II subject material over a period of approximately two years. Level II shall include a detailed treatment of the subject matter in Level I. In addition, the following items shall be covered:

a. The identification and location of fire hazards and associated types of fires that could occur in the plant.

b. The identification and location of fire fighting equipment in each fire area.

c. Familiarization with layout of the plant including access and egress routes in each area.

d. The proper use of fire fighting equipment.

e. Methods of fighting each type of fire.

f. Review of the plant fire fighting strategies with specific coverage of each individual's responsibilities.

g. Proper use of communication, lighting, ventilation and emergency breathing equipment.

h. Considerations of radiation and contamination in fire areas.

2. Level III training shall be presented to the fire brigade leaders. Initial training with annual retraining shall be provided. Included will be a detailed review of Level I and II training and the following additional material:

a. The direction and coordination of fire fighting activities.

b. The proper method of fighting fire inside buildings and confined areas.

c. Evaluation of fire hazards.

3. Training Documentation

Classroom training sessions, practice sessions, and drills for the fire brigade shall be documented. The following should be included in the documentation for persons participating:

a. Name.

b. Date.

c. Summary of what was done.

d. Evaluation by observer.

5.0 Drills and Practice

5.1 Monticello

1. Fire protection drills and practices shall be conducted in accordance with the requirements of 10CFR50, Appendix R, Section I and the requirements listed below:

   a. A meeting shall be held after each drill to discuss the drill and the need to repeat portions of the training program that are applicable to the type of drill performed.

   b. Preplanned strategies, and the proficiency of brigade members and control room operators in their use shall be tested during drills.

   c. Each year, one drill, conducted with any fire brigade, shall involve the local on-duty fire department.

5.2 Prairie Island

1. Drills

   a. Drills shall be scheduled so that each fire brigade will participate in at least four drills per year. The following types of drills shall be scheduled:

      1) Involve local on-duty fire department. This shall be done at least once a year, with any fire brigade.

      2) At three year intervals, a randomly selected, announced drill shall be critiqued by qualified individuals independent of NSP's staff.

      3) Back shift, conducted by the fire brigade leader on duty at the time. This shall be scheduled at least once per year for each brigade.

   b. Except as required above, drills may be announced and may involve only the shift fire brigade members (to preclude the disruption of essential plant activities).

   c. All drills shall be preplanned and critiqued. A meeting shall be held after each drill to discuss the drill and the need to repeat portions of the training program that are applicable to the type of drill performed.

d. To the extent practical, fire brigade members shall use protective equipment, suppression systems, and other equipment used to fight an actual fire during all drills. Preplanned strategies shall be tested during drills as well as the proficiency of brigade members and Control Room operators in their use.

2. Practice

a. Practice sessions shall be held at least once every year. These sessions shall involve actually fighting fires which are similar to those which might be encountered in the plant. These sessions shall include:

1) Use of fire fighting equipment.

2) Use of breathing equipment under strenuous conditions.

3) Extinguishment of fire.

4) Best method by which to approach each type of fire, to the extent possible.

b. Brigade members missing a practice session shall be rescheduled to attend a later session with another brigade. If this is not possible, they shall be required to review the training material covered during the practice session.

6.0 Control of Combustibles and Ignition Sources

6.1 Monticello

1. Control of combustibles and ignition sources shall be in accordance with the requirements of 10CFR50, Appendix R, Section K, and the requirements listed below:

a. All areas containing safety related equipment or cables shall be surveyed once each working day for fire hazards by a member of the plant staff.

b. Storage of combustible materials shall be permitted only in posted areas or in approved cabinets and containers.

c. Transient combustibles in any safety related area, or area containing safe shutdown equipment, shall be limited to the equivalent of 2 gallons of combustible liquid. Use of larger amounts of combustible material shall be governed by written procedures which specify augmented fire protection measures.

d. A person designated as a fire watch and equipped to prevent and combat fire shall be assigned to safety related areas where cutting, welding, grinding and open flame work is involved.

e. The fire watch shall remain in the assigned area for 30 minutes after work involving the cutting, welding, grinding, or open flame is completed.

1. When excessive radiation exposure to the fire watch is a concern, alternate fire watch measures may be implemented if these alternate measures address how to detect, prevent and combat a fire in the fire watch area.

f. Where feasible, all movable combustible material below or within 35 feet of cutting, welding, grinding, or open flame work shall be removed, and all immovable combustibles below or within 35 feet shall be protected.

g. Smoking shall be prohibited in all safety related areas, except those specifically designated by the plant management.

6.2 Prairie Island

1. Permanent and Temporary Storage

a. Measures shall be established to minimize fire hazards in areas containing safety related equipment or equipment required to safely shut down the reactor(s) which:

1) Govern the handling and limitation of the use of ordinary combustible materials, combustible and flammable gases and liquids, high efficiency particulate air and charcoal filters, dry ion exchange resins, or other combustible supplies in safety related areas.

2) Govern the removal from the area of all waste, debris, scrap, oil spills, or other combustibles resulting from the work activity immediately following completion of the activity, or at the end of each work shift, whichever comes first.

3) Govern the handling of transient fire loads such as combustible and flammable materials during maintenance, modification, or refueling operations.

4) Govern the use of specific combustibles in safety related areas.

   a) All wood used in safety related areas during maintenance, modification, or refueling operations (such as laydown blocks or scaffolding) shall be treated with a flame retardant.

   b) All untreated wood in safety related areas (during operations other than maintenance, modification or refueling) shall be limited to less than 2 cubic feet per area.

   c) Equipment or supplies (such as new fuel) shipped in untreated combustible packing containers may be unpacked in safety related areas if required for valid operating reasons. However, all combustible materials shall be removed from the area immediately following the unpacking.

   d) Large amounts of combustible material shall not be left unattended during lunch breaks, shift changes, or other similar periods.

   e) Loose combustible packing material such as wood or paper and excelsior shall be placed in metal containers with tight- fitting self-closing metal covers.

b. All areas containing safety related equipment or cables shall be surveyed once each working day for fire hazards by a member of the plant staff. Storage of combustible materials shall be permitted only in posted areas or in approved cabinets and containers. Unnecessary transient combustibles shall not be stored in areas containing safety related equipment or areas containing safe shutdown equipment or other essential auxiliary equipment area (e.g., HVAC equipment room).

c. Transient combustibles in any safety related area or area containing safe shutdown equipment shall be limited to the equivalent of 2 gallons of combustible liquid. Use of larger amounts of combustible material shall be governed by written procedures which specify augmented fire protection measures.

2. Cutting, Welding, Grinding and Open Flame

a. Cutting, welding, grinding and open flame work in safety related areas shall be administratively controlled. A person designated as fire watch and equipped to prevent and combat fire shall be assigned to safety related areas where cutting, welding, grinding and open flame work is involved. The fire watch shall remain in these assigned areas for 30 minutes after the work involving the cutting, grinding or open flame is completed.

1. When excessive radiation exposure to the fire watch is a concern, alternate fire watch measures may be implemented if these alternate measures address how to detect, prevent and combat a fire in the fire watch area.

b. Where feasible, all movable combustible material below or within 35 feet of cutting, welding, grinding, or open flame work shall be removed and all immovable combustibles below or within 35 feet shall be protected.

c. Smoking shall be prohibited in all safety related areas, except those specifically designated by the plant management.

d. Fire barrier penetration leak testing shall be done with approved and reviewed procedures. Permission to do this leak testing shall be obtained from the Shift Supervisor.

7.0 Fire Fighting Procedures

7.1 Monticello

Fire fighting procedures shall be established in accordance with the requirements of 10CFR50, Appendix R, Section K.

7.2 Prairie Island

1. Fire fighting procedures or instructions shall be developed to cover the following areas:

a. Discovery of fire including:

1) Notification.

2) Attempts to extinguish fire.

b. Action of Control Room operator including:

1) Announcement.

2) Sounding of fire alarm.

3) Who to notify.

c. Selection and delineation of responsibilities of fire brigade members.

d. Coordination of off-site fire department activities.

e. Actions of security guards during a fire emergency.

f. Delineation of responsibilities of other plant personnel.

g. Instructions and preplanned strategies for fighting fires in specific areas of the plant when the general instructions are not adequate. These instructions shall include.

1) Identification of combustibles in area.

2) Identification of safe shutdown equipment in area and alternate equipment available for performing that function.

3) Fire suppression equipment available in the area.

4) Information showing ventilation control (power sources), access hallways, stairs, and doors.

5) Identification of plant systems that should be managed to reduce the damage potential from a fire in the area.

6) Identification of radiological and toxic hazards in the area.

7) Ventilation system lineups to minimize spread of smoke and to remove smoke from the area.

8) Identification of actions which must be coordinated with operations personnel.

2. Instructions and preplanned strategies shall be tested during drills.

8.0 Modification Control (Monticello and Prairie Island)

8.1 Review of modifications for possible impact on plant fire protection provisions shall be performed if determined required by a designated member of the plant technical staff. The following guidelines shall be used in making this determination:

1. Could the modification present a hazard not considered in the Fire Hazards Analysis? Will additional analysis be required?

2. Could the modification have the potential to interfere with installed fire protection equipment or does it modify existing fire protection equipment?

3. Could the fire protection system require modification because of the change?

8.2 If a fire protection review is required, the individual assigned to perform the review shall use the following as a guide:

1. Does the modification reduce the fire protection provisions for safety related or "safe shutdown" equipment?

2. Will it be necessary to do a fire hazards analysis?

3. Does the design present an obstruction to installed fire protection equipment?

4. Will the installation of the equipment temporarily remove a fire protection system from service?

5. Does the modification involve thermal stress relieving and, if so, have precautions been taken?

6. Will any fire barriers be affected by the modification?

8.3 A modification shall be allowed to proceed only after satisfactory resolution of these concerns.

9.0 Procurement Control (Monticello and Prairie Island)

9.1 Underwriters Laboratories (UL) and Factory Mutual (FM) directories shall be reviewed to determine if the item is listed as being UL or FM approved. If the item is listed, a manufacturer shall be identified and the item procured in accordance with NSP's procurement process for nuclear plants.

The one exception for not buying an item that is UL or FM listed is if it is a replacement of original equipment or NSP standard type, then it shall be identified as such and procured from the original supplier or manufacturer. As a minimum, the item of equipment shall, by appropriate testing, meet NFPA standards.

9.2 If the item is not listed by UL or FM, the following process shall be used:

1. An evaluation shall be made to determine the compatibility of the item to the existing system or component, or

2. If the item has been manufactured for a long period of time, and

a. The item is standardized, and

b. The item has a satisfactory performance history, and

c. Appropriate receipt inspection is identified in the procurement documents, then an evaluation is unnecessary. The fact that the supplier and item meets these requirements shall be documented in the procurement files.

9.3 Parts of components and equipment that have UL or FM approval as a unit shall be procured as follows:

1. The part shall be manufactured by the original manufacturer of the component or equipment whenever possible.

2. The model number of the component or equipment shall be identified.

3. The specific part number shall be identified.

4. Documentation from the supplier shall be requested that indicates the part delivered meets the specification of the part used in the original component or equipment. If the part has been changed, the manufacturer shall be asked to indicate any changes in the operation of the component or equipment. In lieu of this documentation, the acceptance of the part snall be based on inspection or testing.

9.4 All purchase requisitions pertaining to fire protection systems and equipment shall be reviewed. Site requisitions shall be reviewed by an individual designated by the Plant Manager. Non-plant requisitions shall be reviewed by an individual designated by the Director Power Supply Quality Assurance. 52

10.0 Instructions, Procedures, and Drawings (Monticello and Prairie Island)

10.1 The system of Administrative Control Directives (ACDs) shall be used to delineate responsibilities and requirements for the fire protection program.

10.2 Departmental instructions and procedures shall be revised or issued to implement the fire protection program responsibilities and requirements contained in the ACDs.

10.3 Fire protection maintenance, modifications, inspections, tests, administrative controls, drills, and training shall be prescribed by written instructions, procedures, and drawings.

11.0 Surveillance and Inspection (Monticello and Prairie Island)

11.1 The Technical Specifications specify the surveillance and inspection requirements for the fire protection system. Surveillance shall be scheduled, performed, and documented in accordance with standard directives governing the surveillance testing program.

11.2 Procedures shall be developed to assure adequate preventive maintenance of fire protection equipment, including fire suppression water system pumps and hydrants.

12.0 Conditions Adverse to Fire Protection (Monticello and Prairie Island)

12.1 Administrative Control Directives shall establish criteria for housekeeping.

12.2 Work control process procedures shall be used to correct equipment failure, malfunctions, deficiencies, and defective components of fire protection systems.

12.3 As part of the training process, site personnel shall be instructed on how to identify fire hazards and report them to their supervisor. | 32

13.0 Records (Monticello and Prairie Island)

Site and Corporate directives establish nuclear plant records, creation, and retention requirements. Fire protection records requirements shall be included in the scope of these directives. | 19 | 53

14.0 Audits (Monticello and Prairie Island)

14.1 In addition to normal quality assurance audits (at least biennial), an independent fire protection and loss prevention inspection and audit shall be performed annually at each plant utilizing either qualified off-site NSP personnel or an outside fire protection engineer or engineering consultant (annual independent inspection).

14.2 An inspection and audit by an outside qualified fire protection engineer or engineering consultant (see Section 2.3) shall be performed at each plant at least every three years (triennial independent inspection).

14.3 Inspection and audit results shall be reported to levels of management having fire protection program responsibilities in those areas audited or inspected.

APPENDIX D

Revision 16 Change Summary

This appendix summarizes the changes made in Revision 16 to the Operational Quality Assurance Plan. The intent of this appendix is to fulfill the requirements for identifying changes in accordance with 10CFR50.54(a)(3), Conditions of Licenses. This appendix is not a part of the Operational Quality Assurance Plan.

Change Number identifies the change number next to the sideline on the affected pages.

Page identifies the page numbers containing the change.

Reason (R) identifies the reason for the change.

Basis (B) identifies the basis for concluding that the revised program incorporating the change continues to satisfy 10CFR50, Appendix B and the quality assurance program description commitments previously accepted by the NRC.

Change Number	Page(s)	Reason Basis	
1	i	R:	Revision number updated to 16.
		B:	Not required; editorial item.
2	4	R:	Corrected typographical error of word "explicitly".
		B:	Not required; editorial item.
3	8,26,27,77	R:	Title change from Director Power Supply Quality Assurance & Testing Services due to corporate reorganization. Responsibility for testing laboratory services assumed by the Director Power Supply Support Services.
		B:	This is a responsibility description only. It does not reduce previous commitments.
4	8,21	R:	Title change from Director Finance & Performance.
		B:	This is a title change only. It does not reduce previous commitments.
5	8,19	R:	Title change from Director Support Services.
		B:	This is a title change only. It does not reduce previous commitments.

Change Number	Page(s)	Reason Basis
6	9,20	R: Responsibility for Testing Laboratory services reassigned to Director Power Supply Support Service due to corporate reorganization. B: This is a responsibility description only. It does not reduce previous commitments.
7	9,10,20	R: The position of Manager Testing Laboratory was eliminated due to corporate reorganization. The responsibilities were reassigned to the Manager Material Services & Testing. B: This is a responsibility change only. It does not reduce previous commitments.
8	10,12	R: Corrected wording to "These positions are". Included phrase "Responsibilities include:" as part of the first paragraph. B: Not required; editorial item.
9	11,15	R: The responsibility for the Emergency Preparedness Program reassigned to the Vice President Nuclear Generation due to reorganization of the Emergency Preparedness Program. B: This is a responsibility description only. It does not reduce previous commitments.
10	11,14,20	R: Director Power Supply Support Services assumed responsibility for management of the NSP Corporate Security Program from the General Manager Nuclear Support Services. B: This is a responsibility description only. It does not reduce previous commitments.
11	11	R: Clarified responsibility of General Manager Nuclear Site. B: This is a responsibility description only. It does not reduce previous commitments.

Change Number	Page(s)	Reason Basis	
12	11,17,20	R:	Responsibility for providing security personnel at nuclear plants assumed by the General Manager Nuclear Site. Responsibility for the training of security personnel at nuclear plants assumed by the Manager Power Supply Training - Nuclear.
		B:	This is a responsibility description only. It does not reduce previous commitments.
13	11	R:	Typographical error; period mispositioned.
		B:	Not required; editorial item.
14	11,13	R:	Responsibility for site procurement activities reassigned to the General Manager Nuclear Site with the establishment of the Materials Engineering Department.
		B:	This is a responsibility description only. It does not reduce previous commitments.
15	12	R:	The position of Plant Manager (Prairie Island only) assumes responsibilities for operation and maintenance of the independent spent fuel storage installation (collocated at the Prairie Island site).
		B:	This is an improvement of the QA Program description. It does not reduce previous commitments.
16	12,13	R:	Changed reference to "Monticello and Prairie Island)" from "(each plant)" for format consistency.
		B:	Not required; editorial item.
17	10	R:	Included phrase "Responsibilities include:" as part of first paragraph.
		B:	Not required; editorial item.
18	13	R:	Changed wording from "Audit of selected site level activities..." This is a clarification of the responsibilities for the Superintendent Quality Services. Internal audits of all levels of the Operational Quality Assurance Program is the responsibility

Change Number	Page(s)	Reason Basis
		of the Manager Nuclear Operations Quality Assurance. B: This is a responsibility description only. It does not reduce previous commitments.
19	13,24,25,26, 29,92	R: Changed terminology from "plant" to "site" with respect to administrative control directives and instructions to reflect conversion of the administrative control directives and instructions from plant level to site level. B: This is descriptive change only. It does not reduce previous commitments.
20	13	R: Removed separate listing of responsibility (old item 8) for developing and implementing a quality control program for Nuclear Projects section projects since the site reorganization has Manager Nuclear Projects reporting to the General Manager Nuclear Site, responsibility is already stated in responsibility item 1. Removed separate listing of responsibility (old item 9) for performing required inspections and tests as this is redundant to responsibility item 1. B: This is a responsibility description only. It does not reduce previous commitments.
21	13	R: Clarified responsibility. With site reorganization, the Nuclear Projects Department is no longer limited to "long range" or "large projects". B: This is a responsibility description only. It does not reduce previous commitments.
22	14	R: Changed wording from "...Request for Engineering Studies." A "Request for Engineering Studies" is a form not a function. B: Editorial item; not required.

Change Number	Page(s)	Reason Basis
23	14	R: Eliminated responsibility for assuring procedure adherence by contract employees. B: This is a managerial non-QA responsibility, not an operational responsibility. It does not reduce previous commitments.
24	14,15,20	R: Manager Corporate Security now reports to the Director Power Supply Support Services. This reflects the corporate reorganization. B: This is a responsibility description only. It does not reduce previous commitments.
25	14,19	R: Deleted "all" as grammatically redundant. B: Not required; editorial item.
26	15	R: Old section 3.3.2.2.2.3 renumbered as 3.3.2.2.2.4 due to Manager Corporate Security no longer reporting to General Manager Nuclear Support Group. B: Not required; editorial item.
27	15	R: Clarified responsibilities of Manager Nuclear Radiological Services. B: This is a responsibility description only. It does not reduce previous commitments.
28	15	R: Clarified that Manager Nuclear Radiological Services responsibilities are related to radiological environmental activities. B: This is a responsibility description only. It does not reduce previous commitments.
29	15	R: Title change from Manager Special Nuclear Projects. B: This is a title change only. It does not reduce previous commitments.

Change Number	Page(s)	Reason Basis
30	16,17	R: The responsibilities for site training assumed from Director Power Supply Training. B: This is a responsibility description only. It does not reduce previous commitments.
31	16	R: The position of Manager Power Supply Training - Nuclear changed from a superintendent position and added as a position with QA responsibilities. This position reports to the Director Power Supply Training. B: This is a title change only. It does not reduce previous commitments.
32	17,24,35,38, 55,92	R: Changed terminology from "plant" to "site" to reflect site reorganization. B: This is a descriptive change only. It does not reduce previous commitments.
33	18	R: Clarified responsibility of the Vice President Transmission & Inter-Utility Services. B: This is an improvement of the QA Program description. It does not reduce previous commitments.
34	19	R: Clarified responsibility of the General Manager Substation/Transmission Services. B: This is an improvement to the QA Program description. It does not reduce previous commitments.
35	19	R: Corrected typographical error of the word "positions". B: Not required; editorial item.
36	19	R: Reference to Electric Utility removed. B: The maintenance and testing of Electric Utility equipment is a non-QA responsibility, not an operational responsibility. It does not reduce previous commitments.
37	19,20	R: Section reformatted to accommodate the additional responsibilities assumed by Director Power Supply Support Services. B: Not required; editorial item.

Change Number	Page(s)	Reason Basis
38	20	R: The position of Manager Material Services & Testing added as a position with QA responsibilities. This position assumed responsibilities from the Manager Testing Laboratory. B: This is a responsibility description only. It does not reduce previous commitments.
39	20	R: Title change from Manager Power Supply Procurement & Material Management. B: This is a title change only. It does not reduce previous commitments.
40	20	R: Clarified responsibility of Manager Fuel Resources. B: This is a responsibility description only. It does not reduce previous commitments.
41	20	R: The responsibilities for the Manager Fuel Resources were removed because the service provided was that of a procurement agent rather than that of providing QA functions. While this position assisted with QA activities, when requested, the responsibility for the QA activities remained with the requesting department. B: Procurement of nuclear and diesel fuel is a responsibility of General Manager Nuclear Site. This is a responsibility description only. It does not reduce previous commitments. The disposition of depleted nuclear fuel is a responsibility of Manager Strategic Issues Group. This is a responsibility description only. It does not reduce previous commitments. The coordination of safety related documents provided by the nuclear fuel vendor is an administrative non-QA responsibility, not an operational responsibility. It does not reduce previous commitments. The negotiation and administration of nuclear fuel and service contracts is an administrator of contracts non-QA responsibility, not an operational responsibility. It does not reduce previous commitments.

Change Number	Page(s)	Reason Basis
42	20	R: Sections for Manager Fuel Resources and Manager Procurement & Material Management renumbered with the addition of Manager Corporate Security and Manager Material Services & Testing as positions reporting to Director Power Supply Support Services. B: Not required; editorial item.
43	21	R: Eliminated responsibility for industrial safety support for Power Supply. B: This is a corporate non-QA responsibility, not an operational responsibility. It does not reduce previous commitments.
44	21	R: The position of Manager Performance Measures was eliminated due to corporate reorganization. Responsibility for drawing control is retained by the Director Power Supply Finance & Performance. B: This is a responsibility description only. It does not reduce previous commitments.
45	23	R: Corrected typographical error of word "suitably". B: Not required; editorial item.
46	24	R: Clarified that the referenced director is the Director Power Supply Quality Assurance. B: Not required; editorial item.
47	24	R: General Manager Nuclear Site identified as the approving authority for site level administrative control directives and instructions. B: This is a responsibility description only. It does not reduce previous commitments.

Change Number	Page(s)	Reason Basis
48	37	R: Changed wording from "monitoring" to "surveillances" to accurately reflect ANSI N45.2.13-1976 wording for verification activities. B: This is an improvement to the QA Program description. It does not reduce previous commitments.
49	78,79	R: General Manager Nuclear Site added as a position with responsibilities in the fire protection program due to site reorganization. This position assumed responsibilities from the Plant Manager for procurement of equipment for the fire brigade and establishment of policy for security actions during a fire. B: This is a responsibility description only. It does not reduce previous commitments.
50	78	R: Added reference to Monticello and Prairie Island for format consistency. B: Not required; editorial item.
51	79	R: The responsibility for training of fire brigades assumed from the Director Power Supply Training (formerly Manager Production Training). B: This is a responsibility description only. It does not reduce previous commitments.
52	91	R: Changed terminology to "site" with reorganization of Plant and Nuclear Projects departments to report to the General Manager Nuclear Site. B: This is a descriptive change only. It does not reduce previous commitments.
53	92	R: Changed reference from "General Office" to "Corporate" for terminology consistency. B: Not required; editorial item.