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10 CFR 50.54(a)(3)
10 CFR 50.71(e)

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

Catawba Nuclear Station, Unit Nos. 1 and 2
Docket Nos. 50-413, 50-414 / Renewed License Nos. NPF-35 and NPF-52

McGuire Nuclear Station, Unit Nos. 1 and 2
Docket Nos. 50-369, 50-370 / Renewed License Nos. NPF-9 and NPF-17

Oconee Nuclear Station, Unit Nos. 1, 2, and 3
Docket Nos. 50-269, 50-270, 50-287 / Renewed License Nos. DPR-38, DPR-47, and DPR-55

Shearon Harris Nuclear Power Plant, Unit No. 1
Docket No. 50-400 / Renewed License No. NPF-63

Brunswick Steam Electric Plant, Unit Nos. 1 and 2
Docket Nos. 50-325, 50-324 / Renewed License Nos. DPR-71 and DPR-62

H. B. Robinson Steam Electric Plant, Unit No. 2
Docket No. 50-261 / Renewed License No. DPR-23

H. B. Robinson Steam Electric Plant, Unit 2
Independent Spent Fuel Storage Installation, Docket No. 72-3

H. B. Robinson Steam Electric Plant, Unit 2
Independent Spent Fuel Storage Installation, Docket No. 72-60

Brunswick Steam Electric Plant
Independent Spent Fuel Storage Installation, Docket No. 72-6

Catawba Nuclear Station
Independent Spent Fuel Storage Installation, Docket No. 72-45

McGuire Nuclear Station
Independent Spent Fuel Storage Installation, Docket No. 72-38

Oconee Nuclear Station
Independent Spent Fuel Storage Installation, Docket No. 72-04

Oconee Nuclear Station
Independent Spent Fuel Storage Installation, Docket No. 72-40

Duke Energy, Inc. Quality Assurance Program for Radioactive Packages Shipping under 10 CFR 71, Docket No. 71-266

Duke Energy Progress, Inc. . Quality Assurance Program for Radioactive Packages Shipping under 10 CFR 71, Docket No. 71-345

Subject: Implementation of a Duke Energy Common Quality Assurance Topical Report

Duke Energy Carolinas, LLC, the licensee for the Catawba Nuclear Station, Unit Nos. 1 and 2, the McGuire Nuclear Station, Unit Nos. 1 and 2, the Oconee Nuclear Station, Unit Nos. 1, 2, and 3, and Duke Energy Progress, Inc, the licensee for the Shearon Harris Nuclear Power Plant, Unit No. 1, the Brunswick Steam Electric Plant, Unit Nos. 1 and 2, and the H. B. Robinson Steam Electric Plant, Unit No. 2 is submitting a common Quality Assurance Topical Report (QATR) in accordance with 10 CFR 50.54(a)(3). The Duke Energy QATR will be applied to 10 CFR 50 licensed activities. In addition, Duke Energy intends to apply the program to 10 CFR 71 and 10 CFR 72 activities in accordance with 10 CFR 71.101(f) and 10 CFR 72.140(d). Following plant-specific implementation, the Duke Energy QATR (Attachment 1) will replace the current Duke Energy Carolinas QATR and the site-specific quality assurance programs for the Shearon Harris Nuclear Power Plant, the Brunswick Steam Electric Plant, and the H. B. Robinson Steam Electric Plant. This letter satisfies the 10 CFR 50.54(a)(3) requirement to provide the NRC with an update of changes to the quality assurance program description that did not reduce commitments in the program description and, therefore, do not require NRC approval prior to implementation.

The changes made in consolidating the descriptions of the quality assurance programs into a single topical report have been reviewed in accordance with 10 CFR 50.54(a)(3). The changes are not considered to be reductions of commitment as they involve administrative improvements and clarifications, spelling corrections, punctuation, editorial items, and the use of a quality assurance alternate approved by an NRC safety evaluation as allowed by 10 CFR 50.54(a)(3)(ii).

Attachment 2 provides a matrix of the changes to the sites' Quality Assurance Program requirements with justifications that these changes do not constitute a reduction in commitment. Attachment 2 also provides a compilation of exceptions, including the original sources of NRC approval. In accordance with 10 CFR 50.54(a)(4)(ii), the attachment does not provide the bases for changes that correct spelling, punctuation, or editorial items. Markups of the Brunswick Steam Electric Plant Updated Final Safety Analysis Report (UFSAR) Table 1-6, and Sections 1.9 and 17.3, the Shearon Harris Nuclear Power Plant Final Safety Analysis Report (FSAR) Chapters 1.8 and 17.3, and the H. B. Robinson Steam Electric Plant UFSAR Chapters 1.8 and 17.3 are provided as Attachments 3 through 5, respectively. A markup of the Duke Energy Carolinas QATR pages affected by this change is included as Attachment 6.

This document contains no regulatory commitments. Please refer any questions regarding this submittal to Art Zaremba at (980) 373-2062.

Sincerely,

Regis T. Repko
Senior Vice President
Governance, Projects, and Engineering

Attachments:

1. Duke Energy Common Quality Assurance Topical Report
2. Quality Assurance Program Matrix of Changes
3. Markup of the Brunswick Steam Electric Plant Updated Final Safety Analysis Report (UFSAR) Table 1-6, and Sections 1.9 and 17.3
4. Markup of the Shearon Harris Nuclear Power Plant Final Safety Analysis Report (FSAR) Chapters 1.8 and 17.3
5. Markup of the H. B. Robinson Steam Electric Plant Updated Final Safety Analysis Report (UFSAR) Chapters 1.8 and 17.3
6. Markup of the Duke Energy Carolinas QATR pages

xc:

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Kate Nolan
NCMPA-1
PMPA
NCEMC
ONS Master File - ON02DM (File OS 801.01)
MNS Master File - MG01 OM (File MC 801.01)
CNS Master File - CN04DM (File CN 801.01)
RGC Date File- CN01RC
ELL
File: (Corporate)

Attachment 1

Duke Energy Common Quality Assurance Topical Report

173 Pages Follow

DUKE ENERGY CORPORATION

TOPICAL REPORT

Quality Assurance Program Description

Operating Fleet

DUKE-QAPD-001-A

DUKE ENERGY.

QUALITY ASSURANCE PROGRAM
POLICY STATEMENT

Duke Energy Corporation (DEC) designs, procures, constructs and operates its nuclear plants in a manner that ensures the health and safety of the public and workers. These activities are performed in compliance with the requirements of the Code of Federal Regulations (CFR), the applicable Nuclear Regulatory Commission (NRC) Facility Operating Licenses, and applicable laws and regulations of the state and local governments.

The applicable Quality Assurance Program (QAP) is the Quality Assurance Program Description (QAPD) contained or referenced in each nuclear plant's (Updated) Final Safety Analysis Report and the associated implementing documents. Together they provide for control of DEC activities that affect the quality of safety-related nuclear plant structures, systems, and components (SSCs) and include all planned and systematic activities necessary to provide adequate confidence that such SSCs will perform satisfactorily in service. The QA Program may also be applied to certain equipment and activities that are not safety-related, but support safe plant operations, or where other NRC guidance establishes program requirements.

The QAPD is the top-level policy document that establishes DEC's overall philosophy regarding achievement and assurance of quality. Implementing documents assign detailed responsibilities and requirements and define the organizational interfaces involved in conducting activities within the scope of the QAP. Compliance with the QAP is mandatory for individuals involved directly or indirectly with its implementation.

DEC personnel have authority commensurate with their responsibility, including the authority to stop work that does not conform to established requirements. This stop work authority may be exercised in accordance with established nuclear system procedures.

Date 8-6-13

Lynn Good
President and CEO
Duke Energy

CONTENTS

LIST OF FIGURES:

LIST OF TABLES

17 QUALITY ASSURANCE

17.1 QA DURING DESIGN AND CONSTRUCTION

NOTE: Not included, this description of the Quality Assurance Program follows Standard Review Plan Section 17.3 for format and content.

17.2 OPERATIONAL QA

NOTE: Not included, this description of the Quality Assurance Program follows Standard Review Plan Section 17.3 for format and content.

17.3 QUALITY ASSURANCE PROGRAM DESCRIPTION

INTRODUCTION

The Duke Energy Corporation Quality Assurance Program (QAP) Policy Statement, issued by the President and Chief Executive Officer, in Figure 17-1 describes the corporate policy and assigns responsibility for implementation of the QAP.

Duke Energy Corporation maintains full responsibility for assuring its nuclear power plants are designed, constructed, tested and operated in conformance with good engineering practices, applicable regulatory requirements and specified design bases and in a manner to protect the public health and safety. To this end Duke Energy Corporation has established and implemented a Quality Assurance Program which conforms to the criteria established in Appendix B to Title 10 Code of Federal Regulations (10 CFR), Part 50, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants" published June 27, 1970 (35 F. R. 10499), amended September 17, 1971 (36 F. R. 18301), amended January 20, 1975 (40 F. R. 3210D), and amended August 28, 2007 (72 F. R. 49505).

This document follows the format and content guidance of NUREG-0800, "Standard Review Plan For The Review of Safety Analysis Reports for Nuclear Power Plants", Section 17.3, "Quality Assurance Program Description," except that the Duke Energy Corporation QAP is based on ANSI N18.7 and the ANSI N45.2 series standards in lieu of ANSI/ASME NQA-1 and NQA-2. This document is applicable to Duke Energy Corporation operating nuclear power stations as referenced by Chapter 17 of each station's UFSAR for those systems, components, items, and services that have been determined to be nuclear safety related.

This document is organized with a generic description of the organization and overview of the QAP in the main body of the document. Site specific details for the Quality Assurance Program Description along with conformance to the regulatory positions of the NRC QA Regulatory Guides are addressed in separate attachments as follows:

- Attachment A, Brunswick Specific QAPD
- Attachment B, Harris Specific QAPD
- Attachment C, Robinson Specific QAPD
- Attachment D, Catawba, McGuire, and Oconee Specific QAPD

Each Attachment follows the section numbering in the main body of the document. The Brunswick, Harris, and Robinson attachments contain the conformance to the QA related Regulatory Guides, identified in Table 17-1, transferred from Chapter 1 of each respective UFSAR. Each attachment also contains supplemental descriptions, with approved changes, transferred from each respective UFSAR Chapter 17, Section 17.3 when detail was included

beyond the generic text in the main body. Attachment D contains the conformance to the QA related Regulatory Guides, identified in Table 17-1, transferred from Amendment 40 of the Duke Energy Carolinas Topical Report Quality Assurance Program. Attachment D also contains supplemental descriptions, with approved changes, from Amendment 40 of Duke Energy Carolinas Topical Report Quality Assurance Program when detail was included beyond the generic text in the main body.

As discussed herein, the Quality Assurance Program (QAP) includes the description contained in this document and the controlled documents providing implementation of the requirements of this document, including the requirements of industry standards to the degree identified in Table 17-1, Conformance with QA Regulatory Guides and Industry Standards, and Table 17-2, Site Specific Response to Regulatory Guides and Industry Standards. The QAP provides a method of applying graded controls to certain non-safety related systems, components, items, and services (such as fire protection and radioactive waste structures, systems, and components).

Subsequent changes to the Duke Energy Corporation QAP are incorporated in this document as identified in Section 17.3.1.7. The QAP controlled implementing procedures and documents are used and updated as necessary to assure the nuclear generating units are managed such that they will be operated and maintained in a safe manner.

DEFINITIONS

The following definitions are applicable to terms used in this report. Refer to ANSI N45.2.10, "Quality Assurance Terms and Definitions" for definition of terms not included below.

Audit – The following modifications are applied to the definition in ANSI N45.2.10:

> Internal Audit - An activity to determine through investigation the adequacy of, and adherence to, established procedures, instructions, specifications, codes, and licensing requirements, and the effectiveness of implementation of the Duke Energy Corporation QAP.
>
> Supplier Audit - A documented activity performed in accordance with written procedures or checklists to verify, by examination and evaluation of objective evidence, that applicable elements of the supplier's QA program has been developed, documented and implemented in accordance with specified requirements.

Basic Component – See 10 CFR Part 21.

Commercial Grade Items - See 10 CFR Part 21.

Deficiency - Any condition considered to be adverse to quality including inadequacies of personnel, procedures, systems, methods, or items.

Engineering Change (Modification) - A planned change in plant design accomplished in accordance with the requirements and limitations of applicable codes, standards, specifications, licenses and predetermined safety restrictions.

Hold Point - That point in the manufacturing, preparation, development, installation and construction, inspection, or testing process that requires witness or review by qualified personnel.

Inspector - Any individual certified to the requirements identified in Table 17-1 for Regulatory Guide 1.58 who performs required inspections, tests or examinations.

Pre-award Survey - A documented activity performed in accordance with written procedures or checklists to verify, by examination and evaluation of objective evidence, that the supplier's QA program has been developed, documented, and implemented in accordance with specified requirements.

Quality Assurance (QA) - The planned and systematic actions necessary to provide adequate confidence that a structure, system, or component will perform satisfactorily in service.

QA Records - Those records which furnish documentary evidence of the quality of items and of activities affecting quality.

QA Requirements - Those inspection, test, examination, certification and documentation requirements which are imposed to provide objective evidence of the conformance of an item or activity to established design, engineering, standards, and code requirements.

Services - The performance by a supplier of activities such as calibration, design, investigation, inspection, nondestructive examination, software applications, and installation.

EXPLANATION OF "QUALITY ASSURANCE"

Quality Assurance (QA) as used in this document includes:

1) Performance of planned and systematic actions necessary to provide assurance of the safety and integrity of the facility.

   The QAP is founded on the principle that the line organization has the primary responsibility for quality and safety. Self-assessment practices are used to ensure the desired levels of quality and safety are achieved and maintained. Each individual is responsible to ensure the plant is operated in a safe, reliable, and efficient manner.

2) Quality verifications performed by those independent of the performers.

   When required, verification of conformance to established program requirements is accomplished by qualified individuals who do not have responsibility for performing or directly supervising the work. Nuclear Oversight (NOS) evaluates the performance, compliance, and effectiveness of plant programs, processes, and personnel. The activities of NOS are intended to detect deficiencies in the desired levels of performance and quality, communicating these conditions to those responsible for the activities, appropriate management and the Chief Nuclear Officer, and ensuring adequate action is taken to correct these conditions.

QA STANDARDS AND GUIDES

The Duke Energy Corporation QAP conforms to Appendix B of 10 CFR 50. This description of the QA Program is formatted per NUREG-0800 Section 17.3, "Quality Assurance Program Description;" however, the Duke Energy Corporation QAP continues to use the ANSI N45.2 series standards in lieu of ANSI/ASME NQA-1 and NQA-2.

Table 17-1 identifies the QA program Regulatory Guides and other NRC program guidance for which conformance is addressed in this description of the QA Program. Changes to conformance for the Regulatory Guides in Table 17-1 are controlled in accordance with 10 CFR 50.54(a) and are incorporated in this document as identified in Section 17.3.1.7.

Table 17-2 identifies additional Regulatory Guides that relate to QA program implementation but where the subject matter closely relates to UFSAR technical content. Conformance for those Regulatory Guides is site specific and addressed with each site's UFSAR.

Together, Tables 17-1 and 17-2 indicate where conformance is identified for the regulatory guidance documents referenced in NUREG-0800 Section 17.3.

Table 17-1. Conformance with QA Regulatory Guides and Industry Standards

Generic Exception:

Table 17-1 addresses Duke Energy Corporation's Conformance of the Quality Assurance Program to certain NRC Regulatory Guides. In so doing, specific editions of industry standards are identified for compliance with exceptions and alternatives. Those identified standards include references to other industry standards for activities. Those referenced industry standards are considered to be guidance documents for details of how activities may be accomplished. The actual standard to be used in such cases is controlled by each station's current licensing and design bases (e.g. ANSI N18.7-1976 Section 3.4.2 identifies American National Standard for Selection and Training of Nuclear Power Plant Personnel, N18.1-1971. The actual standard used is site specific as identified in Table 17-2 for Regulatory Guide 1.8.).

Regulatory Guide 1.28, Quality Assurance Program Requirements (Design And Construction)
The Duke Energy Corporation QAP conforms to Regulatory Guide 1.28 as identified in: • Attachment A, Brunswick Specific QAPD • Attachment B, Harris Specific QAPD • Attachment C, Robinson Specific QAPD • Attachment D, Catawba, McGuire, and Oconee Specific QAPD

Regulatory Guide 1.30, Quality Assurance Requirements For The Installation, Inspection and Testing Of Instrumentation And Electric Equipment
The Duke Energy Corporation QAP conforms to Regulatory Guide 1.30 as identified in: • Attachment A, Brunswick Specific QAPD • Attachment B, Harris Specific QAPD • Attachment C, Robinson Specific QAPD • Attachment D, Catawba, McGuire, and Oconee Specific QAPD

Regulatory Guide 1.33, Quality Assurance Program Requirements (Operation)
The Duke Energy Corporation QAP conforms to Regulatory Guide 1.33 as identified in: • Attachment A, Brunswick Specific QAPD • Attachment B, Harris Specific QAPD • Attachment C, Robinson Specific QAPD • Attachment D, Catawba, McGuire, and Oconee Specific QAPD

Table 17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.37, Quality Assurance Requirements For Cleaning Of Fluid Systems And Associated Components Of Water-Cooled Nuclear Power Plants
The Duke Energy Corporation QAP conforms to Regulatory Guide 1.37 as identified in: • Attachment A, Brunswick Specific QAPD • Attachment B, Harris Specific QAPD • Attachment C, Robinson Specific QAPD • Attachment D, Catawba, McGuire, and Oconee Specific QAPD

Regulatory Guide 1.38, Quality Assurance Requirements For Packaging, Shipping, Receiving, Storage And Handling Of Items For Water-Cooled Nuclear Power Plants
The Duke Energy Corporation QAP conforms to Regulatory Guide 1.38 as identified in: • Attachment A, Brunswick Specific QAPD • Attachment B, Harris Specific QAPD • Attachment C, Robinson Specific QAPD • Attachment D, Catawba, McGuire, and Oconee Specific QAPD

Regulatory Guide 1.39, Housekeeping Requirements For Water-Cooled Nuclear Power Plants
The Duke Energy Corporation QAP conforms to Regulatory Guide 1.39 as identified in: • Attachment A, Brunswick Specific QAPD • Attachment B, Harris Specific QAPD • Attachment C, Robinson Specific QAPD • Attachment D, Catawba, McGuire, and Oconee Specific QAPD

Regulatory Guide 1.58, Qualification Of Nuclear Power Plant Inspection, Examination And Testing Personnel
The Duke Energy Corporation QAP conforms to Regulatory Guide 1.58 as identified in: • Attachment A, Brunswick Specific QAPD • Attachment B, Harris Specific QAPD • Attachment C, Robinson Specific QAPD • Attachment D, Catawba, McGuire, and Oconee Specific QAPD

Table 17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.64, Quality Assurance Requirements For The Design Of Nuclear Power Plants
The Duke Energy Corporation QAP conforms to Regulatory Guide 1.64 as identified in: • Attachment A, Brunswick Specific QAPD • Attachment B, Harris Specific QAPD • Attachment C, Robinson Specific QAPD • Attachment D, Catawba, McGuire, and Oconee Specific QAPD

Regulatory Guide 1.74, Quality Assurance Terms And Definitions
The Duke Energy Corporation QAP conforms to Regulatory Guide 1.74 as identified in: • Attachment A, Brunswick Specific QAPD • Attachment B, Harris Specific QAPD • Attachment C, Robinson Specific QAPD • Attachment D, Catawba, McGuire, and Oconee Specific QAPD

Regulatory Guide 1.88, Collection, Storage, And Maintenance Of Nuclear Power Plant Quality Assurance Records
The Duke Energy program for storage of records on microfilm, dual storage or in electronic format meets the preservation requirement for the retention of QA Records. For management of electronic records, the appropriate controls on quality are summarized as follows: a) The Electronic Records Management (eRM) system does not allow deletion or modification of records. (NOTE: Authorized deletion of records per the Record Retention Rules is controlled.) b) The eRM system provides redundancy (i.e., system backup, dual storage, etc.). c) The legibility of each record is verified prior to acceptance into the eRM system. d) The media used by the eRM system is maintained to ensure the records are acceptably copied onto a new media before the manufacturer's certified useful life of the media is exceeded. This includes verification of the records so copied. e) Periodic random inspections of records are performed to verify that there has been no degradation of record quality. f) If the eRM system in use is to be replaced by new system, the records stored on the old system are acceptably converted into the new system before the old system is taken out of service. This includes verification of the records so copied. To implement those controls, Duke Energy Corporation uses the following Nuclear Information and Records Management Association (NIRMA) standards: • NIRMA TG 11-2011 “Authentication of Records and Media” • NIRMA TG 15-2011, “Management of Electronic Records,” • NIRMA TG 16-2011, “Software Quality Assurance Documentation and Records” • NIRMA TG 21-2011, “Required Records Protection, Disaster Recovery and Business Continuation”

Table 17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.88, Collection, Storage, And Maintenance Of Nuclear Power Plant Quality Assurance Records
The Duke Energy Corporation QAP conforms to Regulatory Guide 1.88 as identified in: • Attachment A, Brunswick Specific QAPD • Attachment B, Harris Specific QAPD • Attachment C, Robinson Specific QAPD • Attachment D, Catawba, McGuire, and Oconee Specific QAPD

Regulatory Guide 1.94, Quality Assurance Requirements For Installation, Inspection, And Testing of Structural Concrete And Structural Steel During The Construction Phase of Nuclear Power Plants
The Duke Energy Corporation QAP conforms to Regulatory Guide 1.94 as identified in: • Attachment A, Brunswick Specific QAPD • Attachment B, Harris Specific QAPD • Attachment C, Robinson Specific QAPD • Attachment D, Catawba, McGuire, and Oconee Specific QAPD

Regulatory Guide 1.116, Quality Assurance Requirements For Installation, Inspection, And Testing Of Mechanical Equipment And Systems
The Duke Energy Corporation QAP conforms to Regulatory Guide 1.116 as identified in: • Attachment A, Brunswick Specific QAPD • Attachment B, Harris Specific QAPD • Attachment C, Robinson Specific QAPD • Attachment D, Catawba, McGuire, and Oconee Specific QAPD

Regulatory Guide 1.123, Quality Assurance Requirements For Control Of Procurement Of Items And Services For Nuclear Power Plants
Duke Energy Corporation follows Generic Letter 89-02 and EPRI NP-5652 for procurement of Commercial Grade Items and services.

Regulatory Guide 1.123, Quality Assurance Requirements For Control Of Procurement Of Items And Services For Nuclear Power Plants
When purchasing commercial-grade calibration services from calibration laboratories that have been accredited by a recognized signatory to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA) (e.g. National Voluntary Laboratory Accreditation Program (NVLAP), American Association for Laboratory Accreditation (A2LA)), the procurement documents are not required to impose a quality assurance program consistent with ANSI N45.2 or 10 CFR Part 50 Appendix B. In such cases, accreditation may be accepted in lieu of the purchaser imposing a quality assurance program consistent with ANSI N45.2, provided the following are met. 1. The accreditation is to ANSI/ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories." 2. The accrediting body is an NRC recognized signatory to the ILAC MRA. 3. The published scope of accreditation for the calibration laboratory covers the needed measurement parameters, ranges, and uncertainties. 4. The purchase documents impose additional technical and administrative requirements, as necessary, to satisfy Duke Energy Corporation's Quality Assurance Program and technical requirements, including the requirement for the calibration certificate/report to include identification of the laboratory equipment/standards used. 5. The purchase documents require reporting as-found calibration data when calibrated items are found out-of-tolerance. When purchasing commercial-grade calibration services from an accredited calibration laboratory, verification that the supplier's accreditation meets the following shall be performed and documented: 1. The accreditation is to ANSI/ISO/IEC 17025. 2. The accrediting body is an NRC recognized signatory to the ILAC MRA. 3. The published scope of accreditation for the calibration laboratory covers the needed measurement parameters, ranges, and uncertainties. Note: Well defined and documented measurement assurance techniques or uncertainty analysis may be used to verify the adequacy of the measurement process. If such techniques are not used, the collective uncertainty of the measurement standards shall not exceed 25% of the acceptable tolerance for each characteristic being calibrated. (This is typically referred to as the four-to-one ratio.) The Duke Energy Corporation QAP conforms to Regulatory Guide 1.123 as identified in: • Attachment A, Brunswick Specific QAPD • Attachment B, Harris Specific QAPD • Attachment C, Robinson Specific QAPD • Attachment D, Catawba, McGuire, and Oconee Specific QAPD

Table 17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.144, Auditing Of Quality Assurance Programs For Nuclear Power Plants
The Duke Energy Corporation QAP conforms to Regulatory Guide 1.144 as identified in: • Attachment A, Brunswick Specific QAPD • Attachment B, Harris Specific QAPD • Attachment C, Robinson Specific QAPD • Attachment D, Catawba, McGuire, and Oconee Specific QAPD

Regulatory Guide 1.146, Qualification Of Quality Assurance Program Audit Personnel For Nuclear Power Plants
The Duke Energy Corporation QAP conforms to Regulatory Guide 1.146 as identified in: • Attachment A, Brunswick Specific QAPD • Attachment B, Harris Specific QAPD • Attachment C, Robinson Specific QAPD • Attachment D, Catawba, McGuire, and Oconee Specific QAPD

Regulatory Guide 1.152 Criteria For Programmable Digital Computer System Software In Safety-Related Systems Of Nuclear Power Plants
Conformance to Regulatory Guide 1.152 was not addressed during the licensing of the operating Duke Energy Corporation Nuclear plants.

Regulatory Guide 7.10, Establishing Quality Assurance Programs For Packaging Used In The Transport Of Radioactive Material
Duke Energy Corporation does not conform to Regulatory Guide 7.10. This QAPD is used to satisfy applicable Quality Assurance requirements for packaging and transportation of radioactive material.

Generic Letter 89-02, Actions to Improve the Detection of Counterfeit and Fraudulently Marketed Products
Generic Letter 89-02 endorses EPRI NP-5652, *"Guideline for the Utilization of Commercial-Grade Items in Nuclear Safety-Related Applications (NCIG-07)"*, which is used by Duke Energy Corporation.

Table 17-2. Site Specific Response to Regulatory Guides and Industry Standards

Table 17-2 identifies additional Regulatory Guides addressing subjects related to implementation of the QAP but the implementation is site specific and addressed with each site's UFSAR.

Regulatory Guide 1.8, Personnel Selection And Training
Personnel selection and training is site specific addressing requirements beyond nuclear safety related applications.
Regulatory Guide 1.26, Quality Group Classifications And Standards For Water-, Steam-, And Radioactive-Waste-Containing Components Of Nuclear Power Plants
Quality group classifications and standards trace to the original design and construction of the nuclear power plant and therefore are site specific.
Regulatory Guide 1.29, Seismic Design Classification
Seismic design classification trace to the original design and construction of the nuclear power plant and therefore is site specific.
Regulatory Guide 1.36, Nonmetallic Thermal Insulation For Austenitic Stainless Steel
Nonmetallic thermal insulation for austenitic stainless steel trace to the original design and construction of the nuclear power plant and therefore is site specific.
Regulatory Guide 1.54, Quality Assurance Requirements For Protective Coatings Applied To Water-Cooled Nuclear Power Plants
Requirements for protective coatings applied to water-cooled nuclear power plants trace to the original design and construction of the nuclear power plant and therefore is site specific.
Regulatory Guide 1.143, Design Guidance For Radioactive Waste Management Systems, Structures, And Components Installed In Light-Water-Cooled Nuclear Power Plants
Design of radioactive waste management systems, structures, and components installed in light-water-cooled nuclear power plants trace to the original design and construction of the nuclear power plant and therefore is site specific.
Regulatory Guide 1.155, Station Blackout
Addressing Station Blackout is site specific.

Table 17-2. Site Specific Response to Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 4.15, Quality Assurance For Radiological Monitoring Programs (Normal Operations) – Effluent Streams And The Environment
Requirements for radiological monitoring program (normal operations) – effluent streams and the environment is site specific.

17.3.1 MANAGEMENT

17.3.1.1 Methodology

The Chief Nuclear Officer is the corporate executive responsible for quality assurance (QA) and is the highest level of management responsible for establishing Duke Energy Corporation's QA policies, goals, and objectives.

The QAP Policy Statement, shown in Figure 17-1, requires compliance with the QAP implementing documents in nuclear safety related matters. Organizations performing quality affecting activities are bound by this Policy Statement. The QAP has been developed in accordance with this Policy Statement. The QAP applies to individuals and organizations responsible for operating and supporting the nuclear plants in the performance of activities affecting quality (e.g., operation, maintenance, modification, and refueling). The implementing procedures define responsibilities and authorities, prescribe measures for the control and accomplishment of activities for the operation of nuclear safety related structures, systems, and components and requires appropriate verification of conformance to established requirements to an extent consistent with their importance to safety. The individuals who constitute Nuclear Generation have full personal and corporate responsibility to assure that nuclear power plants are designed, constructed, tested and operated in a manner to protect the public health and safety. The comprehensive program to assure this began with initial design and continues throughout the life of the station. The Duke Energy Corporation QAP assures that the necessary quality requirements for nuclear safety related structures, systems, components and materials are achieved. All special equipment, environmental conditions, skills and processes that are determined to be nuclear safety related will be provided within the scope of the QAP.

Nuclear safety related structures, systems, and components (SSCs) are specified by approved design documents. Each nuclear plant has a controlled system for identifying items and activities to which the QAP applies. Controls and responsibilities for maintaining the system are prescribed in procedures.

The QAP applies to the nuclear safety related portions of the plant. The program is applied, in whole or in part, to other selected items based on the item’s or activity’s importance to safety. This application includes but is not limited to control and accomplishment of activities for radioactive waste, fire protection, seismically designed/restrained SSCs whose continued functions are not required during and after a seismic event, and License Renewal non-safety-related SSCs that are subject to an aging management review. Procedures provide a graded application of this QAP to non-safety related systems, components, items, and services by prescribing measures for the control and accomplishment of activities for their operation. For example, aging effects of non-safety related SSCs that were determined to be within the scope of License Renewal Aging Management Program as identified in Chapter 18 of the applicable site UFSAR, are included in the QAP for the administrative controls, corrective actions and confirmation processes described in sections 17.3.1.6 and 17.3.2.13, Corrective Action, and 17.3.2.14, Document Control.

The QAP is founded on the principle that the line organization has the primary responsibility for quality and safety. Self-assessment practices are used to ensure the desired levels of quality and safety are achieved and maintained. This consists of each individual being involved with plant performance to ensure the plant is operated in a safe, reliable, and efficient manner. The Nuclear Oversight (NOS) Department evaluates the performance, compliance, and effectiveness of plant programs, processes, personnel, and the line organization's self-assessment.

17.3.1.2 Organization

This section provides a generic functional description of the organization. The actual organization in-place is defined in a controlled implementing document containing the fleet operating model.

Plant specific details for the organization responsible for the safe plant operation are described in Chapter 13 of the UFSAR for each plant and in implementing procedures. The term "line organization" refers to the production organization reporting to the Chief Nuclear Officer and the interfacing department staff supporting the Nuclear Generation as identified in Section 17.3.1.2.3, Department Interfaces. "Line organization" does not include the independent verification functions of the Nuclear Oversight organization.

17.3.1.2.1 Corporate Organization

The President and Chief Executive Officer has overall responsibility for Design, Construction, Operation, and Decommissioning of generation facilities. Reporting to the President and Chief Executive Officer is the Group Executive Regulated Generation, who is responsible for nuclear operations, nuclear development and nuclear decommissioning, and project management. This Group Executive is also responsible for environmental, health and safety and non-nuclear generation activities including: fossil and hydro generation; ash basin strategic management; and fuels and system optimization. Reporting to this Group Executive is the Chief Nuclear Officer (CNO) who has the overall authority and responsibility for the QAP and Nuclear Generation, which includes the operation of the nuclear plants. Also reporting to the President and Chief Executive Officer are Group Executives responsible for providing support to Nuclear Generation for the following: electrical transmission; electrical distribution; laboratory services; switchyard maintenance and technical support; support for the emergency response communications; and Information Technology Services. The interfaces with organizations providing those activities are described in Section 17.3.1.2.3. As such, the attainment of quality rests with those assigned the responsibility of performing the activity. The verification of quality is assigned to qualified personnel independent of the responsibility for performance or direct supervision of the activity. The degree of independence varies commensurate with the activity's importance to safety.

The policies described in this document are implemented through departmental program manuals and procedures, and are, thereby, transmitted to all levels of management.

17.3.1.2.2 Nuclear Generation

Nuclear Generation has direct line responsibility for all Duke Energy Corporation nuclear station operations. Nuclear Generation is responsible for achieving quality results during engineering, preoperational testing, operation, testing, maintenance and modification of the Corporation's nuclear stations and with complying with applicable codes, standards and NRC regulations. The functions of Nuclear Generation are directed by the CNO.

The CNO formulates, recommends, and carries out plans, policies, and programs related to the nuclear generation of electric power. The CNO is informed of significant problems or occurrences relating to safety and QA through established administrative procedures and participates directly in their resolution, where necessary.

Nuclear Generation is organized into three divisions. The activities of each division are directed by an executive who reports to the CNO. The divisions are Nuclear Corporate, Nuclear Oversight, and Nuclear Operations.

The CNO has the organizational flexibility to reassign responsibilities, within the limits specified in the following section, between the standard divisions to provide added focus on areas determined to need increased management attention. This flexibility includes both the ability to consolidate divisions or to identify new divisions. The actual organization in-place is defined in a controlled document containing the fleet operating model.

a) NUCLEAR CORPORATE

The senior executive(s) reports to the CNO and is responsible for Corporate Governance and support functions to the Nuclear Sites in the following areas: Nuclear Engineering; Nuclear Major Projects; Nuclear Regulatory Affairs; Nuclear Support Services; Nuclear Protective Services; Nuclear Operations; Nuclear Corporate Organizational Effectiveness; Nuclear Training; and Emergency Preparedness.

The organizational structure for these functions may vary based on near-term activities and the strategic importance of our fleet initiatives, in our continuing efforts to set and achieve industry-leading operational and outage performance. These functions are primarily off-site located in the Nuclear General Office (NGO).

NUCLEAR ENGINEERING

Nuclear engineering provides broad engineering leadership and technical support to the nuclear sites with emphasis on generic issues and consistent practices, providing expertise in safety assessment with technical support in the areas of risk assessment, radiological engineering, and safety analysis; fuel management with leadership and technical support in the areas of fuel supply, spent fuel management, reactor core mechanical and thermal hydraulic analysis; the fleet electrical and procurement engineering with technical support in the areas of procurement engineering, nuclear process systems, and electrical systems and analysis; and programs and components support in the areas of steam generator inspections and maintenance, engineering programs, component engineering, material failure analysis and materials science, equipment reliability, and ASME Code inspections and testing.

Nuclear engineering provides record storage and document management services, technology planning, project control and technical support for information technology applications and systems such as equipment databases, applications, infrastructure, and plant process information systems.

NUCLEAR MAJOR PROJECTS

Nuclear major projects provides project management for select projects critical to the success of the Nuclear Generation Department. This responsibility includes detailed scope development, accurate estimation, planning and scheduling, effective project controls, timely and accurate financial reporting, contract management, management of supplemental personnel, and predictable execution of assigned projects.

NUCLEAR REGULATORY AFFAIRS

Nuclear regulatory affairs provides fleet support to and governance of the site regulatory affairs and licensing activities to help improve overall fleet performance.

NUCLEAR SUPPORT SERVICES

Nuclear support services provides fleet support to the nuclear sites for laboratory, calibration, and select maintenance and refueling activities.

NUCLEAR PROTECTIVE SERVICES

Nuclear protective services provides access authorization support to the nuclear sites security organization. Nuclear protective services is responsible for governance of the site security functions, providing assistance to help improve overall fleet performance.

NUCLEAR OPERATIONS

Nuclear operations is responsible for governance of the nuclear site operating organizations, providing assistance to promote improvements to overall fleet performance.

NUCLEAR CORPORATE ORGANIZATIONAL EFFECTIVENESS

Nuclear corporate organizational effectiveness is responsible for governance of the nuclear site performance improvement organizations, providing assistance to promote improvements to overall fleet performance through the corrective action and self-assessment programs. This group also supports implementation of the corrective action and self-assessment programs by the Nuclear Corporate Organization.

NUCLEAR TRAINING

Nuclear training is responsible for governance of the nuclear site training organizations, providing assistance to promote improvements to overall fleet performance. This group also supports implementation of the training programs by the Nuclear Corporate Organization.

EMERGENCY PREPAREDNESS

Emergency preparedness is responsible for governance of the nuclear site emergency response organizations, providing assistance to promote improvements to overall fleet performance.

b) NUCLEAR OVERSIGHT

The executive for Nuclear Oversight (NOS) reports to the CNO and is located in the NGO. NOS consists of both site assigned and NGO located personnel. NOS provides oversight of the NGO, Departmental Interfaces, and the nuclear sites with assessment, QA program audits, vendor quality, and quality control. In addition, NOS coordinates the off-site review board, which provides an advisory function to senior management. NOS also provides oversight of Nuclear Development and Nuclear Decommissioning through QA program audits. The NOS executive has the authority and organizational freedom to: identify quality problems, initiate, recommend or provide solutions to quality problems through designated channels, verify the implementation of solutions to quality problems, and ensure cost and schedule do not influence decision making involving quality. This includes full access to Nuclear Development and Nuclear Decommissioning and all levels of management up to and including the Chief Executive Officer.

The NOS executive has primary ownership of the department QA program description (this document) and is responsible for interpretation and resolution of QA issues.

If significant quality problems are identified, NOS personnel have the authority to stop work as discussed in Section 17.3.1.4 pending satisfactory resolution of the identified problem.

Also reporting to the executive for NOS is Employee Concerns, which investigates concerns identified through the Employee Concerns Program to determine their validity and initiate corrective actions as appropriate. Employee Concerns also promotes the Safety Conscious Work Environment (SCWE) Program and is sensitive to SCWE concerns during investigations.

c) NUCLEAR OPERATIONS

The executive for Nuclear Operations reports to the CNO and is located in the NGO. This executive is responsible for the safe operation of the nuclear stations. Reporting to this executive are the Site executives for the respective nuclear stations.

The organization structure for each site is controlled by the site's UFSAR, which may vary from the following generic description. Reporting to the site executive for each nuclear station is a Nuclear Plant Manager who is assigned the direct responsibility for the safe operation of the facility including operations, maintenance, work management, radiation protection, chemistry, and environmental services. The qualification requirements for the Nuclear Plant Manager are in accordance with the provisions of ANSI N18.1 or ANS 3.1 as presented in each site's UFSAR and Technical Specifications. Also reporting to the site executive is a site Engineering manager; a site Training manager; and an Organization Effectiveness manager, typically having responsibility for regulatory affairs, emergency preparedness, performance improvement, and procedures. Each site executive also has a Security manager and a major projects manager assigned to provide services to the site.

17.3.1.2.3 Department Interfaces

Quality related activities performed by departments other than Nuclear Generation are identified by and conducted in accordance with controls identified in approved departmental interface agreements. The following are generic descriptions of those other corporate departments and the services they provide. These generic organizations are referred to, as appropriate, within this document; however, approved departmental interface agreements establish and define the applicability of the QAP to the services they provide.

CORPORATE COMMUNICATIONS

Corporate Communications provides support for the nuclear site emergency response organization.

ENVIRONMENTAL HEALTH AND SAFETY

Environmental, Health and Safety provides occupational safety and environmental and laboratory support services.

NUCLEAR FINANCE

Nuclear Finance provides support for the nuclear sites in the areas of financial planning.

INFORMATION TECHNOLOGY

Information Technology provides a variety of services and technical support to Nuclear Generation for information technology applications and systems such as equipment databases, applications, and infrastructure including telecommunication systems.

CUSTOMER OPERATIONS

Customer Operations provides electrical transmission, distribution and switchyard engineering, as well as providing electrical maintenance and testing support.

NUCLEAR SUPPLY CHAIN

Nuclear Supply Chain provides procurement services including receipt inspection/testing, storage, and inventory control of materials, parts, and components.

17.3.1.3 Responsibility

The primary responsibility for quality performance, including the identification and effective correction of problems potentially affecting the safe and reliable operation of the Company's nuclear facilities, resides with the line organization. The individuals who constitute Nuclear Generation have full personal and corporate responsibility to assure nuclear power plants are designed, constructed, maintained, tested and operated in a manner to protect the public health and safety; and to assure the effectiveness of the QAP.

Appropriate procedures are developed, approved by the responsible implementing manager, issued for use, and used at the location where the prescribed activity is performed, where appropriate. Managers assure that their personnel are adequately trained for their jobs and they have the experience and education required to carry out their assigned responsibilities. These managers ensure that adequate resources and procedures are available for correctly implementing the work activities. Sufficient personnel, including necessary resources, are available and trained prior to performing activities that affect quality.

Independent inspections are conducted to verify specific critical quality attributes. Individuals performing these inspections have access to necessary information to ensure that activities and equipment meet established acceptance criteria.

NOS is responsible for monitoring and assessing activities that are performed by the line organization for, or in support of, Duke Energy Corporation’s Nuclear Plants and Nuclear Generation. These activities include those performed at the individual plant sites, corporate offices, and other Nuclear Generation locations. NOS performs audits to verify that applicable elements of the quality assurance and other regulatory required programs have been developed, documented and effectively implemented in accordance with specified requirements. NOS monitors supplier performance to assure implementation of the applicable quality assurance program requirements. A periodic briefing of NOS activities, along with any potential findings and recommendations, is presented to the Chief Nuclear Officer.

The Chief Nuclear Officer is responsible for ensuring that the results and effectiveness of the nuclear oversight program are regularly evaluated as discussed in Section 17.3.3.3.6, Independent Audit of QA Functions.

17.3.1.4 Authority

Personnel involved in quality activities have the authority and responsibility to stop work if they discover deficiencies in quality.

Personnel performing the QA functions have the authority and responsibility to stop unsatisfactory work and to assure the item/activity is controlled to prevent further processing, delivery, installation, or use until authorized by appropriate management.

Procedures outline the methodology for resolution of disputes involving quality and nuclear safety issues arising from a difference of opinion between identifying personnel and other groups.

17.3.1.5 Personnel Training and Qualification

Both on-site and off-site personnel who perform activities affecting quality (implement requirements of the QAP) are indoctrinated and trained such that they are knowledgeable and capable of performing their assigned tasks.

Training programs and reviews ensure that proficiency of personnel performing activities affecting quality is achieved and maintained by training, examining, and/or certifying, as appropriate.

Training programs are modified to reflect station engineering changes and changes in procedures.

Personnel training and qualification records are to be maintained in accordance with procedures.

Personnel within the Operating organization performing duties of a licensed operator are indoctrinated, trained, and qualified as required by 10 CFR 55 Operators' Licenses.

17.3.1.6 Corrective Action

It is the policy of Duke Energy Corporation to seek improvement in each nuclear plant's performance as well as in the performance of supporting Departments. Duke Energy Corporation has established a corrective action process whereby all personnel are expected to assure conditions adverse to quality are promptly identified, controlled, and corrected. Individuals are encouraged to voluntarily report events, near misses, and potential problems. In the case of significant conditions adverse to quality, the process assures that the cause of the condition is determined and action be taken to preclude repetition. This process also provides for trending of problems to detect adverse trends in quality performance, including reporting of results to appropriate levels of management.

Management will emphasize to all levels in the organization the importance of identifying and effectively correcting situations that can adversely affect human and equipment performance. An important aspect of this program is the assignment of qualified personnel to accurately evaluate equipment/human performance problems, implement appropriate corrective actions, and verify corrective action adequacy.

Management is responsible for fostering a positive environment that encourages the self-identification of adverse conditions and trends. This includes assuring the process is administered to correct the problem rather than to establish blame or fault.

License Renewal non-safety-related SSCs that are subject to an aging management review are included in the scope of the corrective action program.

Section 17.3.2.13, Corrective Action provides additional detail.

17.3.1.7 Regulatory Commitments

The operation of nuclear plants is accomplished in accordance with the U.S. Nuclear Regulatory Commission (NRC) regulations specified in Title 10 of the U.S. Code of Federal Regulations.

The operation of the Company's nuclear power plants is in accordance with the terms and conditions of the facility operating license issued by the NRC.

The QAP provides for compliance with QA regulatory guides and the related codes and standards as identified in Table 17-1, Conformance with QA Regulatory Guides and Industry Standards.

The requirements of this section (17.3) may provide additional details for implementation of exceptions to these regulatory guides and codes and standards.

Changes to the description of the QAP contained in this document are controlled in accordance with 10 CFR 50.54(a).

Table 17-2, Site Specific Response to Regulatory Guides and Industry Standards, identifies additional Regulatory Guides that relate to implementation of the QAP but the implementation is site specific and controlled with each site's UFSAR in accordance with 10 CFR 50.59.

17.3.2 PERFORMANCE/VERIFICATION

17.3.2.1 Methodology

Personnel performing work activities are responsible for achieving the acceptable level of quality.

Personnel performing verification activities are responsible for verifying the achievement of acceptable quality.

Work is accomplished and verified using instructions, procedures, or appropriate means that are of a detail commensurate with the activity's complexity and importance to safety. The implementing manager is responsible to ensure instructions and procedures provide adequate detail for achieving an acceptable level of quality.

Criteria that define acceptable quality are specified in procedures and/or other documents, and verification, when required is performed against these criteria.

17.3.2.2 Design Control

In order to provide for the continued safe and reliable operation of a nuclear station's nuclear safety related structures, systems and components, design control measures commensurate with those applied to the original design are implemented during the operational phase to assure that the quality of such structures, systems and components is not compromised by engineering changes.

Nuclear Engineering is responsible for design activities during the operational phase of nuclear stations to Nuclear Generation. Nuclear Engineering will assure that the organization performing design has access to pertinent background information, including an adequate understanding of the requirements and intent of the original design, and that the organization has demonstrated competence in applicable design areas.

Procedures and instructions for design control during the operational phases for nuclear safety related items provide controls to assure the design is performed in accordance with approved criteria, and that deviations and nonconformances are controlled.

Procedures identify the responsibilities of the various individuals/organizations involved in nuclear safety related engineering changes. The assignment of responsibility for the evaluation and design of a particular engineering change to a specific individual/organization is documented. Procedures addressing the control, including the review, approval, release, and distribution of engineering changes, address the communication of information between internal and external individuals/organizations and, where appropriate, require documentation of such communications.

The procedures include measures to assure that the design selected to accomplish a necessary or desirable change does not create "new" problems in off-normal modes of operation or in adjacent inter-tied systems. For each proposed nuclear safety related engineering change, the individual/organization assigned responsibility for evaluation and design of the engineering change considers the following in the design of the engineering change:

a. Necessary design analyses, e.g., physics, stress, thermal, hydraulic, accident, etc.
b. Compatibility of materials.
c. Accessibility for operation, testing, maintenance, inservice inspection, etc.

d. Necessary installation and periodic inspections and tests, and acceptance criteria therefore.
e. The suitability of application of materials, parts, components, and processes that are essential to the function of the structure(s), system(s) and/or component(s) to be modified.
f. Materials, parts, and equipment which are commercial grade items or which have been previously approved for a different application are evaluated for suitability prior to selection.

Engineering changes are then executed in accordance with approved checklists, instructions, procedures, drawings, etc., appropriate to the nature of the work to be performed. These checklists, instructions, procedures, drawings, etc., include criteria for determining the acceptability of the engineering change.

Any errors or deficiencies found in the design process or the nuclear safety related design itself are documented and corrected using the corrective action program.

Prior to a structure, system, or component that has been modified by engineering change being declared operable and returned to service, the procedures governing the operation are reviewed and revised as necessary. If the engineering change significantly alters the function, operating procedure, or operating equipment, then additional training is administered as necessary.

Adequate identification and retrievable documentation of station engineering changes is retained for the life of the station.

Engineering changes are reviewed to determine whether or not the modification is a change in the facility as described in the UFSAR, involves a change to the Technical Specifications, or requires a license amendment in accordance with 10 CFR 50.59(c)(2). Engineering changes which are determined to require a license amendment are reviewed by the On-Site Review Committee and must be authorized by the NRC prior to implementation.

17.3.2.3 Design Verification

Procedures require that the adequacy of nuclear safety related designs and design changes be verified by the performance of design reviews, alternate calculations, or qualification testing. The control measures specified in the plan for control of design verification activities are as follows:

a. Personnel responsible for design verification do not include the original designer or the designer's immediate supervisor unless the immediate supervisor is the only one capable of verifying the design, in which case additional requirements apply as identified below.
b. Procedures identify the positions or organizations responsible for design verification and define their authority and responsibility. Procedures also provide guidelines as to the method of design verification to be used. Unless otherwise specified, design verification is performed by the method of independent design reviews and includes verification that UFSAR commitments have been addressed.
c. Qualification tests to verify the adequacy of the design are performed using the most adverse specified design conditions.
d. Design changes are reviewed to assure that design parameters are defined and that inspection and test criteria are identified.
e. Design verification is completed prior to relying upon the component, system or structure to perform its function or before its installation becomes irreversible.

The use of the originator's immediate supervisor for verification is:

1) restricted and justified to special situations where the immediate supervisor is the only individual capable of performing the verification
2) the need is individually documented and approved in advance by the supervisor's management and
3) the frequency and effectiveness of the supervisor's use as design verifier are independently verified to guard against abuse.

The individuals assigned to perform the design verification of a nuclear safety related document have full authority to withhold approval of the document until every question concerning the work has been resolved. If required, the matter can be carried up to the Chief Nuclear Officer for resolution.

17.3.2.4 Procurement Control

Duke Energy Corporation maintains a program for supplier evaluation, results of supplier evaluation, surveillance of suppliers, supplier furnished records, certificates of conformance, effectiveness of supplier quality control, and the purchase of spare or replacement parts. The Duke Energy Corporation QAP requires the control of nuclear safety related items or services purchased from a supplier, subsupplier, or consultant through appropriate processes and specific procurement documents.

Procedures identify the responsibilities and requirements for the control of procurement documents and ensure that purchased material and services are of acceptable quality. Procurement of QA items is to the quality program requirements in effect at the time of purchase.

Nuclear safety related material, equipment and services procured as basic components may only be procured from qualified suppliers. Supplier qualification is accomplished by NOS evaluation of the supplier QA program. An audit or pre-award survey is performed by NOS when required. The audit or pre-award survey is carried out in accordance with a comprehensive audit checklist to determine the ability of the supplier QA program and manual(s) to meet applicable criteria of 10 CFR 50, Appendix B; 10 CFR 21; the ASME Code, when required, and any other codes and standards determined to be appropriate for the prospective scope of supply.

The above requirements apply to procurement of services and items as basic components, including obtaining a Commercial Grade Item dedicated as basic component from an approved third party dedicator. The remainder of this section addresses alternate requirements for purchase of Commercial Grade Items or services.

When nuclear safety related items/services are not supplied as a basic component and meet the definition of Commercial Grade Item, the item may be procured without the performance of a supplier qualification audit or the existence of a documented supplier QA program. These Commercial Grade Items used in nuclear safety related applications require evaluation, dedication (consistent with industry standard EPRI NP-5652 for dedication of Commercial Grade Items) and approval by Nuclear Generation personnel. Supplier selection for Commercial Grade Items is the responsibility of the responsible engineering personnel or designated supply chain personnel as identified in procedures. These items are subject to the same verification and checking process for suitability of application as other nuclear safety related items.

When purchasing commercial grade calibration services from a calibration laboratory, procurement source evaluation and selection measures need not be performed provided each of the following conditions are met:

- The purchase documents impose any additional technical and administrative requirements, as necessary, to comply with the Duke Energy Corporation QAP and technical provisions. At a minimum, the purchase document requires that the calibration certificate/report include identification of the laboratory equipment/standard used.
- The purchase documents require reporting as-found calibration data when calibrated items are found to be out-of-tolerance.
- A documented review of the supplier's accreditation will be performed and will include a verification of the following:
    - The accreditation encompasses ANS/ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories."
    - The accrediting body is an NRC recognized signatory to the ILAC MRA.
    - The published scope of accreditation for the calibration laboratory covers the necessary measurement parameters, range, and uncertainties.

17.3.2.5 Procurement Verification

Duke Energy Corporation procurement documents are prepared, reviewed, approved, and controlled in accordance with procedures to assure that requirements are correctly stated, inspectable, verifiable, and controllable, and there are adequate acceptance/rejection criteria. Procurement documents are reviewed by personnel knowledgeable in applicable technical and quality requirements, and documentary evidence of that review and approval is retained and available for verification.

As required by procurement criteria, in order to assure that material and equipment are fabricated in accordance with applicable requirements, supplier reviews are performed by Vendor Quality. Those reviews may include witnessing of tests, observation of fabrication checkpoints, and documentation review.

Receipt inspections are performed by qualified inspectors in accordance with procedures to assure that:

1. Materials, equipment, or components are properly identified and correspond with associated documentation.
2. Inspection records or certificates of conformance attesting to the acceptance of materials, equipment, and components are completed and are available prior to installation or use.
3. Materials, equipment, and components are inspected and judged acceptable in accordance with predetermined inspection instructions prior to installation or use.
4. Items not meeting applicable requirements are identified and controlled until proper disposition is made.

The process ensures that required documentation of compliance is received and available on site and procurement, inspection, and testing requirements are satisfied before the item is placed in service.

17.3.2.6 Identification and Control of Items

Procedures require spare or replacement parts to be subject to QAP controls, codes and standards, and technical requirements which ensure they are suitable for their intended service.

Items accepted or released are identified as to their inspection status prior to forwarding them to a controlled storage area or releasing them for installation or further work. Bulk items will not require individual accept tags; however, status of unacceptable bulk items will be so indicated.

Identification requirements for materials, parts and components important to nuclear safety are stated in specifications, drawings and purchase documents.

Control of material, parts and components is governed by approved procedures.

Following QA receipt inspection, materials, parts and components which are determined to be acceptable are assigned an identifying designation such as a unique tracking number in order to provide traceability of each item. This traceability is maintained for nuclear safety related items. In the event that the identification of an item becomes lost or illegible, the item is considered nonconforming and not utilized until proper resolution of the nonconformance.

Consumables utilized in nuclear safety related structures, systems and components are subject to appropriate controls as described in procedures.

17.3.2.7 Handling, Storage, and Shipping

Procedures utilized by suitably trained individuals define requirements for the control of the handling, storage, and shipping of safety-related items. These procedures require measures to be taken to ensure special handling, storage, cleaning, packaging, shipping, and preservation requirements are established to control these activities in accordance with design and specification requirements to preclude damage, loss or deterioration by environmental conditions such as temperature or humidity. Nuclear safety related materials, parts and components are handled, stored, issued and shipped in such a manner that the serviceability and QA traceability of an item is not impaired.

Nonconforming items are identified, segregated, or otherwise controlled in such a manner as to preclude their inadvertent substitution for and use as conforming materials parts and components.

17.3.2.8 Test Control

The QAP addresses both preoperational and periodic (surveillance) testing. The program requires that such testing associated with nuclear safety related structures, systems and components demonstrate that the items will perform satisfactorily in service. Testing activities are accomplished in accordance with approved, written procedures. Testing schedules are provided and maintained in order to assure that all necessary testing is performed and properly evaluated on a timely basis.

Modifications, repairs, and replacements are accomplished in accordance with the original design and testing requirements or acceptable alternatives.

17.3.2.9 Measuring and Test Equipment Control

The organizations performing nuclear safety related work activities have the responsibility to assure the required accuracy of tools, gauges, instruments, radiation measuring equipment, non-destructive testing equipment and other measuring and test devices affecting the proper functioning of nuclear safety related structures, systems and components and that a program of control and calibration for such devices is provided.

Procedures define requirements for the control of measuring and test equipment (M&TE) used. These procedures include requirements to establish procedures for the calibration technique

and frequency, maintenance, and control of measuring and test equipment. The requirements include the following:

a. M&TE is assigned permanent, identifying designations. M&TE is identified and traceable to the calibration test data.
b. M&TE is calibrated at prescribed intervals against certified equipment having known, valid relationships to nationally recognized standards or where national standards do not exist, provisions are established to document the basis for the calibration. The calibration interval is based on the applicable manufacturer's recommendations. If experience shows that the manufacturer's recommendations are not appropriate, the calibration interval is changed as necessary. One or more of the following may be used to adjust intervals: 1. Technical Specifications; 2. Required accuracy; 3. Intended use; 4. Frequency of usage; 5. Stability characteristics; 6. Other conditions affecting measurement. In lieu of specified intervals, infrequently used M&TE may be calibrated immediately before and after use.
c. Status of calibration for M&TE is provided through the use of tags, stickers, labels, routing cards, computer programs, or other suitable means. The status indicators indicate the date recalibration is due or the frequency of recalibration.
d. M&TE failing to meet calibration specifications is identified through the use of tags, stickers, labels, routing cards, computer programs, or other suitable means, showing the date of rejection, the reason for rejection and the identification of the individual rejecting the device. "Accepted" and "Rejected" calibration identification is sufficiently different to preclude confusion between them.
e. Items and processes determined to be acceptable based on measurements made with M&TE that subsequently cannot be demonstrated to meet calibration specifications are re-evaluated to determine the validity of previous inspections and test results and the results of the evaluation documented.
f. M&TE is stored under conditions which are in accordance with, or more conservative than, the applicable manufacturer's recommendations.
g. M&TE is issued under the control of responsible personnel so as to preclude unauthorized use.
h. M&TE is shipped in a manner that is in accordance with, or more conservative than, the applicable manufacturer's recommendations.
i. Records are maintained for each item of M&TE identifying the device designation, the calibration frequency and specifications. Records are maintained reflecting current calibration status, the date of calibration, the date the next calibration is due, and the identification of the individual who was responsible for performing the calibration.
j. As a rule, the calibration program achieves a minimum ratio of 4-to-1 calibration standard accuracy to measuring and test equipment accuracy is used. However, well defined and documented measurement assurance techniques or uncertainty analysis may be used to verify the adequacy of the measurement process. See site specific requirements for other exceptions to the 4:1 rule.

M&TE is selected to assure accurate measurement (i.e., to overcome inherent inaccuracies associated with environment, human error, equipment, etc.).

17.3.2.10 Inspection, Test, and Operating Status

Procedures define requirements for the identification and control of the inspection, test, and operating status of safety-related structures, systems, and components, to assure that equipment operating status is clearly evident, and to prevent inadvertent operation of nuclear

safety related structures, systems and components which, if operated, could cause damage to other equipment/systems or to personnel

These measures include the use of checklists, computer programs, logs, stickers, tags, labels, record cards, and test records to indicate the acceptable operating status of installed equipment. Where appropriate, an independent verification of the correct implementation of such identification measures is performed.

When tags, labels or stamps are utilized for the identification of equipment status, the issuance and removal thereof is documented in order to assure proper control of such identification measures. Also, procedures require that the operability of an item removed from operation for maintenance or testing be verified prior to returning the item to normal service.

Selected plant procedures and subsequent revisions receive separate technical review to ensure required inspections, tests, and other critical operations are included.

17.3.2.11 Special Process Control

Procedures define requirements for the control of special processes, such as welding, heat treating, nondestructive examination (NDE), coatings, and chemical cleaning when the performance of such processes affects the proper functioning of nuclear safety related structures, systems, and components.

Procedures require that special processes be performed by qualified personnel using proper equipment and in accordance with written qualified procedures. These personnel and procedures are to be qualified in accordance with applicable codes, standards, and specifications as described in procedures.

Qualification records of special process procedures and personnel performing special processes are maintained and available for verification.

17.3.2.12 Inspection

Procedures define requirements for an inspection program to verify conformance to performance and quality requirements specified for nuclear safety related structures, systems, and components.

Inspections are performed by personnel who are not directly responsible for performing or supervising the activity being inspected. Inspection personnel are qualified in accordance with applicable codes and standards, and their qualifications and certifications are maintained current.

Inspections are performed in accordance with procedures or other documents, which provide for the following:

1. Identification of individuals or groups responsible for performing the inspections
2. Identification of characteristics and activities to be inspected
3. Acceptance criteria
4. Inspection techniques
5. Recording the results of the inspection, review of the results, and identification of the inspector
6. Indirect control by monitoring of processing methods, equipment, and personnel when direct inspection is not possible

Mandatory inspection hold points are included in the documents addressing the activities being performed, as necessary and work does not proceed until satisfactory completion of the required inspection.

When acceptance criteria are not met, the condition will be documented in accordance with the corrective action program procedures and work does not proceed until satisfactory disposition of any item not meeting the acceptance criteria and satisfactory completion of any required re-inspection.

Modification, repairs, and replacements are inspected in accordance with the original design and inspection requirements or acceptable alternatives.

17.3.2.13 Corrective Action

Station personnel are responsible for the implementation of the QAP as it pertains to the performance of their activities. Specific to this responsibility is the requirement for informing the responsible supervisory personnel and/or for taking appropriate corrective action whenever any deficiency in the implementation of the requirements of the program is determined.

Procedures define requirements for a corrective action program that charges personnel working at or supporting the nuclear plants with the responsibility to identify adverse conditions (including conditions adverse to quality). Conditions adverse to quality are identified through inspections, assessments, tests, checks, and review of documents. Procedures require that conditions adverse to quality be corrected. In the case of significant conditions adverse to quality, the procedures assure that the cause of the condition is determined and action be taken to preclude repetition.

Significant conditions adverse to quality are reported to appropriate management for review and evaluation.

Periodic reviews and evaluations of adverse conditions are performed to identify and correct adverse trends.

17.3.2.14 Document Control

Procedures define requirements for the development, review, approval, issue, use, revision, and control of documents. These procedures define the scope of which documents are to be controlled. These activities include measures to control the issuance of documents such as, instructions, procedures, and drawings, and changes thereto, which prescribe activities affecting quality.

A document control system has been established to identify the current revision number of instructions, procedures, specifications, and drawings. This system includes provisions to ensure that superseded documents are controlled to prevent inadvertent use.

Controlled documents are to be distributed to and used by the person performing the activity in accordance with procedures. These controlled documents are distributed electronically. Hardcopy distribution, if required, is by distribution indices.

Procedures require the identification of those individuals or organizations responsible for reviewing, approving, and issuing documents and revisions thereto.

In addition to procedures and engineering documents (e.g. specifications and drawings), the following are considered to be controlled documents:

- The station Facility Operating License and Technical Specifications

- Updated Final Safety Analysis Reports
- Process Control Program
- Offsite Dose Calculation Manual
- Radiological Effluent Controls of the UFSAR, and radwaste treatment systems

Procedures established for operational phase activities include:

1. Operating Procedures
2. Alarm Responses
3. Radiation Protection Procedures
4. Maintenance Procedures
5. Instrument Procedures
6. Chemistry Procedures
7. Process Control Program Implementing Procedures
8. Periodic Test Procedures
9. Abnormal Procedures
10. Emergency Procedures
11. Emergency Response Procedures
12. License Renewal Aging Management Program

17.3.2.15 Records

Each nuclear station is required to maintain adequate identifiable and retrievable QA records. The QAP requires that sufficient records be maintained to provide documentary evidence of the quality of items and the accomplishment of activities affecting quality.

Procedures define requirements for the identification, collection, and storage of quality assurance records.

The program for storage of records on microfilm, dual storage or in electronic format meets the preservation requirement for the retention of QA Records.

Media used for retention of records include (but are not limited to): microfilm, compact disk recordable (CD-R), and magnetic media including videotape, computer tape, optical disks, and hard disk storage. Electronic records retention is an integral component of the Record Retention Program, approved by the management position responsible for Nuclear Generation Department records. The format used must be capable of producing legible, accurate, and complete documents supporting the required retention period. Electronic approval and authorization procedures are established to assure that only those persons authorized grant the required approvals.

For creation and maintenance of on-line electronic records, Duke Energy Corporation follows the Nuclear Information and Records Management Association (NIRMA) Technical Guides as identified in Table 17-1, Conformance with QA Regulatory Guides and Industry Standards.

There is no requirement to convert records stored on media including hardcopy, microfilm, compact disk recordable (CD-R), and magnetic media including videotape, computer tape, and optical disks to on-line electronic records. Those records may be maintained in their current form as long as retrieval technology and media life support the continued use of the media. If records stored on one media are to be converted to a new media, the records stored on the old system's media are acceptably converted into the new system before the old system is taken out of service. This includes verification of the records so copied are complete and accurate in the new system.

Records are identifiable and retrievable through the use of indexes and filing systems, which are required by the program.

Procedures are required to be developed to indicate responsibilities and retention periods.

The actual retention times for the various QA records are in accordance with corporate retention policies. The development of these retention policies includes consideration of applicable requirements, including those of the Code of Federal Regulations, a station's Technical Specifications, established national codes and standards, and regulatory guidance as listed in Table 17 1, Conformance with QA Regulatory Guides and Industry Standards.

The following is a list of typical QA Records retained for the operational phase:

1. Records and drawing changes reflecting facility design modifications made to systems and equipment described in the Final Safety Analysis Report. These include: drawings, design specifications, calculations, design analyses, and vendor documents for nuclear safety related structures, systems and components.
2. Records of new and irradiated fuel inventory, fuel transfers and assembly burn-up histories.
3. Radiation monitoring records, including records of radiation and contamination surveys.
4. Personnel radiation exposure records.
5. Records of radioactive releases and waste disposal, records of gaseous and liquid radioactive material released to the environs.
6. Records of component cyclic or transient limits established for the reactor coolant system, reactor vessel, and secondary coolant system
7. Records of the qualifications, experience and training of appropriate station personnel
8. Records of quality control inspections.
9. Records of reviews performed for changes made to procedures or safety related SSCs or reviews of tests and experiments pursuant to 10 CFR 50.59.
10. Completed station procedures, and changes thereto; including review and approval documentation.
11. Records of meetings of the on-site review committee.
12. Records of Independent Review. These records include off-site review committee meeting minutes.
13. Records of reactor tests and experiments.
14. Records of inservice inspections performed pursuant to Technical Specifications and 10 CFR 50.55a(g).
15. Records of the service lives of all safety-related snubbers (required by Technical Specification) including the data at which the seal service life commences and associated installation and maintenance records.
16. Records of analyses required by the Radiological Environmental Monitoring Program that would permit evaluation of the accuracy of the analysis at a later date.
17. Records of secondary water sampling and water quality.
18. Records of reviews performed for changes made to the Off-Site Dose Calculation Manual, the Process Control Program, and Radwaste Treatment Systems.
19. Isotopic and physical inventory records of special nuclear materials.
20. Nuclear safety related preoperational testing records.
21. Records such as vendor documentation packages and inspection reports, piping isometric drawings, welding records, etc. compiled during the design and construction of a nuclear station.
22. Approved purchasing documents for items requiring QA certification
23. Purchase specifications

24. Records of special processes affecting nuclear safety related structures, systems and components.
25. Records of off-site environmental surveys
26. Records of environmental qualification
27. By-product material inventory records
28. Radioactive liquid effluent, gaseous effluent, and gaseous process monitoring instrumentation alarm/trip setpoints.
29. Records of reviews performed for changes made to Radiological Effluent Controls.
30. Records of reviews performed on the Fire Protection Program and implementing procedures.
31. Audit reports and required written responses.
32. Records and logs of facility operation covering time interval at each power level, including: switchboard record, reactor operator logbook, and shift supervisor logbook
33. Records and logs of principal maintenance activities, inspections, repair and replacement of principal items of equipment related to nuclear safety.
34. Reports of all reportable and other significant events
35. Records of surveillance activities, inspections, and calibrations required by Technical Specifications.
36. Records of radioactive shipments.
37. Records of sealed source and fission detector leak tests and results.
38. Records of annual physical inventory of all sealed source material of record.
39. Calibration standard records and Measuring and Test Equipment (M&TE) calibration records.

Dry cask storage records pertaining to the design, fabrication, erection, testing, maintenance, and use of structures, systems, and components important to safety must be maintained for the life of the storage mode.

17.3.3 SELF-ASSESSMENT

17.3.3.1 Methodology

Each Site Vice President and the Chief Nuclear Officer are responsible for ensuring that an environment exists for a strong assessment program at the each nuclear site and within Nuclear Generation, respectively.

The overall objective at Duke Energy Corporation is to encourage ownership, involvement, and dedication by each individual supporting Nuclear Generation. This involves continually looking for ways to improve the overall performance and safety at each plant. This approach of identifying and correcting conditions early, requires active support by management and employees.

The Duke Energy Corporation self-assessment process includes the line organization self-assessment activities, independent review activities, and an independent assessment process implemented by NOS that encompasses internal and supplier audits, in-plant reviews, and other independent assessments.

The managers of line organizations are responsible for ensuring that self-assessment activities and processes are implemented within their functions to promote continuous improvements. A process of self-assessment is an attitude by personnel that the Duke Energy Corporation Nuclear Generation is improving on a continual basis. This process, along with an effective corrective action program, ensures that conditions are identified early, corrected promptly and effectively before becoming significant quality or safety problems.

The independent review activities are discussed in Section 17.3.3.2.

The independent assessment process is to confirm to management that activities affecting quality comply with the QAP and that the QAP has been implemented effectively. The assessment activities are performed in accordance with instructions and procedures by organizations independent of the areas being assessed. Personnel performing these assessment activities are technically and performance oriented, with the primary focus on the quality of the end product and a secondary focus on procedures and processes. This process is discussed in detail in Section 17.3.3.3.

17.3.3.2 Independent Review

For Brunswick, Harris, and Robinson, the independent review function is provided by an organizational unit functioning as an independent review body. At Catawba, McGuire, and Oconee, the independent review function is provided by off-site and on-site review committees. For detailed requirements see:

- Attachment A, Brunswick Specific QAPD, Section A17.3.3.2, Independent Review
- Attachment B, Harris Specific QAPD, Section B17.3.3.2, Independent Review
- Attachment C, Robinson Specific QAPD, Section C17.3.3.2, Independent Review
- Attachment D, Catawba, McGuire, and Oconee Specific QAPD, Section D17.3.3.2, Independent Review Committee

17.3.3.3 Independent Assessment

NOS is responsible for conducting independent assessments of functions and activities affecting the nuclear programs at Duke Energy Corporation locations. NOS independently monitors and

assesses the Company's nuclear programs on a continuing basis. As part of this continuing assessment process, NOS performs audits to verify that applicable elements of the quality assurance and other regulatory required programs have been developed, documented and effectively implemented in accordance with specified requirements. In this section, the words assess, assessment, and their various word forms are used generically to indicate the act of evaluating the performance of the line organization.

NOS monitors specific functional areas, along with the line organization management, to determine that the desired levels of performance are being achieved. Individuals assigned these duties work with each nuclear plant or corporate support organization, as appropriate, to improve implementation of Duke Energy Corporation's Nuclear Generation programs and processes to support safe and reliable operation.

The functions of NOS are to:

1) independently assess line organization performance including the self-assessment and corrective action process;
2) ensure that "lessons learned" are shared among the plants and support organizations; and
3) facilitate the use of industry peer evaluators to identify industry best practices.

NOS performs these functions in evaluating operations, engineering, and maintenance. NOS teams may include peers from other Duke Energy Corporation plants and from the nuclear utility industry, as appropriate, to lend expertise to the assessment process.

NOS evaluations, including the results and recommended corrective actions, are reported to senior management.

17.3.3.3.1 Organization

On an exception basis, personnel in NOS may provide assistance to the line organization by participating in emergency preparedness activities, ad hoc committees or analyzing technical issues, if such assistance is deemed to be in the overall best interest of safety and is approved in advance by NOS management.

In addition, subject matter experts from the line organizations may be utilized to add specific technical expertise to the assessment team or a specific audit team. When supporting a specific audit team, the subject matter experts will work under the direction of the audit team leader and not evaluate any documentation for which they had direct responsibility.

Selection of assessment personnel is based on experience and/or training that establishes that their qualifications are commensurate with the complexity or special nature of the area being assessed. The process for qualification of personnel to perform audits and assessments is established in procedures.

17.3.3.3.2 Internal Assessment Process

The internal assessment process includes gathering data, analyzing data, focusing on selected issues and identifying deficiencies to desired performance. The results of assessments are communicated to management in a manner that causes action to correct deficiencies and, as appropriate, develop action to prevent recurrence. In addition, this process should evaluate corrective measures adopted to eliminate the deficiencies identified.

Data is gathered using performance based techniques during:

a) Observations of work activities

b) Interviews
c) Reviews of documents to gather information (including the use of NRC, INPO, and other agency evaluations)
d) Audits, and
e) Analysis of data and reports (including adverse condition reports, etc.)

Personnel performing assessments, including audits, have access to records, procedures, and personnel to gather data.

NOS conducts assessments and observations of specific activities, and processes on the basis of their impact and importance relative to safety. The schedule is flexible and dynamic to allow the overall assessment process to be changed depending on plant conditions, events, or issues raised by senior management. Assessment activities can be focused on areas most in need of improvement.

Audits are a specific independent assessment activity performed to verify that applicable elements of the quality assurance and other regulatory required programs have been developed, documented and effectively implemented in accordance with specified requirements. Independent Audit activities are selected with flexibility based on various factors. These factors include but are not limited to: importance to safety and reliability, NOS independent assessments of site work activities, time since last audit, plant management perspective, outside agency audits, and problem areas identified from industry and Duke Energy Corporation experience.

Preparation activities may include a review of performance data, relevant documentation, previous assessment data, industry experience, team member experience, and management input. These activities enable the team to focus on issues which may impact safety and reliability when analyzing data.

Audits are scheduled per the following section.

17.3.3.3.3 Internal Audit Program

The Duke Energy Corporation QAP requires a comprehensive system of planned and periodic internal audits for all phases of station operations and supporting activities.

Periodic audits of activities or records of processes (e.g., welding, maintenance, development of design, record management, or system testing), to verify compliance and effectiveness of the implementation of the QAP are performed. NOS audits are performance based and scheduled based on plant performance and importance to safety but at a frequency not to exceed twenty-four months with extensions as allowed in Section 17.3.3.3.7, Audit Frequency Extensions.

The audit system is reviewed periodically and revised as necessary to assure coverage commensurate with current and planned activities. These audits encompass:

- The conformance of facility operation to provisions contained within the Technical Specifications and applicable license conditions.
- The performance, training and qualifications of the Nuclear Generation Department.
- The results of actions taken to correct deficiencies occurring in facility equipment, structures, or systems that affect nuclear safety; or method of operation that affect nuclear safety.
- The performance of activities required by the QAP to meet the criteria of Appendix B, 10 CFR 50 for activities performed by the Nuclear Generation Department and the interfacing organizations.

- Any other area of nuclear generation considered appropriate by responsible management.
- The Radiological Environmental Monitoring Program and the results thereof.
- The Offsite Dose Calculation Manual and implementing procedures.
- The Process Control Program and implementing procedures for processing and packaging of radioactive wastes.
- The acceptability of a representative sample of station procedures, including the effectiveness of the procedure review and revision program.
- Independent Spent Fuel Storage Installation Activities (reference 10 CFR Part 72).
- Packaging of Radioactive Materials for Off-Site Shipment (reference 10 CFR Part 71).

The scope of each audit is determined by the responsible Lead Auditor, under the direction of NOS management. The lead auditor is responsible for completion of audit checklists and directing the audit team in the performance of the audit. The audit is conducted in accordance with checklists; the scope may be expanded upon by the audit team during the audit, if needed. One or more persons comprise an audit team, one of whom is qualified lead auditor.

17.3.3.3.3.1 Other Audits Prescribed by the Code of Federal Regulations

Other Audits prescribed by the Code of Federal Regulations are scheduled and performed per the CFR. The audit frequency extension provisions of 17.3.3.3.7 do not apply.

NOS performs the following audits under the internal audit program:

a. Emergency Preparedness (per 10 CFR 50.54(t))
b. Security (per 10 CFR 50.54(p) and 10 CFR Part 73)
c. Fitness for Duty and Fatigue Rule (per 10 CFR Part 26)

The periodic review of the radiation protection program content and implementation required by 10 CFR 20.1101c may be performed by either the line organization or NOS as identified in site specific information.

17.3.3.3.3.2 Independent Audit of Fire Protection Program

See Site specific requirements for Fire Protection audits.

17.3.3.3.4 Results

Adverse conditions are reported in accordance with the applicable corrective action program procedure.

Independent audit results are communicated to line management to allow for timely action to address potential problems or recognize strengths and superior performance.

Independent assessment results are documented and reviewed with management personnel responsible for the areas assessed.

Results of independent assessments, special investigations, and analysis of data will be provided to NOS management, as appropriate, for review.

Follow-up is accomplished to assure that corrective action is taken as a result of the audit and that deficient areas are re-audited, when necessary, to verify implementation of adequate corrective actions.

17.3.3.3.5 Supplier Oversight

Supplier QA programs are evaluated and monitored by NOS-Vendor Quality, to assure that QA requirements are met. Supplier QA programs require a system of periodic and planned supplier and sub-supplier audits conducted by persons not directly involved in the activity being audited. Supplier audits are performed on a three year frequency with extensions as allowed in Section 17.3.3.3.7, Audit Frequency Extensions.

17.3.3.3.6 Independent Audit of QA Functions

As directed by the Chief Nuclear Officer, the VP NOS initiates a program audit of the QA Functions performed by NOS. These functions include the internal audit program, the NOS portions of the supplier oversight program, and maintenance of this document (Quality Assurance Program Description). This program audit is performed within a period of two years with extensions as allowed in Section 17.3.3.3.7 Audit Frequency Extensions.

This audit team consists of qualified individuals, none of which is from the area audited.

The audit is performed with pre-approved checklists, instructions, or plans.

The audit team conducts a post-audit conference with the responsible management of the areas audited to discuss the audit results, including deficiencies. The audit team prepares checklists and the audit report. The report is sent to the VP NOS.

The VP NOS and/or responsible management of the area being audited determines the need for corrective action and re-evaluation. Necessary corrective action and re-evaluation are performed as required.

Pertinent correspondence and reports related to the audit are filed.

17.3.3.3.7 Audit Frequency Extensions

Except when the audit frequency is specified by regulation, the following criteria for extending audit intervals apply:

1) Schedules are based on the anniversary established for each audit.
2) A maximum extension not to exceed 25 percent of the audit interval may be allowed (e.g., audits on a two year frequency may not be extended beyond 30 months, audits on an annual frequency may not be extended beyond 15 months).
3) When an audit interval extension is used, the next audit for that particular audit area is scheduled from the original anniversary.
4) Provision 2) also applies to supplier audits and evaluations except that a total combined time interval for any three consecutive inspection or audit intervals should not exceed 3.25 times the specified inspection or audit interval.

17.3.4 ADMINISTRATIVE CONTROLS RELOCATED FROM TECHNICAL SPECIFICATIONS

Consistent with NRC Administrative Letter 95-06, certain administrative controls from the original station Technical Specifications have been relocated to the Quality Assurance Program. These relocated administrative controls include technical review, 10 CFR 50.59 review, record retention, and audit requirements. This section provides references to the sections of this document where the administrative controls have been integrated with QAP controls.

17.3.4.1 Technical Reviews

This content provided requirements for technical reviews of station modifications, procedures, tests, and experiments to assure adequacy of nuclear safety related SSCs and associated activities. See Site specific Attachments for review requirements as follows:

- Attachment A, Brunswick Specific QAPD, Sections A17.3.4.1, Technical Reviews; A17.3.4.2, Modifications; and A.17.3.4.3, Operating License/BNP Technical Specifications.
- Attachment B, Harris Specific QAPD, Sections B17.3.4.1, 10CFR50.59 and Technical Reviews and B17.3.4.6, Procedure Review Requirements.
- Attachment C, Robinson Specific QAPD, Sections C17.3.4.1, Procedures, Tests, and Experiments, C17.3.4.2 Modifications, and C17.3.4.3, RNP Technical Specifications and License Changes
- Attachment D, Catawba, McGuire, and Oconee Specific QAPD, Section D17.3.4.1, Technical Reviews.

17.3.4.2 10 CFR 50.59 Reviews

The review of station modifications, procedures, tests, and experiments against the requirements of 10 CFR 50.59 is to ensure that changes requiring prior NRC approval are submitted to and by the NRC prior to implementation. Provisions are included in Sections 17.3.2.3 Design Verification and 17.3.2.14 Document Control to amplify the need to complete these reviews.

The program for 10 CFR 50.59 reviews is in accordance with NEI 96-07, Revision 1, “Guidelines for 10 CFR 50.59 Evaluations” as endorsed by Regulatory Guide 1.187, November 2000.

This program includes provisions to ensure that individuals have appropriate qualifications prior to completing these reviews.

See Site specific Attachments as follows:

- Attachment A, Brunswick Specific QAPD, Sections A17.3.4.4, 10CFR 50.59 Evaluations And Independent Review Control and A17.3.4.5, Nuclear Reviewers.
- Attachment B, Harris Specific QAPD, Sections B17.3.4.1.3, Qualified 10CFR50.59 Reviewers, and B17.3.4.1.4, 10CFR50.59, Evaluations and Approvals
- Attachment C, Robinson Specific QAPD, Section C17.3.4.5, 10CFR 50.59 Review Qualification
- Attachment D, Catawba, McGuire, and Oconee Specific QAPD, Section D17.3.4.2, 10 CFR 50.59 Reviews

17.3.4.3 Record Retention

The list of typical operational phase records is in Section 17.3.2.15, Records.

17.3.4.4 Audit Types and Frequencies

These are addressed in Section 17.3.3.3.3 Internal Audit Program.

17.3.4.5 On-Site Review Committee

See Site specific Attachments for on-site review committee requirements as follows:

- Attachment A, Brunswick Specific QAPD, Section A17.3.4.6, Plant Nuclear Safety Committee
- Attachment B, Harris Specific QAPD, Section B17.3.4.2, Plant Nuclear Safety Committee (PNSC)
- Attachment C, Robinson Specific QAPD, Section C17.3.4.6, Plant Nuclear Safety Committee (PNSC)
- Attachment D, Catawba, McGuire, and Oconee Specific QAPD, Section D17.3.4.5, On-Site Review Committee

17.3.4.6 Reportable Event Action

Procedures are established to assure events are reviewed and notifications and reports are made as required by Regulations including, but not limited to, 10 CFR Part 21, 10 CFR 50.72, and 10 CFR 50.73.

See Site specific Attachments for additional requirements as follows:

- Attachment A, Brunswick Specific QAPD, NONE
- Attachment B, Harris Specific QAPD, NONE
- Attachment C, Robinson Specific QAPD, Sections C17.3.4.4, Review of RNP Technical Specifications Violations, C17.3.4.10, Reportable Event Action, and C17.3.4.11, Safety Limit Violation.
- Attachment D, Catawba, McGuire, and Oconee Specific QAPD, Section D17.3.4.6

17.3.4.7 Independent Safety Engineering Group Functions

Independent Safety Engineering Group (ISEG) was addressed on a Site Specific basis for certain plants. See Site specific Attachments for additional requirements as follows:

- Attachment A, Brunswick Specific QAPD, Not Addressed.
- Attachment B, Harris Specific QAPD, Section B17.3.4.4, Independent Safety Engineering Group.
- Attachment C, Robinson Specific QAPD, Not Addressed
- Attachment D, Catawba, McGuire, and Oconee Specific QAPD, Section D17.3.4.7, Independent Safety Engineering Group

Attachment A, Brunswick Specific QAPD

Information presented in this section is transferred from the Brunswick UFSAR with approved changes as allowed under 10 CFR 50.54(a)(3). Change bars in this section indicate changes since UFSAR Amendment 24.

Where a section contains no descriptive information beyond that in the generic text in the body of the document, a statement is made to that effect and no content is included. See A17.3.1.2, Organization for example.

A17. BNP SPECIFIC QUALITY ASSURANCE

A17.1 BNP QA DURING DESIGN AND CONSTRUCTION

See Brunswick UFSAR Chapter 17 for historic information from the description of the QA Program for design and construction.

A17.2 OPERATIONAL QA

Deleted

(NOTE: In April 1995, NRC approved the reformatting of the description of the Brunswick QA Program to follow Standard Revision Plan Section 17.3, replacing the content of 17.2.)

A17.3 BNP QUALITY ASSURANCE PROGRAM (QAP) DESCRIPTION

INTRODUCTION

This content is not addressed in SRP Section 17.3; therefore, the Brunswick description of the QA Program did not include this section.

DEFINITIONS

There are no Brunswick specific definitions.

EXPLANATION OF “QUALITY ASSURANCE”

There is no Brunswick specific content.

QA STANDARDS AND GUIDES

The QAP Brunswick conforms to Appendix B of 10CFR 50, as discussed in Section 17, “Quality Assurance.” The QAP also conforms to applicable NRC Regulatory Guides and approved ANSI Standards, or applicable alternatives. Table A17-1 and A17-2 address QAP conformance to the referenced regulatory and program guidance contained in NUREG-0800 Section 17.3.

The content of Table A17-1 was transferred from Table 1-6 of the Brunswick UFSAR. Changes to the content of Table A17-1 are controlled in accordance with 10 CFR 50.54(a). Subsequent changes to the QAP are incorporated in this document as identified in Section 17.3.1.7.

Table A17-2 addresses additional Regulatory Guides that relate to implementation of the QAP but the implementation is site specific and controlled with the Brunswick UFSAR in accordance with 10 CFR 50.59.

Table A17-1. Conformance with QA Regulatory Guides and Industry Standards

Generic Exception:

Table A17-1 addresses Brunswick's Conformance of the Quality Assurance Program to certain NRC Regulatory Guides. In so doing, specific editions of industry standards are identified for compliance with exceptions and alternatives. Those identified standards include references to other industry standards for activities including, but not limited to; design, fabrication, inspection, and testing. Those included reference industry standards are considered to be guidance documents for details of how activities may be accomplished. The actual standard to be used in such cases is controlled by each station's current licensing and design bases.

Regulatory Guide 1.28, Quality Assurance Program Requirements (Design And Construction) (Safety Guide 28 June 1972) (Rev. 0)
ANSI Standard N45.2-1971, Quality Assurance Requirements For Nuclear Power Plants
This guide, and the standard it endorses, have been superseded for operations activities by Regulatory Guide 1.33 and ANSI N18.7-1976, which it endorses. The Operational Quality Assurance Program complies with Regulatory Guide 1.33 and ANSI N18.7-1976 as stipulated in Appendix A to that Program; therefore, Regulatory Guide 1.28 (Safety Guide 28) and ANSI N45.2-1971, which it endorses, are not considered necessary and are not included as part of the program.
Regulatory Guide 1.30, Quality Assurance Requirements For The Installation, Inspection, And Testing Of Instrumentation And Electrical Equipment (Safety Guide 30, Revision 0, August 1972)
ANSI Standard N45.2.4-1972 (IEEE-336-1971), Installation, Inspection, And Testing Requirements For Instrumentation And Electrical Equipment During The Construction Of Nuclear Power Generating Stations
BNP 1 and 2 shall comply with the provisions of Regulatory Guide 1.30, August 1972, as indicated below:
The installation, inspection, and testing of nuclear power plant instrumentation and electrical equipment at BNP will be in accordance with the applicable requirements of ANSI N45.2.4-1972 with the following exceptions: 1. Section 1.4 titled Definitions: Definitions in this standard which are not included in ANSI N45.2.10 will be used; definitions which are included in ANSI N45.2.10 will be used as clarified in Brunswick commitment to Regulatory Guide 1.74. 2. Section 1.5 titled Reference Documents: Brunswick's commitment to other documents referenced in this standard shall be as stated in our commitment to that document. 3. Section 2.5 titled Measuring and Test Equipment: Brunswick will implement the applicable portions of this Section as follows: The status of portable items of measuring and test equipment and reference standards shall be identified by use of status cards, computer schedules, or tags for the date recalibration is due. These items are in a calibration program which requires recalibration on a specified frequency or, in certain cases, prior to use.

Table A17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.30, Quality Assurance Requirements For The Installation, Inspection, And Testing Of Instrumentation And Electrical Equipment (Safety Guide 30, Revision 0, August 1972)
ANSI Standard N45.2.4-1972 (IEEE-336-1971), Installation, Inspection, And Testing Requirements For Instrumentation And Electrical Equipment During The Construction Of Nuclear Power Generating Stations
Instrumentation and electrical equipment in the categories listed below shall be in a calibration program. This program provides, by the use of status cards, computer schedules, or tags, for the date that recalibration is due and indicates the status of calibration. The identity of person(s) performing the calibration is provided on the calibration documents. a. Instruments installed as listed in the BNP Technical Specifications b. Installed instrumentation used to verify BNP Technical Specification parameters c. Installed safety-related instruments and electrical equipment that provide an active function during operation or during shutdown; i.e., not a device being designated safety-related solely because the instrument is an integral part of a pressure retaining boundary. 4. Section 7 titled Data Analysis and Evaluation states in part, "Procedures shall be established for processing inspection and test data and their analysis and evaluation." At BNP 1 and 2, (data processing procedures per se have not been developed; instead, test data are recorded, processed, and analyzed in accordance with procedures and instructions in appropriate functional areas; e.g., maintenance, startup.
Regulatory Guide 1.33, Quality Assurance Program Requirements (Operation) (Safety Guide 33 November 1972)
ANSI Standard N18.7-1976, Administrative Controls And Quality Assurance For The Operational Phase Of Nuclear Power Plants
Comply with the provisions of Regulatory Guide 1.33, November 1972, and the requirements and recommendations for administrative controls described in ANSI N18.7-1976 except as stated below: 1. Paragraph 4.3.4(1) – The independent review body shall review written evaluations of changes in the facility as described in the BNP Final Safety Analysis Report (as updated), changes in procedures as described in the BNP Final Safety Analysis Report (as updated) and tests or experiments not described in the BNP Final Safety Analysis Report (as updated) which are completed without prior NRC approval under the provisions of 10CFR 50.59. This review is to verify that such changes, tests or experiments did not involve a change in the BNP Technical Specifications or require NRC approval pursuant to 10CFR 50.59. 2. Paragraph 4.3.4(2) – The independent review body shall review proposed changes in procedures, proposed changes in the facility, or proposed tests or experiments, any of which involves a change in the BNP Technical Specifications or requires NRC approval pursuant to 10CFR 50.59. 3. Paragraph 4.5 - Written audit reports are not formally reviewed as part of the Independent Review function.

Table A17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.33, Quality Assurance Program Requirements (Operation) (Safety Guide 33 November 1972)
ANSI Standard N18.7-1976, Administrative Controls And Quality Assurance For The Operational Phase Of Nuclear Power Plants

4. Paragraph 4.5 - The Chief Nuclear Officer will assure that an independent assessment of the overall Nuclear Oversight Program is conducted at least once every 24 months. Results of the independent assessment will be reported directly to the Chief Nuclear Officer and entered into the Corrective Action Program for resolution. For scheduling consistency, the exceptions included in paragraph 5 of this section will be used as clarification for scheduling this independent assessment.
5. Paragraph 4.5, Audit Program-Regulatory Guide 1.33 (Safety Guide 33, November 1972) endorses ANSI N18.7-1976/ANS-3.2, Section 4.5 which states that audits of selected aspects of the operational phase activities, including safety-related functions, are completed within a period of two years, with the following clarification.
   a. Audits shall be performed at the intervals designated herein for each audit area. Schedules shall be based on the exit date of the audit.
   b. A maximum extension not to exceed 25 percent of the audit interval shall be allowed. That is to say that, for audits on a 24-month frequency, the maximum time between specific audits shall not exceed 30 months. Likewise, audits on an annual (12-month) frequency shall not be extended beyond 15 months.
   c. When an audit interval extension is used, the next audit for that particular audit area will be scheduled from the original anniversary exit date rather than from the exit date of the extended audit.
   d. Item 5.b above shall also apply to supplier audits and evaluations except that a total combined time interval for any three consecutive inspection or audit intervals should not exceed 3.25 times the specified inspection or audit interval.

   NOTE: This grace period will not be applied to audits of the Nuclear Emergency Response Plan to satisfy the requirements of 10CFR 50.54(t), Security Plan to satisfy the requirements of 10CFR 50.54(p), Radiation Protection to satisfy 10CFR 20.1101c, and Fire Protection to satisfy NRC Generic Letter 82-21, "BNP Technical Specifications for Fire Protection Audits." The schedule for these audits will continue to be based on the exit date and not the exit month.
6. Section 5.2.2 titled Procedure Adherence: Temporary changes to approved procedures shall be approved by persons specified in BNP UFSAR Chapter 17.
7. The applicable procedures recommended in Appendix "A" of Regulatory Guide 1.33, November 1972, shall be established, implemented, and maintained as specified in the BNP 1 and 2 BNP Technical Specifications.
8. Paragraph 5.2.7 - BNP will comply with requirements of the first sentence of the second paragraph and provides the following clarification:
   a. "Documented Instructions" is defined as any credible information (e.g., vendor manuals, vendor recommendations, engineering direction, etc.) Used for work planning/execution which is reviewed and approved prior to use in accordance with approved procedures.
9. Paragraph 5.2.13, titled Procurement Document Control: When purchasing commercial grade calibration services from certain accredited calibration laboratories, the procurement documents are not required to impose a quality assurance program consistent with ANSI N45.2-1971. Alternate requirements described in Section 1.8 for Regulatory Guide 1.123 may be implemented in lieu of imposing a quality assurance program consistent with ANSI N45.2-1971.

Table A17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.33, Quality Assurance Program Requirements (Operation) (Safety Guide 33 November 1972)
ANSI Standard N18.7-1976, Administrative Controls And Quality Assurance For The Operational Phase Of Nuclear Power Plants

10. 5.2.15 states, in part: “Plant procedures shall be reviewed by an individual knowledgeable in the area affected by the procedure no less frequently than every two years to determine if changes are necessary or desirable.”
    BNP implements administrative and programmatic controls that ensure procedures are maintained current in accordance with 10CFR 50, Appendix B, thus meeting the intent of the biennial review.
    BNP implements administrative controls to perform biennial reviews of non-routine procedures such as Emergency Operating Procedures, Abnormal Operating Procedures, Emergency Plan, Security, and other procedures that may be dictated by an event.
    Programmatic controls specify conditions when mandatory review of plant procedures apply, and include a requirement to review applicable procedures following and accident or transient and following any modification to a system.
    BNP utilizes a pre-job briefing practice to ensure that personnel are aware of what is to be accomplished and what procedures will be used prior to beginning a job. In addition, the Procedure Adherence Policy requires that the job be stopped and the procedure be revised or the situation resolved prior to work continuing if procedures cannot be implemented as written.
    Additionally, the Nuclear Oversight audit program requires the review of a representative sample of plant procedures, as part of routine audits, to ensure that existing administrative controls for procedure verification, review, and revision are effective in maintaining the quality of plant procedures. Significant QA Program deficiencies are identified in the audit reports. These deficiencies are investigated in accordance with the Corrective Action Program. The plant Self-Assessment Program also periodically reviews selected procedures and identified deficiencies and improvements through the Corrective Action Program.
11. Section 5.2.17, second to the last sentence in the last paragraph, "Deviations, their cause, and any…," to be consistent with Paragraph 5.2.11 and 10CFR 50, Appendix B, the cause of the deviation will be determined for only significant conditions adverse to safety.
12. Paragraph 5.3.5(4) last sentence - BNP interprets the review requirements for "Supporting Maintenance Documents" which have not been incorporated in a procedure, be performed in an equivalent manner as described in approved procedures.
13. Section 5.3.9.1, titled Emergency Procedure Format and Content: Emergency procedures shall be in the format as committed to in NUREG-0737, TMI Action Plan.
14. ANSI N18.7-1976, Section 5.2.16. See section A17.3.2.9 for clarification.
15. Section 5.3.10, first paragraph - The requirement "Test and inspection results shall be documented...," will be implemented as follows:
    As an alternative to the records required for inspections outlined in paragraph 5.3.10, BNP shall provide the following as the method to document results of inspections.
    The results of inspections will be documented in appropriate records and those records shall, as a minimum, identify a) through f) below:
    a) Item inspected
    b) Date of inspection
    c) Inspector
    d) Type of observation
    e) Results or acceptability
    f) Reference to information on action taken in connection with non-conformances.

Table A17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.37, Quality Assurance Requirements For Cleaning Of Fluid Systems And Associated Components Of Water-Cooled Nuclear Power Plants (March 1973)

ANSI Standard N45.2.1-1973, Cleaning Of Fluid Systems And Associated Components During Construction Phase Of Nuclear Power Plants

Those areas of the QA Program applicable to onsite cleaning of materials and components, cleanliness control, and pre-operation cleaning and layup of BNP 1 and 2 fluid systems, will be in accordance with ANSI N45.2.1-1973, with the following exceptions:

1. At BNP 1 and 2, a classification system similar to ANSI N45.2.1-1973 has been developed and is fully implemented for cleaning of fluid systems.
2. Section 1.4 titled Definitions: Definitions in this standard which are not included in ANSI N45.2.10 will be used; definitions which are included in ANSI N45.2.10 will be used as clarified in BNP's commitment to Regulatory Guide 1.74.
3. Section 1.5 titled Referenced Documents: BNP's commitment to other documents referenced in this standard shall be as stated in our commitment to that document.

Regulatory Guide 1.38, Quality Assurance Requirements For Packaging Shipping Receiving Storage And Handling Of Items For Water-Cooled Nuclear Power Plants (March 1973)

ANSI Standard N45.2.2-1972, Packing, Shipping, Receiving, Storage, And Handling Of Items For Nuclear Power Plants

Packaging, shipping, receiving, storage, and handling of BNP items are in accordance with applicable requirements of ANSI N45.2.2-1972 with the following specific exceptions:

1. Section 1.4 titled Definitions: Definitions in this standard which are not included in ANSI N45.2.10 will be used; definitions which are included in ANSI N45.2.10 will be used as clarified in BNP's commitment to Regulatory Guide 1.74.
2. Section 1.5 titled Referenced Documents: BNP's commitment to other documents referenced in this standard shall be as stated in our commitment to that document.
3. Section 2.7 titled Classification of Items and Section 6.1.2 titled Levels of Storage:
   a. Special electronic equipment and instrumentation received as assembled panels will be stored as recommended by the manufacturer and/or based on engineering evaluation to prevent damage, deterioration, or contamination, but not necessarily in a Level A storage area.
   b. Chemicals used at BNP 1 and 2 are stored at the point of use and/or in warehouse areas that satisfy the requirement of Level B storage. These storage areas have been evaluated and determined to be adequate for the limitations established by the manufacturer.
   c. Special nuclear materials are stored in areas specifically designed for such storage.
4. Paragraph 6.4.2, Care of Items: The following alternates are provided for indicated subparts:
   a. Space heaters in electrical equipment shall be energized unless a documented engineering evaluation determines that such space heaters are not required.
   b. Rotating electrical equipment, commensurate to safety or reliability, shall be given insulation resistance tests on a schedule basis, unless a documented evaluation determines that such tests are not required.
   c. Rotating equipment, commensurate to safety or reliability, shall be evaluated for shaft rotation requirements. The degree of turn shall be established so that the parts receive a coating of lubrication where applicable, and so that the shaft does not come to rest in a previous position. (90 deg. and 450 deg. rotations are examples.)
   d. Other maintenance requirements specified by the manufacturer's instructions shall be evaluated to determine applicability during storage of the item.

Table A17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.38, Quality Assurance Requirements For Packaging Shipping Receiving Storage And Handling Of Items For Water-Cooled Nuclear Power Plants (March 1973)
ANSI Standard N45.2.2-1972, Packing, Shipping, Receiving, Storage, And Handling Of Items For Nuclear Power Plants
5. Section 7.3.4 - BNP intends to comply with the requirements of this Section with the following clarification: Test loads equal to or greater than the original crane rating shall not pass over locations where special nuclear material is stored or where reactor system components or high cost equipment are located.
Regulatory Guide 1.39, Housekeeping Requirements For Water-Cooled Nuclear Power Plants (March 1973)
ANSI Standard N45.2.3-1973, Housekeeping, During The Construction Phase Of Nuclear Power Plants
The applicable operational phase requirements of N45.2.3-1973 are followed at BNP within the context of the established QA Program with the following specific exception -- the zone designations of Section 2.1 of N45.2.3 and the requirements associated with each zone are considered impractical for implementation, as stated, at BNP during the operations phase. Instead, procedures or instruction for housekeeping activities, which include the applicable requirements outlined in Section 2.1 of N45.2.3, and which take into account radiation control considerations, security considerations, and cleanliness requirements, are developed on a case by case basis for work to be performed.
Regulatory Guide 1.58, Qualification Of Nuclear Power Plant Inspection, Examination, And Testing Personnel (September 1980)
ANSI Standard N45.2.6-1978, Qualification Of Inspection, Examination, And Testing Personnel For Nuclear Power Plants"
BNP 1 and 2 shall comply with NRC Regulatory Guide 1.58, September 1980, which endorses ANSI N45.2.6-1978, with the following exceptions:
1. Section 1.2 titled Applicability: BNP elects not to apply the requirements of this guide to those personnel who are involved in the daily operations of surveillance, maintenance, and certain technical and support services whose qualifications are controlled by the BNP Technical Specifications or are controlled by other QA Program commitment requirements. Only personnel in the following listed categories will be required to meet ANSI N45.2.6-1978 requirements: a. Nondestructive examination (NDE) personnel b. QC inspection personnel c. Receipt Inspection personnel 2. The fourth paragraph of Section 1.2 requires that the Standard be imposed on personnel other than BNP employees. The applicability of the Standard to suppliers and contractors will be documented and applied, as appropriate, in the procurement documents for such suppliers and contractors. 3. Section 1.4 titled Definitions: Definitions in this Standard which are not included in ANSI N45.2.10 will be used; definitions which are included in ANSI N45.2.10 will be used as clarified in BNP's commitment to Regulatory Guide 1.74.

Table A17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.58, Qualification Of Nuclear Power Plant Inspection, Examination, And Testing Personnel (September 1980)
ANSI Standard N45.2.6-1978, Qualification Of Inspection, Examination, And Testing Personnel For Nuclear Power Plants"
4. Section 2.5 titled Physical: BNP will implement the requirements of this Section with the stipulation that, where no special physical characteristics are required, none will be specified. The converse is also true: if no special physical requirements are stipulated by BNP, none are considered necessary. BNP employees receive an initial physical examination to assure satisfactory physical condition; however, only the following listed personnel will receive an annual examination: a. NDE personnel b. QC inspection personnel c. Receipt inspection personnel This annual examination shall consist of the near visual acuity using the standard Jaeger's type chart or equivalent test. 5. Section 3 titled Qualifications: Only personnel performing NDE (such as LP, MT, UT, and RT) will be grouped in levels of capability and certified as such. QC inspection personnel will be certified for inspection, review, and evaluation of inspection data, and reporting of inspection and test results. 6. Section 3.5 titled Education & Experience Recommendations: BNP will certify individual inspectors through training and experience to requirements appropriate to the specific assignment; however, except for NDE, personnel will not be classified by levels of capability. The training and experience requirements will be directed toward qualifying personnel for specific inspection and testing operations.
Regulatory Guide 1.64, Quality Assurance Requirements For The Design Of Nuclear Power Plants (October 1973)
ANSI Standard N45.2.1.1-1974, Quality Assurance Requirements For The Design Of Nuclear Power Plants
Those areas of the QA Program for BNP 1 and 2 applicable to design or modification of the plant are in accordance with the applicable guidance of ANSI N45.2.11-1974, with the following exception:
1. Section 1.4 titled Definitions: Definitions in this standard which are not included in ANSI N45.2.10 will be used; definitions which are included in ANSI N45.2.10 will be used as clarified in the BNP commitment to Regulatory Guide 1.74.
Regulatory Guide 1.74, Quality Assurance Terms And Definitions (February 1974)
ANSI Standard N45.2.1.0-1973, Quality Assurance Terms And Definitions
Comply with the provisions of Regulatory Guide 1.74, February, 1974.

Table A17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.88, Collection, Storage, And Maintenance Of Nuclear Power Plant Quality Assurance Records (August 1974)
ANSI Standard N45.2.9-1974, Collection, Storage, And Maintenance Of QA Records
The requirements for collection, storage, and maintenance of QA records at BNP will be in accordance with ANSI N45.2.9-1974 and 17.3.2.15, with the following specific exceptions:
See standard exception in Table 17-1 Regulatory Guide 1.88 for the appropriate controls on quality in the management of electronic records. 1. The document control facility at the BNP shall comply with the requirement of Regulatory Guide 1.88, October, 1976, Regulatory Position C.2 in that the facility has been specifically designed to protect the contents from fire in accordance with NFPA 232-1975, with the following exceptions/alternatives/comments: a. Records are classified as Class 1 - Vital Records in accordance with NFPA 232-1975, Chapter 5, Section 5222; however, the records that meet this classification include those determined to be QA records as defined in ANSI N45.2.9-1974, paragraph 1.4. b. The facility is constructed in accordance with NFPA 232-1975 requirements for a fire-resistive file room as defined in NFPA 232-1975, Chapter 3. The walls were designed and constructed equivalent to a four-hour barrier. The doors are four-hour rated vault doors. Penetrations for electrical service and ventilation are sealed to a rating of 3 hours to protect the vault from a fire originating outside the vault. c. Due to the construction of the facility and other safety measures described herein, the statement in NFPA 232-1975, Chapter 3, Section 3022(d), "Class 1 . . . records should not be subjected to these possibilities of destruction by fire" is deemed to be inappropriate. d. The facility is protected by a Halon fire extinguishing system, automatic door closures, and fire detection system. e. The floor of the file room is six inches higher than the floor areas outside the file room. f. The walls are reinforced concrete, ten inches thick. g. The exterior walls are totally enclosed and insulated from the outside environment and elements. h. The facility is constructed independently from the building. i. NFPA 232-1975, Chapter 3, Sections 332 and 333 describe methods for heating and ventilation. The facility will have penetrations in the wall for the purposes of heating and ventilation. The facility is equipped with a Heating, Ventilating and Air Conditioning system external to the file room with automatic closing dampers. "The temperature and humidity should be controlled between 65 and 75 degrees and 20 and 40 percent, respectively. Temporary operation outside this range is acceptable during extreme low outside relative humidity conditions which have shown to drop the vault humidity below 20 percent. Humidity above the upper 40 percent range is acceptable during maintenance. The above times are short in duration and the humidity change is gradual. Evaluation for out of tolerance conditions will be performed. Corrective actions or compensatory measures will be taken if required, to ensure there is no adverse impact on storage of records and to restore the vault to prescribed conditions." j. 120 VAC wall outlets are provided in the file room for emergency lighting and janitorial needs. These outlets may be de-energized from a disconnect box installed on the outer wall of the records storage facility. The lighting may be disconnected outside the room and is equipped with a red pilot light.

Table A17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.88, Collection, Storage, And Maintenance Of Nuclear Power Plant Quality Assurance Records (August 1974)
ANSI Standard N45.2.9-1974, Collection, Storage, And Maintenance Of QA Records

k. BNP QA records not stored in the facility described above may be retained at off-site locations which meet the requirements (with approved exceptions as necessary) of Section 5.6, ANSI 45.2.9-1974.

2. Paragraph 1.4, Definitions: The phrase "when the document has been completed" is clarified to mean when the document has received the final review performed by the organizational element responsible for generating or collecting the records. In the case of a record package made up of several individual documents, the package will be considered to be the document for the purpose of determining when the record is complete.
3. Paragraph 3.2.1, Generation of Quality Assurance Records: The phrase "completely filled out" is clarified to mean that sufficient information is recorded to fulfill the intended purpose of the record.
4. Paragraph 4.2, Timeliness: BNP's contractual agreement with its contractors and suppliers will constitute fulfillment of the requirements of this paragraph.
5. Paragraph 5.4, Preservation: The following clarification is substituted for the current subparagraph 5.4.2: "Records shall not be stored loosely. They shall be secured for storage in file cabinets or on shelving in containers." The following clarification is substituted for the current subparagraph 5.4.3: "Appropriate provisions shall be made for special processed records (such as radiographs, photographs, negatives, microfilm and magnetic media) to prevent or minimize damage for excessive light, stacking, electromagnetic fields, temperature and humidity, etc. Manufacturer's recommendations will be considered as appropriate."
6. Paragraph 5.6, Facility: This paragraph provides no distinction between temporary and permanent facilities. To cover temporary storage, the following clarification is added: "Complete records may be stored in one-hour fire rated file cabinets until transmitted for permanent storage. In general, records shall not be maintained in temporary storage by the generating organization for more than 90 days after completion. Any exceptions to this requirement must be justified, evaluated and approved by the Document Management Supervisor and documented. A list of exceptions shall be maintained and available for NRC review. Exceptions may include records needed on a continuing basis for an extended period of time at the location of the work group responsible for generating the records and records which are cumulative in nature and could best be turned over for storage for a designated period of time.
   In addition, Document Management & Information Services will store records in one- hour rated file cabinets while the records are being processed for permanent storage.
7. See standard exception in Table 17-1 Regulatory Guide 1.88 for the appropriate controls on quality in the management of electronic records.

Table A17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.94, Quality Assurance Requirements For Installation, Inspection, And Testing Of Structural Concrete And Structural Steel During The Construction Phase Of Nuclear Power Plants (Rev. 1, April 1976)
ANSI Standard N45.2.5-1974, Supplementary Quality Assurance Requirements For Installation Inspections And Testing Of Structural Steel During The Contract Phase Of Nuclear Power Plants
Regulatory Guide 1.94, Revision 1, April 1976 endorses ANSI N45.2.5-1974. BNP 1 and 2 do not commit to Regulatory Guide 1.94 but do endorse parts of ANSI N45.2.5-1974 as described below. The original specification requirements, applicable guidance contained in ANSI N45.2.5-1974, or acceptable alternatives based on an engineering evaluation will be utilized in the event future structural work is to be performed which falls under the established requirements of the BNP QA Program.
Regulatory Guide 1.116, QA Requirements For Installation, Inspection, And Testing Of Mechanical Equipment And Systems (June 1976)
ANSI Standard 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
Regulatory Guide 1.116, June 1976, endorses ANSI N45.2.8-1975. BNP 1 and 2 does not commit to Regulatory Guide 1.116 but does endorse parts of ANSI N45.2.8-1975 as described below.
Within the context of the established QA Program, the applicable guidance contained in ANSI N45.2.8-1975 will be utilized in relation to mechanical maintenance or modification with the following exceptions: 1. Section 1.4 titled Definitions: Definitions in this standard which are not included in ANSI N45.2.10 will be used; definitions which are included in ANSI N45.2.10 will be used as clarified in BNP's commitment to Regulatory Guide 1.74. 2. Section 1.5 titled Referenced Documents: BNP's commitment to other documents referenced in this standard shall be as stated in our commitment to that document. 3. Section 2.8 titled Measuring and Test Equipment: BNP will implement the applicable portions of this Section as follows: a. The status of portable items of measuring and test equipment and reference standards shall be identified by use of status cards, computer schedules, or tags for the date recalibration is due. These items are in a calibration program which requires recalibration on a specified frequency or, in certain cases, prior to use. b. Instrumentation and electrical equipment in the categories listed below shall be in a calibration program. This program provides, by the use of status cards, computer schedules, or tags, for the date that recalibration is due and indicates the status of calibration. The identity of person(s) performing the calibration is provided on the calibration documents. 1) Instruments installed as listed in the BNP Technical Specifications 2) Installed instrumentation used to verify BNP Technical Specification parameters 3) Installed safety-related instruments and electrical equipment that provide an active function during operation or during shutdown; i.e., instead of being designated safety-related solely because the instrument is an integral part of a pressure retaining boundary,

Table A17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.116, QA Requirements For Installation, Inspection, And Testing Of Mechanical Equipment And Systems (June 1976)
ANSI Standard 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
4. Section 6 titled Data Analysis and Evaluation states in part, "Procedures shall be established for processing inspection and test data and their analysis and evaluation." At BNP 1 and 2, data processing procedures per se have not been developed; instead, test data are recorded, processed, and analyzed in accordance with procedures and instructions in appropriate functional areas; e.g., maintenance, startup.
Regulatory Guide 1.123, “Quality Assurance Requirement For Control Or Procurement Of Items And Services For Nuclear Power Plant”
ANSI Standard N45.2.13, “Quality Assurance Requirements For Control Or Procurement Of Items And Services For Nuclear Power Plants” (Draft 2, Rev. 4, April 1974)
BNP does not commit to Regulatory Guide 1.123; however, the applicable guidance contained in ANSI N45.2.13 (Draft 2, Revision 4, April 1974) and ANSI N18.7-1976, will be utilized in relation to procurement of items and services performed under the established requirements of the QA Program.
See standard exceptions in Table 17-1 for Regulatory Guide 1.123 for the procurement of Commercial Grade Items and Services including, purchasing commercial-grade calibration services from calibration laboratories.
Regulatory Guide 1.144, Auditing Of Quality Assurance Programs For Nuclear Power Plants (January 1979)
ANSI Standard N45.2.12-1977, Requirements For Auditing Of Quality Assurance Programs For Nuclear Power Plants
BNP will follow the requirements and recommendations of Regulatory Guide 1.144 and ANSI Standard N45,2.12, with the following clarifications:
1. BNP will follow the requirements and recommendations of Regulatory Guide 1.144, paragraphs C.1, C.2, C.3.a.2, C.3.b, and C.4. BNP's position on paragraph C.3.a.1 is as follows: Audits of operational phase activities, as outlined in Section 17.3.3.3 shall be performed at the frequencies stated in exception 5 for RG 1.33 in Table A17-1. See standard exceptions in Table 17-1 for Regulatory Guide 1.123 for the procurement of Commercial Grade Items and services including, purchasing commercial-grade calibration services from calibration laboratories. 2. (Deleted) 3. BNP will comply with the last paragraph of Section 4.4 of ANSI N45.2.12 concerning issuing audit reports, with the following clarification: "Audit reports shall be issued within thirty working days after the last day of the audit. The last day of the audit shall be considered to be the day of the post-audit conference. If a post-audit conference is not held because it was deemed unnecessary, the last day of the audit shall be considered to be the date the post-audit conference was deemed unnecessary as documented in the audit report."

Table A17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.144, Auditing Of Quality Assurance Programs For Nuclear Power Plants (January 1979)
ANSI Standard N45.2.12-1977, Requirements For Auditing Of Quality Assurance Programs For Nuclear Power Plants

4. ANSI N45.2.12 Paragraph 4.3.1, Preaudit Conference: BNP will comply with the requirement of this paragraph by inserting the word "Normally" at the beginning of the first sentence. This clarification is required because, in the case of certain unannounced audits or audits of a particular operation or work activity, a preaudit conference might interfere with the spontaneity of the operation or activity being audited. In other cases, persons who should be present at a preaudit conference may not always be available. Such lack of availability should not be an impediment to beginning an audit. Even in the above examples, which are not intended to be all inclusive, the material set forth in paragraph 4.3.1 will normally be covered during the course of the audit.
5. ANSI N45.2.12 Paragraph 4.3.3, Post Audit Conference: BNP will substitute and comply with the following paragraphs:
   For all external audits, a post audit conference shall be held with management of the audited organization to present audit findings and clarify misunderstandings. Where no adverse findings exist, this conference may be waived by management of the audited organization. Such waiver shall be documented in the audit report. For all internal audits, unless unusual operating or maintenance conditions preclude attendance by appropriate managers/supervisors, an audit exit shall be held with managers/supervisors. If there are no adverse findings, management of the audited organization may waive the audit exit. Such waiver shall be documented in the audit report.
6. ANSI N45.2.12 Paragraph 4.4, Reporting:
   a. This paragraph requires that the audit report be signed by the audit team leader which is not always the most expeditious route for the audit report to be issued as soon as possible. BNP will comply with Paragraph 4.4 as clarified to read:
      An audit report shall be signed by the audit team leader or the leader's supervisor in the absence of the audit team leader. In cases where the audit report is not signed by the audit team leader due to the leader's absence, the record copy of the report must be signed by the audit team leader upon return. The report shall not require the audit team leader's review/concurrence/signature if the audit team leader is no longer employed by BNP at the time audit report is issued. The audit report shall provide:
   b. BNP will comply with subparagraph 4.4.3 clarified to read: "Supervisory level personnel with whom significant discussions were held during the course of preaudit (where conducted), audit, and post audit (where conducted) activities.
   c. Subparagraph 4.4.6 requires audit reports to include recommendations for corrective actions. BNP may choose not to comply with this requirement. Instead, BNP audit reports are required to document findings.

Table A17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.146, Qualification Of Quality Assurance Program Audit Personnel For Nuclear Power Plants (Rev. 0 August 1980)
ANSI Standard N45.2.23-1978, Qualification Of Quality Assurance Program Audit Personnel For Nuclear Power Plants
BNP 1 and 2 shall comply with NRC Regulatory Guide 1.146, Revision 0, which endorses ANSI N45.2.23-1978, with the following exceptions:

1. Section 1.4 titled Definitions: Definitions in this Standard which are not included in ANSI N45.2.10 will be used; "AUDIT" which is included in ANSI N45.2.10 will be used as clarified in BNP's commitment to Regulatory Guide 1.74.
2. Section 2.2 titled Qualification of Auditors: Subsection 2.2.1 references an ANSI B45.2 which will be assumed to be N45.2. BNP will comply with an alternate subsection 2.2.1 which reads:
   Orientation to provide a working knowledge and understanding of the BNP Quality Assurance Program, including the Regulatory Guides and ANSI standards included in the Program, and BNP procedures for performing audits and reporting results.
3. (Deleted)
4. Section 4.1 titled Organizational Responsibility: BNP will comply with this Section with the substitution of the following sentence in place of the last sentence in the Section:
   Management or the Audit/NOS Team Leader shall, prior to commencing the audit, assign personnel who collectively have experience or training commensurate with the scope, complexity, or special nature of the activities to be audited.
5. Section 5.3 titled Updating of Lead Auditors' Records: BNP will substitute the following sentence for this Section:
   Records for each Lead Auditor shall be maintained and updated during the annual management assessment as defined in Section 3.2 (as clarified).
6. Section 5.4 titled Record Retention: BNP will substitute the following sentence for this Section:
   Qualification records shall be retained as required by the BNP Quality Assurance Program.
7. ANSI N45.2.23-1978, Section 2.3.4 titled Audit Participation: BNP will substitute the following for this Section:
   Prospective Lead Auditors shall demonstrate the ability to effectively implement the audit process and effectively lead an audit team. This process is described in written procedures which provide for evaluation and documentation of the results of this demonstration. In addition, the prospective Lead Auditor shall have participated in at least two Nuclear Oversight audits within the year preceding the individual's effective date of qualification. Upon successful demonstration of the ability to effectively implement the audit process and effectively lead audits, and having met the other provisions of Section 2.3 of ANSI/ASME N45.2.23-1978, the individual may be certified as being qualified to lead audits.

Table A17-2. Site Specific Response to Regulatory Guides and Industry Standards

Table A17-2 identifies additional Regulatory Guides addressing subjects related to implementation of the QAP but the implementation is site specific and controlled with the UFSAR in accordance with 10 CFR 50.59.

Regulatory Guide 1.8, Personnel Selection And Training
Personnel selection and training is site specific. Brunswick addresses conformance with Regulatory Guide 1.8 (SAFETY GUIDE 8, MARCH 1971) in UFSAR Chapter 1 Table 1-6.

Regulatory Guide 1.26, Quality Group Classifications And Standards For Water-, Steam-, And Radioactive-Waste-Containing Components Of Nuclear Power Plants
Quality group classifications and standards trace to the original design and construction of the nuclear power plant and therefore are site specific. Brunswick does not address Regulatory Guide 1.26 in UFSAR Chapter 1 Table 1-6. Quality group classifications are addressed in UFSAR Chapter 3.

Regulatory Guide 1.29, Seismic Design Classification
Seismic design classification trace to the original design and construction of the nuclear power plant and therefore is site specific. Brunswick addresses conformance with Regulatory Guide 1.29 in UFSAR Chapter 1 Table 1-6.

Regulatory Guide 1.36, Nonmetallic Thermal Insulation For Austenitic Stainless Steel
Nonmetallic thermal insulation for austenitic stainless steel trace to the original design and construction of the nuclear power plant and therefore is site specific. Brunswick does not address conformance with Regulatory Guide 1.36 in UFSAR Chapter 1 Table 1-6. Thermal insulation for austenitic stainless steel is addressed in UFSAR Section 5.2.

Regulatory Guide 1.54, Quality Assurance Requirements For Protective Coatings Applied To Water-Cooled Nuclear Power Plants
Quality assurance requirements for protective coatings applied to water-cooled nuclear power plants trace to the original design and construction of the nuclear power plant and therefore is site specific. Brunswick addresses conformance with Regulatory Guide 1.54 in UFSAR Chapter 1 Table 1-6.

Table A17-2. Site Specific Response to Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.143, Design Guidance For Radioactive Waste Management Systems, Structures, And Components Installed In Light-Water-Cooled Nuclear Power Plants
Design guidance for radioactive waste management systems, structures, and components installed in light-water-cooled nuclear power plants trace to the original design and construction of the nuclear power plant and therefore is site specific. Brunswick does not address conformance with Regulatory Guide 1.143 in UFSAR Chapter 1 Table 1-6. Design guidance for radioactive waste management systems, structures, and components is addressed in UFSAR Chapter 11.

Regulatory Guide 1.155, Station Blackout
Addressing Station Blackout is site specific. Brunswick addresses conformance with Regulatory Guide 1.155 in UFSAR Chapter 1 Table 1-6.

Regulatory Guide 4.15, Quality Assurance For Radiological Monitoring Programs (Normal Operations) – Effluent Streams And The Environment
Quality assurance for radiological monitoring program (normal operations) – effluent streams and the environment is site specific. Brunswick does not address conformance to Regulatory Guide 4.15 in UFSAR Chapter 1 Table 1-6. The radiological monitoring program is addressed in UFSAR Chapter 11.

A17.3.1 MANAGEMENT

A17.3.1.1 Methodology

There are no Brunswick specific amplifications for this section.

A17.3.1.2 Organization

There are no Brunswick specific amplifications for this section.

A17.3.1.3 Responsibility

There are no Brunswick specific amplifications for this section.

A17.3.1.4 Authority

The program and procedures require that the authority and duties of persons and organizations performing activities affecting quality functions be clearly established and delineated in writing and that these individuals and organizations have sufficient authority and organizational freedom to:

1. Identify quality, nuclear safety, and performance problems.
2. Order unsatisfactory work to be stopped and control further processing, delivery, or installation of nonconforming material.
3. Initiate, recommend, or provide solutions for conditions adverse to quality.
4. Verify implementation of solutions.

A17.3.1.5 Personnel Training and Qualification

There are no Brunswick specific amplifications for this section.

A17.3.1.6 Corrective Action

The program requires that an evaluation of adverse conditions such as conditions adverse to quality, nonconformances, failures, malfunctions, deficiencies, deviations, and defective material and equipment is conducted to determine need for corrective action.

Conditions adverse to quality are identified through inspections, assessments, tests, checks, and review of documents.

The program requires corrective action to be initiated to preclude recurrence of significant conditions adverse to quality.

Procedures require follow-up reviews, verifications, inspections, etc., to be conducted to verify proper implementation of corrective action and to close out the corrective action documentation.

The program outlines the methodology for resolution of disputes involving quality and nuclear safety issues arising from a difference of opinion between identifying personnel and other groups.

Significant conditions adverse to quality are reported to appropriate management for review and evaluation.

Periodic review and evaluation of adverse trends are performed by management.

A17.3.1.7 Regulatory Commitments

Written procedures shall be established, implemented, and maintained to ensure implementation of the Process Control Program.

A17.3.2 PERFORMANCE/VERIFICATION

A17.3.2.1 Methodology

There are no Brunswick specific amplifications for this section.

A17.3.2.2 Design Control

There are no Brunswick specific amplifications for this section.

A17.3.2.3 Design Verification

There are no Brunswick specific amplifications for this section.

A17.3.2.4 Procurement Control

Potential contractors and suppliers are evaluated prior to award of a procurement contract when needed to assure the contractor's or supplier's capability to comply with applicable technical and quality requirements.

Procurement documents, such as purchase specifications, contain or reference the following:

1. Technical, administrative, regulatory, and reporting requirements, including material and component identification requirements, drawings, specifications, codes and industrial standards, test and inspection requirements, and special process instructions.
2. Identification of the documentation to be prepared, maintained, or submitted (as applicable) to BNP for review and approval. These documents may include, as necessary, inspection and test records, qualification records, or code required documentation.
3. Identification of those records to be retained, controlled, and maintained by the supplier, and those delivered to the purchaser prior to use or installation of the hardware.

Procurement documents require suppliers to operate in accordance with QA programs which are compatible with the applicable requirements of BNP's QA Program and procedures where their services are utilized in support of plant activities.

A17.3.2.5 Procurement Verification

There are no Brunswick specific amplifications for this section.

A17.3.2.6 Identification and Control Of Items

Procedures require that materials, parts, and components be identified and controlled to prevent the use of incorrect or defective items. These procedures also require that identification of items be maintained either on the item in a manner that does not affect the function or quality of the item, or on records traceable to the item.

Procedures implementing these requirements provide for the following:

1. Verification that items received at the plant are properly identified and can be traced to the appropriate documentation, such as drawings, specifications, purchase orders, manufacturing and inspection documents, nonconformance reports, or material test reports.
2. Verification of item identification consistent with the BNP inventory control system and traceable to documentation which identifies the proper uses or applications of the item.

A17.3.2.7 Handling, Storage, and Shipping

Provisions are established to control the shelf life and storage of chemicals, reagents, lubricants, and other consumable materials.

A17.3.2.8 Test Control

Test procedures incorporate or reference the following, as required:

1. Instructions and prerequisites for performing the test,
2. Use of proper test equipment,
3. Mandatory inspection hold points,
4. Acceptance criteria

Test results are documented, evaluated, and their acceptability determined by a qualified, responsible individual or group.

When the acceptance criteria are not met, affected areas are to be retested or evaluated, as appropriate.

A17.3.2.9 Measuring and Test Equipment Control

Portable measuring and test equipment are calibrated by standards at least four times as accurate as the portable measuring and test equipment, unless limited by the state of the art.

Special tools such as torque wrenches, calipers, and micrometers are calibrated to be at least as accurate as the application(s) for which it is used, using standards which are at least as accurate as the special tool being calibrated.

Installed measuring and test instruments are calibrated by instruments at least as accurate as the installed, unless limited by the state of the art.

Reference and transfer standards are traceable to nationally recognized standards; or where national standards do not exist, provisions are established to document the basis for the calibration.

A17.3.2.10 Inspection Test and Operating Status

These procedures include the application, removal, and verification of inspection and welding stamps, or other status indicators as appropriate.

Altering the sequence of required tests, inspections, and safety-related operations can only be accomplished by methods outlined in procedures.

A17.3.2.11 Special Process Control

There are no Brunswick specific amplifications for this section.

A17.3.2.12 Inspection

There are no Brunswick specific amplifications for this section.

A17.3.2.13 Corrective Action

The primary goal of the BNP corrective action program is to improve overall plant operations and performance by identifying and correcting root causes of equipment and human performance problems.

Procedures define requirements for a corrective action program that charges personnel working at or supporting the nuclear plants with the responsibility to identify adverse conditions (including conditions adverse to quality).

Procedures include requirements for verification of the acceptability of the rework/repair of items by re- inspection and/or testing in accordance with the original inspection or test requirements or by an accepted alternative inspection and testing method.

Conditions that require rework/repairs are identified through the use of maintenance work request forms.

A17.3.2.14 Control of Documents

Changes to documents are reviewed and approved by the same organization that performed the original review and approval or by other designated qualified responsible organizations.

A17.3.2.15 Records

The structure in which single copy records are maintained is designed to prevent destruction, deterioration or theft. This structure ensures protection against destruction by fire, flooding, theft and deterioration by the environmental conditions of temperature and humidity.

A17.3.2.16 Record Retention

A list of typical operational phase QA Records is included in 17.3.2.15.

A17.3.3 ASSESSMENT

A17.3.3.1 Methodology

The following are Brunswick specific amplifications from prior sections 17.3.3.1 and 17.3.3.2.2.

NOS site management and Independent Review Engineers, separately, will hold periodic, but not less frequently than semi-annual (+25% for scheduling flexibility), peer review meetings to share and exchange of information among sites. These meetings will allow the use of designated alternates to attend.

A17.3.3.2 Independent Review

The Nuclear Oversight Section shall function to provide independent review of significant plant changes, tests, and procedures; verify that Reportable Events are investigated in a timely manner and corrected in a manner that reduces the probability of recurrence of such events; and detect trends that may not be apparent to a day-to-day observer.

The individuals assigned responsibility for independent reviews shall be qualified in specific disciplines. These individuals shall collectively have the experience and competence required to review activities in the following areas:

a. Nuclear Power Plant Operations
b. Nuclear Engineering
c. Chemistry and Radiochemistry
d. Metallurgy
e. Non-destructive Testing
f. Instrumentation and Control
g. Radiological Safety
h. Mechanical and Electrical Engineering
i. Administrative Controls
j. Seismic and Environmental
k. Quality Assurance Practices
l. Other Appropriate Fields

The Manager – BNP Nuclear Oversight Section shall have a bachelor's degree in an engineering or related field and, in addition, shall have a minimum of ten years related experience, of which a minimum of five years shall be in the operation and/or design of nuclear power plants.

The individuals performing independent reviews shall have a bachelor's degree in an engineering or related field or equivalent and, in addition, shall have a minimum of five years related experience.

The Manager – BNP Nuclear Oversight Section or individuals performing independent reviews who do not possess formal educational requirements shall not be automatically eliminated where other factors provide sufficient demonstration of their abilities. These other factors shall be evaluated on a case-by-case basis and approved and documented by responsible NOS management. The positive factors listed as follows may be considered in making the evaluation of an acceptable alternative to the educational requirements.

a. High School diploma or GED.

b. Academic and related technical training.
c. Has or have held a license as a senior reactor operator at BNP.
d. Four years of additional experience in his area of responsibility.
e. Four years of supervisory or management experience.
f. Demonstrated ability to communicate clearly (orally and in writing).
g. Certification of academic ability and knowledge by corporate management.
h. Successful completion of the Engineer-In-Training examination.
i. Professional Engineer license.
j. Associate degree in Engineering or related science.

An individual may possess competence in more than one specialty area. If sufficient expertise is not available within the Nuclear Oversight Department, competent individuals from other Duke Energy organizations or outside consultants shall be utilized in performing independent reviews and investigations.

The documents submitted for independent review under Section A17.3.4 shall be reviewed by individuals meeting the requirements of this section to ensure applicable disciplines are encompassed. Multiple reviews will be conducted on documents where required to meet applicable disciplines.

Independent reviews shall be performed by individuals not directly involved with the activity under review or responsible for the activity under review.

The Nuclear Oversight independent review program shall be conducted in accordance with written, approved procedures.

The Nuclear Oversight Section shall perform reviews of the following:

a. Written evaluations of changes in the facility as described in the BNP UFSAR changes in procedures as described in the BNP UFSAR and tests or experiments not described in the BNP UFSAR which are completed without prior NRC approval under the provisions of 10CFR 50.59. These reviews are to verify that such changes, tests, or experiments do not involve a change in the BNP Technical Specifications or require NRC approval pursuant to10CFR 50.59. These reviews may be conducted after appropriate management approval, and implementation may proceed prior to completion of the review.
b. Proposed changes in procedures required by BNP Technical Specifications, proposed changes in the facility, or proposed tests or experiments, any of which involve a change in the BNP Technical Specifications or require NRC approval pursuant to 10CFR 50.59 prior to implementation.
c. Proposed changes to the BNP Technical Specifications or Operating License prior to implementation.
d. Violations, deviations and reportable events, which require reporting to the NRC in writing, such as:
    1. Violations of applicable codes, regulations, orders, BNP Technical Specifications, license requirements or internal procedures or instructions having safety significance.
    2. Significant operating abnormalities or deviations from normal or expected performance of plant safety-related structures, systems, or components, and
    3. Reportable Events as specified in 10CFR 50.73.
e. Any other matter involving safe operation of the nuclear power plant that the Manager – BNP Nuclear Oversight Section, deems appropriate for consideration or which is referred to the Manager – BNP Nuclear Oversight Section, by the on-site operating

organization, PNSC, or other functional organizational units within Duke Energy. Results of Nuclear Oversight independent reviews shall be documented and retained.

A17.3.3.3 Independent Assessment

There are no Brunswick specific amplifications for this section.

A17.3.3.3.1 Organization

Personnel performing independent assessment activities are generally assigned to Nuclear Oversight from the line and other organizations on a rotational basis for two to five year assignments. Since these personnel are full-time assessors during this time period, they have no direct responsibilities in the areas being assessed. However, on an exception basis, personnel in Nuclear Oversight may provide assistance to the line organization by participating in emergency preparedness activities, ad hoc committees or analyzing technical issues, if such assistance is deemed to be in the overall best interest of safety and is approved in advance by Nuclear Oversight Section management.

A17.3.3.3.2 Internal Assessment Process

There are no Brunswick specific amplifications for this section.

A17.3.3.3.3 Internal Audit Program

A17.3.3.3.3.1 Other Audits Prescribed by the Code of Federal Regulations

The periodic review of Radiation Protection (per 10CFR 20.1101c) identified in 17.3.3.3.3.1 is conducted by NOS at Brunswick.

A17.3.3.3.3.2 Independent Audit of Fire Protection Program

An independent fire protection audit shall be performed at least once per 24 months utilizing either qualified offsite licensee personnel or an outside fire protection engineer.

An independent fire protection audit shall be performed at least once per 36 months by an audit team which must include an outside, qualified fire protection engineer. The outside fire protection engineer will be external to DEP and meet education and experience requirements listed for a Professional Member of the Society of Fire Protection Engineers.

A17.3.3.3.4 Results

There are no Brunswick specific amplifications for this section.

A17.3.3.3.5 Supplier Oversight

There are no Brunswick specific amplifications for this section.

A17.3.3.3.6 Independent Audit of QA Functions

There are no Brunswick specific amplifications for this section.

A17.3.3.3.7 Audit Frequency Extensions

BNP Audit Schedules are based on the exit date of the audit as identified in exceptions for Regulatory Guide 1.33.

A17.3.4 REVIEW AND AUDIT

A17.3.4.1 Procedures, Tests, and Experiments

1. The procedures established, implemented, and maintained for the Quality Assurance Program for effluent and environmental monitoring use the guidance in Regulatory Guide 1.21, Revision 1, June 1974 and Regulatory Guide 4.1, Revision 1, April 1975.
2. Temporary changes to procedures of BNP Technical Specification 5.4.1, any other procedures that affect nuclear safety, and proposed tests or experiments may be made provided:
    a. The intent of the original procedure, proposed test or experiment is not altered.
    b. The change is approved by two members of the plant management staff, at least one of whom holds a Senior Reactor Operator License on the unit affected.
    c. The change is documented, reviewed pursuant to Sections A17.3.4.4.1 and A17.3.4.2 and approved within 14 days of implementation.
3. The evaluation prepared in accordance with Sections A17.3.4.4.1.a and A17.3.4.4.1.b shall include a written determination, with basis, of whether or not the procedures, proposed tests and experiments, and changes thereto require NRC approval pursuant to 10CFR 50.59, or whether they involve a change to the BNP Technical Specifications.
4. Following the evaluation pursuant to 10CFR 50.59, the procedures required by BNP Technical Specification 5.4.1, other procedures that affect nuclear safety, proposed tests or experiments, and changes thereto (other than editorial or typographical) which have been determined to not require NRC approval pursuant to 10CFR 50.59 or involve a change to the BNP Technical Specifications shall be approved prior to implementation.

A17.3.4.2 Modifications

1. The evaluation prepared in accordance with Section A17.3.4.4.1.c shall include a written determination, with basis, of whether or not the proposed modification is a change in the facility as described in the BNP UFSAR, involves a change to the BNP Technical Specifications, or requires NRC approval pursuant to 10CFR 50.59.
2. Following the evaluation pursuant to 10CFR 50.59, proposed modifications which have been determined to not require NRC approval pursuant to 10CFR 50.59 or involve a change to the BNP Technical Specifications shall be approved by the General Manager - Brunswick Plant or his previously designated alternate.

A17.3.4.3 Operating License/BNP Technical Specifications

1. Operating License/BNP Technical Specification changes shall be processed in accordance with 10CFR 50.90.
2. Operating License/BNP Technical Specification change requests shall be reviewed by the Plant Nuclear Safety Committee (PNSC) in accordance with Section A17.3.4.6.8 and by the BNP Nuclear Oversight Section in accordance with Section A17.3.3.2.

3. Changes to the 61BTH Independent Spent Fuel Storage Installation (ISFSI) BNP Technical Specifications and License are processed by Transnuclear, Inc., and will only be reviewed by the PNSC if a plant-specific safety issue is identified.

A17.3.4.4 10CFR 50.59 Evaluations And Independent Review Control

1. An evaluation pursuant to 10CFR 50.59 shall be prepared for each of the following:
    a. Changes to procedures required by BNP Technical Specification 5.4.1 or changes to other procedures that affect nuclear safety with the exception of those procedures, which are exempt from review under 10CFR 50.59 in accordance with NEI 96-07, Revision 1, as endorsed by Regulatory Guide 1.187, November 2000.
    b. Proposed tests or experiments that affect nuclear safety.
    c. Proposed modifications to plant systems or equipment that affect nuclear safety.
2. Two reviews of the item and evaluation(s) prepared in accordance with Section A17.3.4.4.1 shall be performed prior to approval and implementation.
3. The item and associated evaluation(s) shall be examined in order to determine whether an interdisciplinary review is required in accordance with Section A17.3.4.5.5.

A17.3.4.5 Nuclear Reviewers

1. Individuals shall be designated/approved by the General Manager - Brunswick Plant for performing evaluations pursuant to 10CFR 50.59.
2. Individuals designated under Section A17.3.4.5.1 shall have an academic degree in an engineering or related field or equivalent and two years related experience.
3. A list shall be maintained of individuals qualified to perform evaluations pursuant to 10CFR 50.59, including additional individuals whose expertise may be necessary during the reviews to assure that the reviewers collectively possess the background and qualifications in the disciplines necessary and important to the specific review.
4. The list specified in Section A17.3.4.5.3 shall include the disciplines for which each individual is qualified.
5. For those cases where interdisciplinary reviews are required, as many individuals as necessary shall be used to perform the nuclear review function.
6. One of the two reviewers shall be an individual other than the original preparer or the individual approving the action.

A17.3.4.6 Plant Nuclear Safety Committee

1. As an effective means for the regular review, overview, evaluation, and maintenance of plant operational safety, a PNSC shall be established.
2. The PNSC shall function through the utilization of subcommittees, audits, investigations, reports, and/or performance of reviews as a group.

3. The PNSC shall be composed of a chairman and six to eight members. The members shall be from the following areas:

   - Operations
   - Maintenance
   - Engineering
   - Health Physics/Chemistry
   - Regulatory Affairs

4. The PNSC Chairman, alternate Chairmen, members and alternate members shall be designated in writing by the Plant General Manager.

   Members shall be individuals who are unit manager level or above from the site management organization. Alternate members shall, as a minimum, meet equivalent qualification criteria as specified in Section 4.4 of ANSI N18.1-1971 for professional-technical personnel. "Equivalent qualification" is defined to meet the criteria of Sections 4.3.2 and 4.5.1 of ANSI N18.1-1971 for nontechnical personnel as it pertains to education and experience."

5. The quorum of the PNSC necessary for the performance of the activities of these BNP Technical Specifications shall consist of the Chairman (or his designated alternate) and four members (including alternates).

6. No more than two alternates shall be counted toward meeting the quorum requirement or participate as voting members of the PNSC at any one time.

7. The PNSC shall meet at least once per calendar month and as convened by the PNSC Chairman or his designated alternate.

8. The PNSC activities shall include the following:

   a. Review of all procedures required by BNP Technical Specification 5.4.1 and changes thereto (and any other procedures and changes thereto), any of which require NRC approval pursuant to 10CFR 50.59 or involve a change to the BNP Technical Specifications, prior to implementation.

   b. Review of all proposed tests or experiments that require NRC approval pursuant to 10CFR 50.59 or involve a change to the BNP Technical Specifications, prior to implementation.

   c. Review of all proposed modifications that require NRC approval pursuant to 10CFR 50.59 or involve a change to the BNP Technical Specifications, prior to implementation.

   d. Review of all proposed changes to the BNP Technical Specifications or Operating License, prior to implementation.

   e. Review of reports on violations of BNP Technical Specifications including reports covering evaluation and recommendations to prevent recurrence to the Vice President - Brunswick Nuclear Plant.

   f. Performance of special reviews, investigations (or analyses), and reports thereon as requested by the BNP NOS manager.

   g. Review of all Reportable Events.

   h. Review of facility operations to detect potential nuclear safety hazards.

   i. Review of the Security Plan at least once per calendar year.

j. Perform annual review of the Radiological Emergency Response Plan (0ERP) in accordance with the approved 0ERP.

k. Review of accidental, unplanned, or uncontrolled radioactive release including the preparation of reports covering evaluation, recommendations, and disposition of the corrective action to prevent recurrence and the forwarding of these reports to the Vice President – Brunswick Nuclear Plant.

l. Review of changes to the Process Control Program and the Offsite Dose Calculation Manual.

9. If there is a disagreement between recommendations of a majority of the PNSC and the actions contemplated by the General Manager - Brunswick Plant, the PNSC shall provide written notification within 24 hours to the Vice President - Brunswick Nuclear Plant. The course determined by the General Manager - Brunswick Plant to be the most conservative shall be followed.

10. The PNSC shall maintain written minutes of each PNSC meeting that, at a minimum, document the results of all PNSC activities performed under the provisions of Section A17.3.4.6 requirements. Copies shall be provided to the Vice President - Brunswick Nuclear Plant and the Manager – BNP Nuclear Oversight Section.

11. Each Reportable Event shall be reviewed by the Plant Nuclear Safety Committee - Brunswick Plant and shall be submitted to the Manager – BNP Nuclear Oversight Section and the Vice President - Brunswick Nuclear Plant.

Attachment B, Harris Specific QAPD

Information presented in this section is transferred from the Harris UFSAR with approved changes as allowed under 10 CFR 50.54(a)(3). Change bars in this section indicate changes since UFSAR Amendment 60.

Where a section contains no descriptive information beyond that in the generic text in the body of the document, a statement is made to that effect and no content is included. See B17.3.1.2, Organization for example.

B17. QUALITY ASSURANCE

B17.1 QA DURING DESIGN AND CONSTRUCTION

See Harris UFSAR Chapter 17 for historic information from the description of the QA Program for design and construction.

B17.2 OPERATIONAL QA

Deleted

(NOTE: In April 1995, NRC approved the reformatting of the description of the Harris QA Program to follow Standard Revision Plan Section 17.3, replacing the content of 17.2.)

B17.3 HNP QUALITY ASSURANCE PROGRAM (QAP) DESCRIPTION

INTRODUCTION

This content is not addressed in SRP Section 17.3; therefore, the Harris description of the QA Program did not include this section.

DEFINITIONS

Harris specific definitions are found in Table B17.1 addressing conformance with Regulatory Guide 1.74, Quality Assurance Terms And Definitions.

EXPLANATION OF “QUALITY ASSURANCE”

There is no Harris specific content.

QA STANDARDS AND GUIDES

The Harris QAP conforms to Appendix B of 10CFR 50, as discussed in Section 17, “Quality Assurance.” The QAP also conforms to applicable NRC Regulatory Guides and approved ANSI Standards, or applicable alternatives. Table B17-1 and B17-2 address QAP conformance to the referenced regulatory and program guidance contained in NUREG-0800 Section 17.3.

The content of Table B17-1 was transferred from Section 1.8 of the Harris UFSAR. Changes to the content of Table B17-1 are controlled in accordance with 10 CFR 50.54(a). Subsequent changes to the Harris QAP are incorporated in this document as identified in Section 17.3.1.7.

Table B17-2 addresses additional Regulatory Guides that relate to implementation of the QAP but the implementation is site specific and controlled with the Harris UFSAR in accordance with 10 CFR 50.59.

Table B17-1. Conformance with QA Regulatory Guides and Industry Standards

Generic Exception:

Table B17-1 addresses Harris's Conformance of the Quality Assurance Program to certain NRC Regulatory Guides. In so doing, specific editions of industry standards are identified for compliance with exceptions and alternatives. Those identified standards include references to other industry standards for activities including, but not limited to; design, fabrication, inspection, and testing. Those included reference industry standards are considered to be guidance documents for details of how activities may be accomplished. The actual standard to be used in such cases is controlled by each station's current licensing and design bases.

Regulatory Guide 1.28, Quality Assurance Program Requirements (Design And Construction) (Rev 0)
ANSI N45.2-1971, Quality Assurance Program Requirements for Nuclear Power Plants
For those activities performed under operating license, HNP shall comply with the requirements of Regulatory Guide 1.33 as specified in Harris Nuclear Plant's (HNP)'s position on Regulatory Guide 1.33. Regulatory Guide 1.28 is not considered necessary and is not included as part of the operational QA program.
Regulatory Guide 1.30, Quality Assurance Requirements For The Installation And Testing Of Instrumentation And Electric Equipment (Rev. 0)
HNP complies with the requirements of ANSI N45.2.4-1972), Installation, Inspection, And Testing Requirements For Instrumentation And Electrical Equipment During The Construction Of Nuclear Power Generating Stations, as it is endorsed by Regulatory Guide 1.30 with the following clarifications:
1. Paragraph 2.1, planning: requirements, as determined by responsible plant management, will be incorporated into procedures. 2. Paragraphs 2.2 and 2.3; prerequisites, procedures, and instructions: these controls will be implemented as determined by responsible plant management in approved procedures. 3. Paragraph 2.4, results, will be implemented as set forth in 17.3.2.12 and by compliance with Regulatory Guide 1.33. 4. Paragraph 2.5, measuring and test equipment, will be implemented as set forth in 17.3.2.9 in lieu of the requirements set forth in this paragraph. 5. Paragraph 3, preconstruction verification: "approved instructions" are interpreted to include vendor manuals. 6. Paragraph 4, installation, will be implemented by inclusion of requirements in modification or maintenance procedures, where such procedures are used. Standard HNP practices require that appropriate care be exercised whether a procedure is required or not. 7. Paragraph 5.1, inspections, including subparagraphs 5.1.1, 5.1.2, and the first sentence in 5.1.3, will be implemented as set forth in 17.3.2.12. The remaining sentence in 5.1.3 is covered in equivalent detail by HNP's commitment to Regulatory Guide 1.33, paragraph 5.2.6; the requirements as set forth in that commitment will be implemented in lieu of the requirements stated here.

Table B17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.30, Quality Assurance Requirements For The Installation And Testing Of Instrumentation And Electric Equipment (Rev. 0)

HNP complies with the requirements of ANSI N45.2.4-1972), Installation, Inspection, And Testing Requirements For Instrumentation And Electrical Equipment During The Construction Of Nuclear Power Generating Stations, as it is endorsed by Regulatory Guide 1.30 with the following clarifications:

8. Paragraph 5.2, tests, including subparagraphs 5.2.1 through 5.2.3, will be implemented as set forth in 17.3.2.8. The test program will consider the elements outlined in this paragraph when developing test requirements for inclusion in maintenance and modification procedures. In some cases, testing requirements may be met by post-installation surveillance testing in lieu of a special post-installation test.
9. Paragraph 6, post-construction verification, is not generally considered applicable at operating facilities because of the scope of the work and the relatively short interval between installation and operation.
10. Paragraph 6.2.1 titled equipment tests: the last paragraph of this section deals with tagging and labeling. HNP will comply with an alternate last paragraph which reads: "Each safety-related component of process instrumentation is identified with a unique number. This number is utilized in instrument maintenance records so that current calibration status, including data such as the date of the calibration and identity of person that performed the calibration, can be readily determined. Such information may also be contained on tags or labels which may be attached to installed instrumentation."
11. Paragraph 7, data analysis and evaluation, will be implemented as stated with adding the clarifying phrase "when used" at the beginning of that paragraph. The plant shall have procedures, to the extent determined by responsible plant management, for the performance of analyzing test data, but these procedures are not referred to as data processing procedures.

Regulatory Guide 1.33, Quality Assurance Program Requirements (Rev. 2) (Operation)

HNP complies with this guide, which endorses ANSI N18.7-1976, Administrative Controls And Quality Assurance For The Operational Phase Of Nuclear Power Plants, with the following clarifications:

1. Paragraph 1,"Scope", recommends that this standard applies to activities other than those associated with safety related equipment, activities, and procedures. ANSI N18.7-1976 has not fully taken into account the requirements of regulations other than 10CFR 50. Conflicts may exist between ANSI N18.7-1976 and those other regulations, such as OSHA, 10CFR 19, 20, 21, 30, 40, 70, 71, 73, and ASME. Therefore, HNP shall apply ANSI N18.7-1976 only to those plant features addressed in section 3.2 of the HNP UFSAR that are classified as safety-related and under the control of the QA program.
2. Written audit reports are not formally reviewed as part of the independent review function.
3. The Chief Nuclear Officer will assure that an independent assessment of the overall nuclear oversight program is conducted at least once every 24 months. Results of the independent assessment will be reported directly to the Chief Nuclear Officer and entered into the corrective action program for resolution. (for scheduling consistency, the exceptions included in paragraph 18 of this section will be used as clarification for scheduling this independent assessment).

Table B17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.33, Quality Assurance Program Requirements (Rev. 2) (Operation)
HNP complies with this guide, which endorses ANSI N18.7-1976, Administrative Controls And Quality Assurance For The Operational Phase Of Nuclear Power Plants, with the following clarifications:

4. Paragraph 5.2.6, Equipment Control: HNP will comply with the "independent verification" requirements based on the definition of this phrase as given under the commitment to Regulatory Guide 1.74.

   Since HNP sometimes uses descriptive names to designate equipment, the sixth paragraph, second sentence is replaced with: "Suitable means include identification numbers or other descriptions which are traceable to records of the status of inspections and tests.

   The first sentence in the seventh paragraph will be complied with after clarifying "operating personnel" to mean trained employees assigned to, or under the control of, Duke Energy management at an operating nuclear facility.

5. Paragraph 5.2.7, Maintenance And Modification: since some emergency situations could arise which preclude preplanning of all activities, HNP will comply with an alternate to the first sentence in the second paragraph which reads:

   "Except in emergency or abnormal operating conditions where immediate actions are required to protect the health and safety of the public, to protect equipment or personnel, or to prevent the deterioration of plant conditions to a possible unsafe or unstable level, maintenance or modification of equipment shall be preplanned and performed in accordance with written procedures. Where written procedures would be required and are not used, the activities that were accomplished shall be documented after the fact and receive the same degree of review as if they had been preplanned." where procedures are not available, documented instructions may be used to perform maintenance and modification activities.

   "Documented instructions" are defined as any credible information (e.g., vendor manuals, vendor recommendations, engineering direction etc.) used during work planning/execution which is reviewed and approved prior to use in accordance with approved procedures.

   Paragraph 5.2.7.1, Maintenance Programs: HNP will comply with the requirements of the first sentence of the fifth paragraph. This clarification is needed since it is not always possible to promptly determine the cause of the malfunction. HNP will initiate proceedings to determine the cause, and will make such determination promptly where practical. Determination of the term "promptly" and the term "practical" will be the responsibility of plant management and shall be based on the effect of the condition on the immediate health and safety of the public.

6. Paragraph 5.2.8, Surveillance Testing And Inspection Schedule: In lieu of a "master surveillance schedule," the following requirement shall be complied with: "surveillance testing schedule(s) shall be established reflecting the status of all planned in-plant surveillance tests and inspections."

7. Paragraph 5.2.9, Plant Security And Visitor Control, requires certain procedures and controls. In order to ensure that a conflict between 10CFR 73 and Regulatory Guide 1.17 and ANSI N18.17 does not exist, HNP shall not follow paragraph 5.2.9. An NRC approved security plan shall be implemented prior to fuel loading.

8. Paragraph 5.2.11, Corrective Action, requires certain activities to be performed. In order to avoid conflict between requirements, HNP shall follow the requirements in sections 17.3.1.6 and 17.3.2.13, in lieu of paragraph 5.2.11.

Table B17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.33, Quality Assurance Program Requirements (Rev. 2) (Operation)
HNP complies with this guide, which endorses ANSI N18.7-1976, Administrative Controls And Quality Assurance For The Operational Phase Of Nuclear Power Plants, with the following clarifications:

9. Paragraph 5.2.13.1, Procurement Document Control: When purchasing commercial-grade calibration services from certain accredited calibration laboratories, the procurement documents are not required to impose a quality assurance program consistent with ANSI N45.2-1971. Alternate requirements described in this table for Regulatory Guide 1.123 may be implemented in lieu of imposing a quality assurance program consistent with ANSI N45.2-1971.

10. Paragraph 5.2.15, Review, Approval And Control Of Procedures: The third sentence in paragraph three is interpreted to mean: "Applicable procedures shall be reviewed following an accident, an unexpected transient or a significant operator error. Applicable procedures shall also be reviewed following an equipment malfunction which results in a reportable event."

    Paragraph 5.2.15 states that, "Plant procedures shall be reviewed by an individual knowledgeable in the area affected by the procedure no less frequently than every two years to determine if changes are necessary or desirable. A revision to a procedure constitutes a procedure review." in lieu of these requirements, the Shearon Harris Nuclear Power Plant has programmatic controls in place to continually identify procedure revisions to routine procedures which may be needed to ensure that procedures are appropriate for the circumstance and are maintained current.

11. Paragraph 5.2.16, Measuring And Test Equipment - In order to properly address this paragraph, HNP submits the following discussion of M&TE:

    IEEE Standard 498-1975 defines measuring and test equipment (M&TE) as follows:

    Devices or systems used to calibrate, measure, gauge, test, inspect, or control in order to acquire research, development, test, or operational data to determine compliance with design, specifications, or other technical requirements. M&TE does not include permanently installed operating equipment or test equipment used for preliminary checks where accuracy is not required; for example, circuit checking multimeters.

    Note: M&TE does not include rules, tape measures, levels, and other devices if normal commercial practices provide adequate accuracy.

    There is a key distinction between installed process instruments and measuring and test equipment. A piece of measuring and test equipment may be used to calibrate a number of plant instruments. Thus, a calibration error could affect a wide variety of plant equipment. Process instruments, on the other hand, perform a single function and may be used to operate equipment, verify operability of equipment, or perform a single monitoring or trip function. In the case of measuring and test equipment, the key concern when a device is out of calibration is to identify other instruments to which this accuracy has been transferred and, secondly, to prevent recurrence. In the case of process instruments, the key emphasis is to prevent recurrence of the out-of-calibration condition.

    In ANSI N18.7-1976 (and other documents), the distinction between measuring and test equipment and process instruments is not well defined.

Table B17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.33, Quality Assurance Program Requirements (Rev. 2) (Operation)
HNP complies with this guide, which endorses ANSI N18.7-1976, Administrative Controls And Quality Assurance For The Operational Phase Of Nuclear Power Plants, with the following clarifications:

The requirements in the second and third paragraphs in section 5.2.16 will be applied to measuring and test equipment and those in the first and third paragraphs applied to process instruments with the exception that process instrumentation shall be "suitably marked or tracked to indicate calibration status" versus "suitably marked to indicate calibration status." in addition, a review of out-of-calibration process instruments will be made to determine if action is required to prevent recurrence. Such action may include modification, procedural revision, or corrective maintenance. Section 17.3.2.9 provides additional requirements for control of M&TE.

12. Paragraph 5.2.17, Inspections: As a general clarification, when inspections are not contained in a separate inspection report, inspection requirements will be integrated into appropriate procedures or other documents with the procedure or document serving as the record. Records of inspections will be identifiable and retrievable.

13. Paragraph 5.2.17, second to the last sentence in the last paragraph, "Deviations, their cause, and any . . .", to be consistent with paragraph 5.2.11, the cause of the condition will be determined for only significant conditions adverse to safety.

14. Paragraph 5.3.5(4), HNP interprets the review requirements for "supporting maintenance documents" which have not been incorporated in a procedure, be performed in an equivalent manner as described in approved procedures.

15. Paragraph 5.3.6, Radiation Control Procedures, Discusses certain control programs. As previously stated, paragraph 1, scope, of ANSI N18.7-1976 references those activities involved with being safety-related.

    The radiation protection program is not considered to be in this category but rather a program required to comply with 10CFR 19, 20, 30, 70, 71, and 100. Therefore, HNP shall develop its radiation protection program as stated in section 12.5 of the HNP UFSAR.

16. Paragraph 5.3.9.3, Emergency Procedures: As directed by the NRC, HNP will follow a format for emergency procedures in accordance with 10CFR 50, Appendix E.

17. Paragraph C.3 Of Regulatory Guide 1.33 states that changes to HNP Technical Specifications or license amendments should be reviewed by the independent review body prior to their submittal to the NRC for approval. These changes will be reviewed by the independent review body prior to their implementation as required by ANSI N18.7-1976/ANS-3.2.

    The requirements of the standard provide adequate assurance that items affecting safety will be reviewed before they are put into effect.

18. Paragraph C.4 Of Regulatory Guide 1.33 will be implemented with the following clarifications: In lieu of the audit program provisions contained in Regulatory Position C.4 Of Regulatory Guide 1.33, audits (assessments) of facility activities will be conducted in accordance with the Quality Assurance Program Description contained in section 17.3.3.3.3.

    Regulatory Position C.4 endorses ANSI NI8.7-1976/ANS-3.2, section 4.5 that states that audits of selected aspects of the operational phase activities, including safety-related functions, are completed within a period of two years, with the following clarification:

Table B17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.33, Quality Assurance Program Requirements (Rev. 2) (Operation)
HNP complies with this guide, which endorses ANSI N18.7-1976, Administrative Controls And Quality Assurance For The Operational Phase Of Nuclear Power Plants, with the following clarifications:

A) Audits shall be performed at the intervals designated herein for each audit area. Schedules shall be based on the exit date of the audit.

B) A maximum extension not to exceed 25 percent of the audit interval shall be allowed. That is to say that, for audits on a 24-month frequency, the maximum time between specific audits shall not exceed 30 months. Likewise, audits on an annual (12 month) frequency shall not be extended beyond 15 months.

C) When an audit interval extension is used, the next audit for that particular audit area will be scheduled from the anniversary exit date rather than from the exit date of the extended audit.

D) Item B shall also apply to supplier audits and evaluations except that a total combined time interval for any three consecutive inspection or audit intervals should not exceed 3.25 times the specified inspection or audit interval.

Note: this grace period will not be applied to audits of: emergency preparedness to satisfy the requirements of 10CFR 50.54(t); security to satisfy the requirements of 10CFR 50.54(p), 73.55(g)(4) and 73 Appendix C; Radiation Protection to satisfy 10CFR 20.1101(c); and fire protection. The schedule for these assessments will continue to be based on the exit date and not the exit month.

19. Paragraph C.5.d of the Regulatory Guide 1.33 will be implemented by adding the clarifying phrase "Where practicable" in front of the fourth sentence of the fifth paragraph. The Regulatory Guide's changing of the two uses of the word "should" in this sentence to "shall" unnecessarily restricts HNP's options on repair or replacement parts. It is not always practicable to test parts prior to use. Modification review in accordance with the provisions of 10CFR 50.59 will be conducted and documented.

    The words "where practical" will be determined by responsible plant management and the results documented.

20. Paragraph C.5.e of Regulatory Guide 1.33 will be implemented subject to the same clarifications made for ANSI N45.2.2.

21. Paragraph C.5.f of Regulatory Guide 1.33 will be implemented with the substitution of the word "practical" for the word "possible" in the last sentence.

22. Paragraph C.5.g of Regulatory Guide 1.33 will be implemented with the addition of the modifier "normally" after each of the verbs (should) which the regulatory guide converts to "shall". It is HNP's intent to fully comply with the requirements of this paragraph, and any conditions which do not fully comply will be documented and approved by the plant staff. In these cases, the reason for the exception shall be retained for the same period of time as the affected preoperational tests.

23. Paragraph 5.2.2, Procedure Adherence describes that for temporary changes to procedures that one of the approvers shall be the supervisor in charge of the shift and hold a senior reactor operator license. To avoid overloading the supervisor in charge of the shift with administrative tasks, any member of operation's management with a senior reactor operator license will be allowed to approve temporary changes to procedures.

Table B17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.33, Quality Assurance Program Requirements (Rev. 2) (Operation)

HNP complies with this guide, which endorses ANSI N18.7-1976, Administrative Controls And Quality Assurance For The Operational Phase Of Nuclear Power Plants, with the following clarifications:

24. Paragraph 5.3.10 of ANSI N18.7-1976/ANS-3.2, the last sentence in the first paragraph requires "test and inspection results, shall be documented and evaluated..." also, the last sentence in the second paragraph requires "the test and inspection procedures shall require recording the date, identification of those performing the test or inspection, as-found condition, corrective actions performed, if any, and as-left condition." as an alternative to the records required for inspections outlined in paragraph 5.3.10, hnp shall provide the following as the method to document results of inspections:

    the results of inspections will be documented in appropriate records and those records shall, as a minimum, identify (A) through (H) below:

    (A) authorized individual approving results.

    (B) date of inspection.

    (C) inspector/data recorder.

    (D) item inspected.

    (E) M&TE used.

    (F) reference to information on action taken in connection with non-conformances.

    (G) results or acceptability.

    (H) type of observation.

Regulatory Guide 1.37, Quality Assurance Requirements For Cleaning Fluid Systems And Associated Components Of Water-Cooled Nuclear Power Plants (Rev. 0)

HNP shall comply with the requirements of ANSI N45.2.1-1973, Cleaning Of Fluid Systems And Associated Components During Construction Phase Of Nuclear Power Plants, as it is endorsed by Regulatory Guide 1.37-March 1973, with the following clarifications:

1. Paragraph 2.5, Test Equipment, outlines control of inspection and test equipment. HNP has addressed its position relative to measuring & test equipment (M&TE) in 17.3.2.9.
2. Paragraph 5, Installation Cleaning: The recommendation that local rusting on corrosion resistant alloys be removed by mechanical methods is interpreted to mean that local rusting may be removed mechanically, but the use of other removal means is not precluded provided other cleaning methods are not considered detrimental as determined by responsible plant management.
3. The guide and standard are applicable to those areas of the quality assurance program addressing on-site cleaning of materials and components, cleanness control, preoperation cleaning and layup of fluid systems.
4. With regard to paragraph C.3 of Regulatory Guide 1.37: Chromates or other additives, normally in the system water, will not necessarily be added to the flush water.

Table B17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.37, Quality Assurance Requirements For Cleaning Fluid Systems And Associated Components Of Water-Cooled Nuclear Power Plants (Rev. 0)
HNP shall comply with the requirements of ANSI N45.2.1-1973, Cleaning Of Fluid Systems And Associated Components During Construction Phase Of Nuclear Power Plants, as it is endorsed by Regulatory Guide 1.37-March 1973, with the following clarifications:
5. With regard to paragraph C.4 of Regulatory Guide 1.37: Expendable materials, such as inks and related products; temperature indicating sticks; tapes; gummed labels; wrapping materials; water soluble dam materials; lubricants, NDT penetrant materials and couplants, dessicants, which contact stainless steel or nickel alloy surfaces shall be of commercial quality. Levels for halogens, sulfur, chlorides, low melting point metal, etc., for use on stainless steel and nickel alloy surfaces will be as determined by responsible technical group to limit or preclude intergranular cracking and stress corrosion cracking.
Regulatory Guide 1.38, Quality Assurance Requirements For Packaging, Shipping, Receiving, Storage, And Handling Of Items For Water-Cooled Nuclear Power Plants (Rev. 2)
HNP shall comply with the requirements of ANSI N45.2.2-1972, Packing, Shipping, Receiving, Storage, And Handling Of Items For Nuclear Power Plants, as it is endorsed by Regulatory Guide 1.38 with the following clarifications:
1. Paragraph 2.1, Planning: (first sentence) the specific items to be governed by the standard shall be identified. However, the standard is part of the HNP QA program and it will, therefore, be applied to those structures, systems, and components which are included in that program.
2. Paragraph 2.3 - Results - The full requirements of this paragraph shall apply to the inspections and tests that are performed to determine the acceptability of product quality.
3. Paragraph 2.4 - those personnel that perform inspection, examination, and testing activities for verification and acceptance/rejection purposes shall be qualified in accordance with Regulatory Guide 1.58.
4. Paragraph 2.5 - Measuring And Test Equipment (2.5.2) - That equipment which measures quality of the permanent plant items shall be under the calibration and control program; whereas the equipment used to measure secondary conditions, such as warehouse temperature, humidity, etc., will be maintained in good working order and checked for proper functioning when accuracy is in doubt, but not maintained under the calibration and control program. Traceability to calibration records will be provided when it is impractical (because of size, configuration, or application) to physically mark calibration information on the item. Note: M&TE does not include rulers, tape measures, levels, and other devices if normal commercial practices provide adequate accuracy.
5. Paragraph 2.7, Classification Of Items: HNP may choose not to explicitly use the four level classification system. However, the specific requirements of the standard that are appropriate to each class will be applied unless justified and documented.
6. Paragraph 2.7.1(3) requires special nuclear material (fuel) and sources to be classified as Level A. HNP shall store new/used nuclear fuel and radioactive sources in storage locations as described in the sections 9 and 12. Radioactive sources used by HP personnel shall be stored and controlled in accordance with HP practices and procedures.

Table B17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.38, Quality Assurance Requirements For Packaging, Shipping, Receiving, Storage, And Handling Of Items For Water-Cooled Nuclear Power Plants (Rev. 2)
HNP shall comply with the requirements of ANSI N45.2.2-1972, Packing, Shipping, Receiving, Storage, And Handling Of Items For Nuclear Power Plants, as it is endorsed by Regulatory Guide 1.38 with the following clarifications:

7. Paragraph 3.2 - Levels Of Packaging - Packaging for shipment off-site will be equal to or exceed the original packaging by the vendor, as required to assure the quality of the item is not degraded as a result of shipping or handling.
8. Paragraph 3.4, Methods Of Preservation: (first sentence) HNP will comply with these requirements subject to the clarification that the term "deleterious corrosion" means corrosion which cannot be subsequently removed and which adversely affects form, fit, or function.
9. Paragraph 3.6 - Barrier And Wrap Materials And Desiccants - The use of clear plastic in warehouses will be minimized. The guide rule is that the clear plastic shall be used only where periodic visual inspection is necessary.

   Plastic wrap on items supplied in accordance with a vendor's approved QA/QC program will be accepted and stored without rewrapping.
10. Paragraph 3.7, Containers, Crating And Skids: In lieu of the requirements of this paragraph, HNP will use means as determined by responsible plant technical personnel needed to provide adequate protection of the items in storage.
11. Paragraph 4 - Shipping - Requirements of paragraph 4, Shipping, primarily applies to the vendor. Plant functions with regard to return shipments will meet or exceed the methods of the vendor for the item or approved alternatives.
12. Paragraph 5.2.1, Shipping Damage Inspection: Warehouse personnel will normally visually scrutinize incoming shipments for damage of the types listed in this paragraph; this activity is not necessarily performed prior to unloading. Since required items receive the item inspection of paragraph 5.2.2, separate documentation of the shipping damage inspection is not necessary. Release of the transport agent after unloading and the signing for the receipt of the shipment may be all of the action taken to document completion of the shipping damage inspection. Any nonconformances noted will be documented and dispositioned as required by 17.3.2.13. The person performing the visual scrutiny during unloading is not considered to be performing an inspection function as defined under Regulatory Guide 1.74; therefore, while he will be trained and qualified to perform this function, he may not necessarily be certified (N45.2.6) as an inspector.
13. Paragraph 5.2.2, Item Inspection: The need and extent for inspection of items will be determined by responsible plant technical personnel. Receiving inspections shall be performed in an area designated for receipt of material and shall normally be performed in the receiving building. The receiving building and the areas designated will provide adequate protection for the material, but may not comply with all of the specific requirements contained in section 6 of this standard. Material that is suspected of being compromised during the receiving process shall be evaluated by responsible technical personnel, as determined by plant management.
14. Paragraph 5.2.2(1) - Identification And Marking - Item inspection will include inspection for identification and marking required by the purchase order documents. Marking that is not quality related or which provides no traceability will not be inspected.

Table B17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.38, Quality Assurance Requirements For Packaging, Shipping, Receiving, Storage, And Handling Of Items For Water-Cooled Nuclear Power Plants (Rev. 2)
HNP shall comply with the requirements of ANSI N45.2.2-1972, Packing, Shipping, Receiving, Storage, And Handling Of Items For Nuclear Power Plants, as it is endorsed by Regulatory Guide 1.38 with the following clarifications:

15. Paragraph 5.3.1 - Acceptable - Item acceptance status will be indicated by application of tags, stickers, ribbons, or signs. Storage areas are not designated as accept areas except for bulk items.

16. Paragraph 6.1.1 - Scope - The levels and methods of storage for items between the time of removal from the prescribed storage until placement in the installed location may be relaxed as determined by responsible plant management for short periods of time, according to the sensitivity of the item being handled and the elements of contact anticipated during this interval. Where relaxation of storage requirements of this standard are deemed appropriate, the item, conditions, precautions and follow-up inspection for assurance that quality of the item has been maintained will be documented.

17. Paragraph 6.1.2, Levels Of Storage: Subpart (2) is replaced with the following:

    (2) Level B items shall be stored within a fire-resistant, weather-tight, and well ventilated building or equivalent enclosure. This building shall be situated and constructed so that it will not normally be subject to flooding; the floor shall be paved or equal, and well drained. If any water comes in contact with stored equipment, such equipment will be labeled or tagged nonconforming, and then the nonconformance document will be processed and evaluated. Items shall be placed on pallets, shoring, or shelves to permit air circulation. The building shall be provided with heating and temperature control or its equivalent to reduce condensation and corrosion. Minimum temperature shall be 40°F and maximum temperature shall be 140°F or less if so stipulated by a manufacturer.

18. Paragraph 6.2.1, Access To Storage Areas: Items which fall within the level d classification of the standard will be stored in areas which may be posted to limit access, but other positive controls such as fencing or guards will not normally be provided.

19. Paragraph 6.2.4, Storage Of Food And Associated Items: The sentence is replaced with the following: "The use or storage of food, drinks, and salt tablet dispensers in any storage area shall be controlled and shall be limited to designated areas where such use or storage is not deleterious to stored items."

20. Paragraph 6.2.5, Measures To Prevent Entrance Of Animals: The sentence is replaced with the following: "Warehouse personnel shall be alert to detect evidence of rodents or small animals in indoor storage areas.

    Consideration will be given when setting up the system to provide reasonable assurance that rodents or other small animals will not be present. If any such evidence is detected, a survey or inspection will be utilized to determine the extent of the damage; exterminators or other appropriate measures shall be used to control these animals to minimize possible contamination and mechanical damage to stored material."

21. Paragraph 6.3.3, Storage Of Hazardous Material: The sentence is replaced with the following: "Hazardous chemicals, paints, solvents, and other materials of a like nature shall be stored in approved cabinets or containers which are not in close proximity to installed safety systems required for safe shutdown."

Table B17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.38, Quality Assurance Requirements For Packaging, Shipping, Receiving, Storage, And Handling Of Items For Water-Cooled Nuclear Power Plants (Rev. 2)
HNP shall comply with the requirements of ANSI N45.2.2-1972, Packing, Shipping, Receiving, Storage, And Handling Of Items For Nuclear Power Plants, as it is endorsed by Regulatory Guide 1.38 with the following clarifications:

22. Paragraph 6.4.2, Care Of Items: The following alternates are provided for indicated subparts:

    (5) "Space heaters in electrical equipment shall be energized unless a documented engineering evaluation determines that such space heaters are not required."

    (6) "Large (greater than or equal to 50 hp) rotating electrical equipment shall be given insulation resistance tests on a scheduled basis unless a documented engineering evaluation determines that such tests are not required."

    (7) "Prior to being placed in storage, rotating equipment weighing over approximately 50 pounds shall be evaluated by engineering personnel to determine if shaft rotation in storage is required; the results of the evaluation shall be documented. If rotation is required, it shall be performed at specified intervals, and documented.

    Parts will receive a coating of lubrication where applicable, so that the shaft does not come to rest in the same position occupied prior to rotation. For long shafts or heavy equipment subject to undesirable bowing, shaft orientation after rotation shall be specified and obtained."

    (8) Other maintenance requirements specified by the manufacturer's instructions shall be evaluated by responsible plant personnel to determine applicability during storage of the item.

23. Paragraph 6.5, Removal Of Items From Storage: HNP does not consider the last sentence of this paragraph to be applicable to the operations phase due to the relatively short period of time between installation and use. The first sentence of the paragraph is replaced with: "HNP will develop, issue, and implement a procedure(s) which cover(s) the removal of items from storage. The procedure(s) will assure that the inspection status of all material issued is known, controlled, and appropriately dispositioned."

    When items are released and waiting at a location prior to installation, responsible plant management in accordance with plant procedures will determine and document the extent of inspection and storage requirements.

24. Paragraph 6.6, Storage Records: HNP will comply with the requirements of this section with the clarification that, for record purposes, personnel access to storage areas will not be recorded. Unloading or pick-up of material shall not be considered "access," nor shall inspection by NRC or other regulatory agents, nor shall tours by non-HNP employees who are accompanied by HNP employees.

25. Paragraph 7.3 - Hoisting Equipment - The load chart for each crane includes the model number for that crane. This load chart is considered to be "certification" by the manufacturer for that crane as required by paragraph 7.3.1. Likewise, forklifts are considered certified by the manufacturer's literature giving maximum capacity as required by paragraph 7.3.2.

Table B17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.38, Quality Assurance Requirements For Packaging, Shipping, Receiving, Storage, And Handling Of Items For Water-Cooled Nuclear Power Plants (Rev. 2)

HNP shall comply with the requirements of ANSI N45.2.2-1972, Packing, Shipping, Receiving, Storage, And Handling Of Items For Nuclear Power Plants, as it is endorsed by Regulatory Guide 1.38 with the following clarifications:

Paragraph 7.3, Hoisting Equipment: Rerating of hoisting equipment will be considered only when absolutely necessary. Prior to performing any lift above the load rating, the equipment manufacturer will be contacted for his approval and direction. The manufacturer will be requested to supply a document granting approval for a limited number of lifts at the new rating and any restrictions involved, such as modifications to be made to the equipment, the number of lifts to be made at the new rating, and the test lift load. At all times, the codes governing rerating of hoisting the equipment will be complied with.

If rerating of hoisting equipment is necessary and HNP cannot or does not contact the equipment manufacturer as described above, the test weight used in temporarily rerating hoisting equipment for special lifts will be at least equal to 110 percent of the lift weight. A dynamic load test over the full range of the lift using a weight at least equal to the lift weight will be performed.

26. Paragraph 7.4 - Inspection Of Equipment And Rigging - Nondestructive examinations will be performed by QC personnel qualified in accordance with Regulatory Guide 1.58 (except as amended by safety analysis report position). Operators will be trained in the operation and maintenance inspections of their assigned equipment.
27. Appendix A.3.5.1 - Caps And Plugs; A.3.5.2, Tapes And Adhesives; And A.3.6.3, Desiccants - Plugs, caps, tapes, adhesives, desiccants, markers and other temporary items will be of commercial quality. Levels for halogens, sulfur, chlorides, low melting point metal, etc., for use on stainless steel and nickel alloy surfaces will be as determined by the responsible technical group to limit or preclude intergranular cracking and stress corrosion cracking.

Regulatory Guide 1.39, Housekeeping Requirements For Water Cooled Nuclear Power Plants (Rev. 2)

HNP complies with the requirements of ANSI N45.2.3-1973, Housekeeping, During The Construction Phase Of Nuclear Power Plants, as endorsed by Regulatory Guide 1.39, September 1977, with the following clarifications for:

1. Paragraph 2.1, Planning: The zone designations provided in the standard will be used as a guide in developing plant procedures; however, plant areas will not necessarily be divided into zones I through V. Equivalent controls will be maintained as prescribed in approved procedures.
2. Paragraph 3.5, Surveillance, Inspection, And Examinations: Subparagraph (1) is not applicable during normal operations but will be implemented if large items are to be moved or handled.

Table B17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.58, Qualification Of Nuclear Power Plant Inspection, Examination And Testing Personnel (Rev. 1)
HNP shall comply with NRC Regulatory Guide 1.58, Revision 1, which endorses ANSI N45.2.6-1978, Qualification Of Inspection, Examination, And Testing Personnel For Nuclear Power Plants, with the following clarifications:

1. With regard to paragraph 1.2 of ANSI N45.2.6-1978 titled Applicability: HNP elects not to apply the requirements of this guide to those personnel who are involved in the daily operations of surveillance, maintenance, and certain technical and support services whose qualifications are controlled by 17.3 or are controlled by other QA program commitment requirements. Only personnel in the following listed categories will be required to meet ANSI N45.2.6-1978 requirements: (1) nondestructive examination (NDE) personnel (2) QC inspection personnel, and (3) receipt inspection personnel.
2. The fourth paragraph of paragraph 1.2 requires that the standard be imposed on personnel other than HNP employees. The applicability of the standard to suppliers and contractors will be documented and applied as specified in the procurement documents for each supplier and contractor.
3. With regard to paragraph 2.5 of ANSI N45.2.6-1978 titled Physical: HNP will implement the requirements of this section with the stipulation that, where no special physical characteristics are required, none will be specified. The converse is also true: if no special physical requirements are stipulated by HNP, none are considered necessary. HNP employees receive an initial physical examination to assure satisfactory physical condition; however, only the following listed personnel will receive an annual examination: (1) NDE personnel (2) QC inspection personnel, and (3) receipt inspection personnel. This annual examination shall consist of the near visual acuity using the standard Jaeger's type chart or equivalent test.
4. With regard to paragraph 3 of ANSI N45.2.6-1978 titled Qualifications: Only personnel performing NDE (such as LP, MT, UT, and RT) will be grouped in levels of capability and certified for inspection, review, and evaluation of inspection data, and reporting of inspection and test results. Inspection personnel are qualified based on preestablished experience, education, on-the-job training, written examinations and proficiency tests associated with the specific activity. Proficiency tests are given to personnel performing independent QC inspections and documented acceptance criteria are developed to determine if individuals are properly trained and qualified. Certificates of qualification delineate the functions personnel are qualified to perform. Qualification records are maintained and performance evaluations conducted at least on an every three year basis.
5. With regard to paragraph 3.5 of ANSI N45.2.6-1978 titled Education & Experience Recommendations: HNP will certify individual inspectors through training and experience to requirements appropriate to the specific assignment; however, except for NDE, personnel will not be classified by levels of capability. The training experience requirements will be directed toward qualifying personnel for specific inspection and testing operations.

Table B17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.64, Quality Assurance Requirements For The Design Of Nuclear Power Plants (Rev. 2)
HNP shall comply with NRC Regulatory Guide 1.64, Rev. 2, which endorses ANSI standard N45.2.11-1974, Quality Assurance Requirements For The Design Of Nuclear Power Plants, with the following clarification:
Paragraph C.2(1): For the exceptional circumstance in which the designer's immediate supervisor is the only technically qualified individual available, this review can be conducted by the supervisor, provided that: i) the other provisions of the regulatory guide are satisfied, ii) the justification is individually documented and approved in advance by the supervisor's management, and iii) quality assurance audits cover frequency and effectiveness of the use of supervisors as design verifiers to guard against abuse.
Regulatory Guide 1.74, Quality Assurance Terms And Definitions (Rev. 0)
Regulatory Guide 1.74 endorses ANSI N45.2.10-1973, Quality Assurance Terms And Definitions. The HNP project complies with this guide as described below:
HNP complies with the requirements of this guide with the following clarifications:

1. HNP reserves the right to define additional words or phrases which are not included in this standard. Such additional definitions will be documented in appropriate procedures, manuals, etc.
2. In addition to the standard's definition of "inspection," HNP will use the following: "Inspection (when used to refer to activities that are not performed by quality organization personnel) - examining, viewing closely, scrutinizing, looking over or otherwise checking activities. Personnel performing these functions are not necessarily certified to ANSI N45.2.6."

   When HNP intends for inspection to be performed in accordance with the QA program by personnel certified as required by that program and for activities defined by "Inspection" in ANSI N45.2.10, appropriate references to the plant quality organization which will perform the activity and/or to quality procedures to be used for performing the activity will be made. If such references are not made, inspections are considered under the additional definition given above.
3. In addition to the standard's definition of "procurement documents," HNP will utilize the definitions given in ANSI N45.2.13 and in Regulatory Guide1.74. The compound definition, procurement documents-contractually binding documents that identify and define the requirements which items or services must meet in order to be considered acceptable by the purchaser. They include documents which authorize the seller to perform services or supply equipment, material or facilities on behalf of the purchaser (e.g. contracts, letters of intent, work orders, purchase orders, or proposals and their acceptance, drawings, specifications, or instructions which define requirements for purchase).
4. "Quality assurance program requirements" (not defined in ANSI N45.2.10, but used and defined differently in ANSI N45.2.13) - those individual requirements of the QA program which, when invoked in total or in part, establish the requirements to the quality assurance program for the activity being controlled. Although not specifically used in the operational QA program, ANSIN45.2 may be imposed upon HNP's suppliers.

Table B17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.74, Quality Assurance Terms And Definitions (Rev. 0)
Regulatory Guide 1.74 endorses ANSI N45.2.10-1973, Quality Assurance Terms And Definitions. The HNP project complies with this guide as described below:
5. "Independent Verification" - Verification that required actions have been completed by an individual other than the person who performed the operation or activity being verified. Such verification will not require confirmation of the identical action when other indications provide assurance or indication that the prescribed activity is in fact complete. Examples include, but are not limited to: verification of a breaker opening by observing remote breaker indication lights; verification of a set point (made with a voltmeter or ammeter for example) by observing the actuation of status or indicating lights are the required panel-meter indicated value; verification that a valve has been positioned by observing the starting or stopping of flow on meter indications or by remote valve position indicating lights. 6. "Audit" (will be a modification of the word - to allow the use of subjective evidence if available - as defined in paragraph 1.4 of ANSI N45.2.12-1977 and paragraph 1.4.3 of ANSI N45.2.23-1978 as opposed to the definition given in ANSI N45.2.10-1973) - A documented activity performed in accordance with written procedures or checklists to verify, by examination and evaluation of objective evidence where available, that applicable elements of the quality assurance program have been developed, documented, and effectively implemented in accordance with specified requirements. An audit should not be confused with surveillance or inspection for the sole purpose of control or product acceptance.
Regulatory Guide 1.88, Collection, Storage And Maintenance Of Nuclear Power Plant Quality Assurance Records (Rev. 2)
HNP shall comply with NRC Regulatory Guide 1.88, Rev. 2, which endorses ANSI N45.2.9-1974, Collection, Storage, And Maintenance Of QA Records, with the following clarifications:
See standard exception in Table 17-1 Regulatory Guide 1.88 for the appropriate controls on quality in the management of electronic records.
1. Appendix A of ANSI N45.2.9 is not considered to be a mandatory list. This list will be used as a guideline for classifying those documents that need to be maintained as QA records. Whether a particular type of document needs to be classified as a QA record and its appropriate retention period is determined in accordance with records management procedures. 2. Paragraph 1.4, Definitions: The phrase "When the document has been completed" is clarified to mean when the document has received the final review performed by the organizational element responsible for generating or collecting the records. In the case of a record package (plant change request, equipment qualification, etc.) made up of several individual documents, the package will be considered to be the document for the purpose of determining when the document is complete. 3. Paragraph 3.2.1, Generation Of Quality Assurance Records: The phrase "Completely filled out" is clarified to mean that sufficient information is recorded to fulfill the intended purpose of the record. 4. Paragraph 3.2.2, Index: The storage location will be delineated in procedures in lieu of in the index. The specific location of a record "within a storage area" is delineated by a computerized indexing system plus a storage area labeling system which provides information by record type and storage medium.

Table B17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.88, Collection, Storage And Maintenance Of Nuclear Power Plant Quality Assurance Records (Rev. 2)
HNP shall comply with NRC Regulatory Guide 1.88, Rev. 2, which endorses ANSI N45.2.9-1974, Collection, Storage, And Maintenance Of QA Records, with the following clarifications:

5. Paragraph 4.2, Timeliness: HNP 's contractual agreement with its contractors and suppliers will constitute fulfillment of the requirements of this paragraph.
6. Paragraph 5.4, Preservation: The following clarification is substituted for the current subparagraph 5.4.2: "Records shall not be stored loosely. They shall be secured for storage in file cabinets or on shelving in containers." the following clarification is substituted for the current subparagraph 5.4.3: "appropriate provisions shall be made for special processed records (such as radiographs, photographs, negatives, microfilm, and magnetic media) to prevent or minimize damage from excessive light, stacking, electromagnetic fields, temperature and humidity, etc. Manufacturer's recommendations will be considered as appropriate."
7. Paragraph 5.5, Safekeeping: Routine general office and nuclear site security systems and access controls are provided. No special security systems are required to be established for record storage areas.
8. Paragraph 5.6, Facility: This paragraph provides no distinction between temporary and permanent facilities. To cover temporary storage, the following clarification is added: "complete records may be stored in one-hour fire rated file cabinets until transmitted for permanent storage. In general, records shall not be maintained in temporary storage for more than ninety days after completion.

   Any exceptions to this requirement must be justified, evaluated and approved by the supervisor document services or designee and documented. A list of exceptions shall be maintained and available for nrc review. Exceptions may include records needed on a continuing basis for an extended period of time at the location of the work group responsible for generating the records and records which are cumulative in nature and could best be turned over for storage for a designated period of time.
9. Paragraph 5.6, subparagraph 3, is clarified to require a two-hour minimum fire rating to be consistent with the 1979 version of the standard and NRC Criteria For Record Storage Facilities (Guidance - ANSI N45.2.9, section 5.6) issued 7/1/80.
10. Paragraph 5.6, subparagraph 9, is clarified to read: "No pipes or penetrations except those providing fire protection, lighting, temperature/humidity control or communications are to be located within the facility. All such penetrations shall be sealed or dampened to comply with a minimum two-hour fire protection rating."
11. Additional clarification for QA records is provided in 17.3.2.15
12. See standard exception in Table 17-1 Regulatory Guide 1.88 for the appropriate controls on quality in the management of electronic records.
13. See standard exception in Table 17-1 Regulatory Guide 1.88 for the appropriate controls on quality in the management of electronic records.

Regulatory Guide 1.94, Quality Assurance Requirements For Installation, Inspection And Testing Of Structural Concrete And Structural Steel During The Construction Phase Of Nuclear Power Plants (Rev. 1)

Table B17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

HNP complies with the requirements and guidance of ANSI N45.2.5-1974, Supplementary Quality Assurance Requirements For Installation Inspections And Testing Of Structural Steel During The Contract Phase Of Nuclear Power Plants, as it is referenced in Regulatory Guide 1.94, Rev. 1, with the following clarifications:

A) Paragraph 2.1, Planning: Requirements, as determined by responsible plant management, will be incorporated into procedures.

B) Paragraph 2.3, Results, Will be implemented as set forth in sections 17.3.2.12, 17.3.2.8, and 17.3.2.15 and Regulatory Guide 1.33.

C) Paragraph 2.5 of ANSI N45.2.5, Measuring & Test Equipment, Requires certain controls over this type of equipment. The equipment listed shall be included in the calibration control program; however, the basis and control of measuring and test equipment is that stated in section 17.3.2.9.

D) The cement test frequency for standard physical and chemical properties is in accordance with ASTM C 183, on the basis of one test per daily production at the cement plant, reference ANSI N45.2.5, Table B. Table B also lists a test frequency for ASTM C 235 which has been discontinued by ASTM. HNP plans to discontinue testing in accordance with ASTM C 235. Acceptance of aggregates for durability/hardness will be in accordance with ASTM C 131 OR C 535, Los Angeles Abrasion Test.

E) Gradation - In addition to the gradations listed in ASTM C-33, an aggregate designated 78-M (State Of North Carolina designation) is used in special areas such as around major penetrations or in reinforcing steel congested areas, with the approval of the engineers. This aggregate meets all other qualifications of ASTM C-33, with the exception of gradation analyses. The results during preliminary concrete mix design have been satisfactory and in accordance with the requirements of ASME Section III, Division 2/ACI-359 code.

F) Paragraph 5.4, High Strength Bolting: Bolting connection points will be visually inspected in accordance with ANSI N45.2.5-1974 except that bolt length will be checked to ensure bolts are long enough as indicated by the point of the bolts being flush with or outside the face of the nuts in accordance with ANSI N45.2.5-1978.

Table B17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.116, Quality Assurance Requirements For Installation, Inspection, And Testing Of Mechanical Equipment And Systems, (Rev. 0-R)
HNP complies with the requirements of 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, as it is endorsed by Regulatory Guide 1.116, Revision O-R, June 1976, with the following clarifications:
1. Paragraph 2.1, Planning: Requirements, as determined by responsible plant management, will be incorporated into procedures. 2. Paragraph 2.3, results, will be implemented as set forth in Section 17.3.2.12 and by compliance with RG 1.33. 3. Paragraph 2.8, Measuring And Test Equipment - HNP has addressed this requirement for the operational phase of the plant in section 17.3.2.9. 4. Paragraph 2.9, Prerequisites, References requirements of other standards. HNP has addressed applicable standards in the appropriate sections of the HNP UFSAR in lieu of the requirements of this paragraph. The extent to which this paragraph applies will be determined by responsible plant management based on end use and complexity of the item. 5. Paragraph 3.3, Processes And Procedures: "Approved instructions" are interpreted to include vendor manuals. 6. Paragraph 4.6, Care Of Items: This will be done as outlined in the position on Regulatory Guide 1.38. 7. Paragraph 5, including subparagraphs 5.1 through 5.4, Installed Systems, Inspections And Tests: Responsible plant management will determine the extent to which the elements in this paragraph are applied when developing test requirements for inclusion in modification procedures. In some cases, testing requirements may be met by post-installation surveillance testing in lieu of a special post-installation test.
Regulatory Guide 1.123, Quality Assurance Requirements For Control Or Procurement Of Items And Services For Nuclear Power Plants, (Rev. 1)
HNP shall comply with the requirements of ANSI N45.2.13-1976, Quality Assurance Requirements For Control Or Procurement Of Items And Services For Nuclear Power Plants, as it is endorsed by Regulatory Guide 1.123 with the following clarifications:
1. Paragraph 1.2.2, Purchaser's Responsibilities: Item C is one of the options which may be used by HNP to assure quality; however, any of the options given in 10CFR50, Appendix B, Criterion VII as implemented by 17.3 may also be used. Evaluation of supplier's QA program will be conducted as determined depending on complexity and end use of item. 2. Paragraph 3.1, Procurement Document Preparation, Review And Control Change: The changed document may not always be as reviewed by the originator; however, at least an equivalent level shall review and approve any changes. 3. Paragraphs 3.2.3, 3.2.4, and 3.2.6 - HNP does not consider that these paragraphs or vendor qualifications apply for the procurement of off-the-shelf items. Off-the-shelf items (which include original as well as spare and replacements) are Commercial Grade Items which are defined in 10CFR 21.

Table B17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.123, Quality Assurance Requirements For Control Or Procurement Of Items And Services For Nuclear Power Plants, (Rev. 1)
HNP shall comply with the requirements of ANSI N45.2.13-1976, Quality Assurance Requirements For Control Or Procurement Of Items And Services For Nuclear Power Plants, as it is endorsed by Regulatory Guide 1.123 with the following clarifications:

Special quality verification requirements shall be determined, as necessary, by responsible technical group to assure acceptability of the item. The responsible technical organization will review purchase requisitions of items classified as "commercial grade" to assure proper application of the 10CFR 21 criteria.

See standard exceptions in Table 17-1 for Regulatory Guide 1.123 for the procurement of Commercial Grade Items and services including, purchasing commercial-grade calibration services from calibration laboratories.

4. Paragraph 3.3 requires procurement documents to be reviewed prior to bid or award of contract. The documented review of procurement documents is provided through review of the procurement specification and purchase requisition by the responsible technical organization prior to bid or award of contract.
5. Paragraph 3.4, Procurement Document Control: HNP will meet the requirements of 17.3 in lieu of the requirements specified in this paragraph.
6. Paragraph 4.2, Selection Measures, Outlines certain methods acceptable for the selection of suppliers. HNP's history of using similar methods has proven adequate in the procurement of items; therefore, HNP wishes to replace paragraph 4.2(a), (b), and (c) with the following selection methods:
   1) The supplier's quality assurance capabilities as determined by a direct survey of his facilities and personnel, and the implementation of his quality assurance program.
   2) Evaluating the supplier's history of providing a product which performs satisfactorily in actual use. One or more of the following information shall be evaluated:
      (i) Experience of users of identical or similar products of the same prospective supplier.
      (ii) HNP's records that have been accumulated in connection with previous procurement actions and product operating experience. Historical data should be representative of the supplier's current capability. If there has been no recent experience with the supplier, or if he is a new supplier, the prospective supplier shall be requested to submit information on a similar item or service for evidence of his current capabilities.
      (iii) Evaluating the supplier's current quality records supported by documented qualitative and quantitative information which can be objectively evaluated.

      This would include review and evaluation of the supplier's quality assurance program manual and procedures, as appropriate, to ensure that the applicable requirements of 10CFR 50, Appendix B, "Quality Assurance Criteria For Nuclear Power Plants" are met.
      (iv) Verification that the supplier holds an active certificate of authorization from the ASME to supply or manufacture materials or the item(s) described in the purchase requisition. A supplier may be considered acceptable, without a survey, to supply off-the-shelf items. An inspection shall be performed to assure that the correct item was received and no damage exists.

Table B17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.123, Quality Assurance Requirements For Control Or Procurement Of Items And Services For Nuclear Power Plants, (Rev. 1)
HNP shall comply with the requirements of ANSI N45.2.13-1976, Quality Assurance Requirements For Control Or Procurement Of Items And Services For Nuclear Power Plants, as it is endorsed by Regulatory Guide 1.123 with the following clarifications:

Verification that the supplier is listed in the current NUPIC (Nuclear Procurement Issues Committee) database. However, the audit report which formed the basis for listing the supplier in the NUPIC database must be obtained and reviewed for applicability to the procurement. All deficiencies which could degrade the procured item must be resolved prior to the procurement. This review shall be documented and, together with the audit report, be retained.

3) See standard exceptions in Table 17-1 for Regulatory Guide 1.123 for the procurement of Commercial Grade Items and services including, purchasing commercial-grade calibration services from calibration laboratories.

7. Paragraphs 5.2 and 5.3 shall be applied to the extent determined by responsible plant management based on complexity of the item and its end use. It is not intended that these paragraphs be applied to spares or replacement parts that do not change original design intent.

8. Paragraph 6.1, General, Outlines methods for monitoring and evaluating supplier performance. HNP wishes to replace paragraph 6.1(a), (b), (c), (d), and (e) with the following methods for monitoring and evaluating supplier performance:

   A. Reviewing documents generated or processed during activities fulfilling procurement requirements.

   B. Reviewing LER'S.

   C. Periodic audits.

   D. Annual evaluations.

   E. Those controls specified 17.3.

9. Paragraph 6.4, Control Of Changes In Items Or Services: Since ANSI N45.2 does not apply to the operational phase, equivalent controls outlined in ANSI N18.7-1976 will be used in lieu of the requirements of ANSI N45.2, section 7.

10. Paragraph 7.4, Measuring And Test Equipment, Outlines certain measures to be taken. HNP for the operating phase has addressed the topic of measuring and test equipment in 17.3.2.9 in lieu of the requirements in this paragraph.

11. Paragraph 8 provides guidance for purchaser review and disposition of vendor nonconformances. HNP, as purchaser, requires as a minimum deviations to procurement documents and previously approved supplier documents that cannot be brought into conformance prior to shipment of the material to be submitted to dep for approval. Such deviations, when approved by purchaser, are required to be submitted along with shipment of the material. Additionally, paragraph 8.2, disposition: the third sentence of item b is revised to read:

Table B17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.123, Quality Assurance Requirements For Control Or Procurement Of Items And Services For Nuclear Power Plants, (Rev. 1)

HNP shall comply with the requirements of ANSI N45.2.13-1976, Quality Assurance Requirements For Control Or Procurement Of Items And Services For Nuclear Power Plants, as it is endorsed by Regulatory Guide 1.123 with the following clarifications:

Nonconformances to the contractual procurement requirements or purchaser approved documents which consist of one or more of the following shall be submitted to the purchaser for approval of the recommended disposition prior to shipment, when the nonconformance could adversely affect the end use of a *module or shippable component relative to safety, interchangeability, operability, reliability, integrity, or maintainability:

A. Technical or material requirement is violated;

B. Requirement in supplier documents, which have been approved by the purchaser, is violated;

C. Nonconformance cannot be corrected by continuation of the original manufacturing process or by rework; and/or

D. The item does not conform to the original requirement, even though the item can be restored to a condition such that the capability of the item to function is unimpaired.

A module is any assembly of interconnected components which constitute an identifiable device, instrument, or piece of equipment. A module can be disconnected, removed as a unit, and replaced with a spare. It has definable performance characteristics which permit it to be tested as a unit. A module could be a card or other subassembly of a larger device, provided it meets the requirements of this definition.

12. Regulatory Position C.3 indicates that purchaser should verify the implementation of the supplier's corrective action systems when such a system is required, but this verification need not be included as part of the purchaser's corrective action measures.

    HNP interprets this statement to mean that once corrective action has been verified by purchaser on nonconforming vendor items, the items can be released for use in its intended application.

    The cause and action to preclude recurrence of deficiencies is the responsibility of the vendor, and independent verification of such vendor action by purchaser or vendor notification of such action to purchaser, is not required on the basis that the vendor's QA program has been accepted by the purchaser. The QA program provides for determining cause and action to preclude recurrence on significant deficiencies, and purchaser audits are conducted to ensure vendor's compliance with his accepted qa program commitments. In addition, HNP will provide overview of those causes and corrective action activities associated with items of high volume and which are considered significant to safety in cases where vendor's recent performance has appeared marginal.

13. Paragraph 10.2a: HNP will comply with this paragraph to the extent that for non-code items, certificates of compliance will be traceable only to the purchase order and not to the specific item.

Regulatory Guide 1.144, Auditing Of Quality Assurance Programs For Nuclear Power Plants (Rev. 0)

Table B17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

HNP shall comply with requirements of Regulatory Guide 1.144, January 1979, which endorses ANSI N45.2.12-1977, Requirements For Auditing Of Quality Assurance Programs For Nuclear Power Plants, with the following clarifications.

1. C.3.(B)(2): The concepts of when audits are required, i.e., annually, triennially, will be complied with; however, such audits would only be required of the vendor if the vendor is involved with an active contract/procurement document. This concept is as discussed in paragraphs 3.5.3.1 and 3.5.3.2 of ANSI N45.2.12-1977.

   See standard exceptions in Table 17-1 for Regulatory Guide 1.123 for the procurement of Commercial Grade Items and services including, purchasing commercial-grade calibration services from calibration laboratories.

2. Paragraph 2.3, Training: The training of HNP audit personnel will be accomplished as described in HNP's position on Regulatory Guide 1.146.

3. Paragraph 2.4, Maintenance Of Proficiency: The maintenance of proficiency of HNP audit personnel will be accomplished as described in HNP's position on Regulatory Guide 1.146.

4. Paragraph 3.2.2 indicates that objective evidence is to be examined and evaluated. HNP believes that the use of subjective evidence is also an important element of the audit program. See paragraph 4.3.2 clarifications below.

5. Paragraph 3.3, Essential Elements Of The Audit System; HNP will comply with subparagraph 3.3.5 as it was originally written (subparagraph 3.2.5) in ANSI N45.2.12, Draft 3, Revision 4:

   "Provisions for reporting on the effectiveness of the quality assurance program to the responsible management." for the audited organization, effectiveness is reported as required by the HNP UFSAR and by assessment procedures. Other than audit reports, HNP may not directly report on the effectiveness of the quality assurance programs to the audited organization, when such organizations are outside of Duke Energy.

   Subparagraph 3.3.7 requires verification of effective corrective action on a "timely basis". Timely basis is interpreted to mean within the period of time that is accepted by the organization. Each finding requires a response and a corrective action completion date. These dates are subject to revision and must be escalated to higher authority when there is a disagreement between the audited and the auditing organization on what constitutes "timely corrective action."

6. Paragraph 4.3.1, Preaudit Conference: HNP will comply with the requirement of this paragraph by inserting the word "normally" at the beginning of the first sentence. This clarification is required because, in the case of certain unannounced audits or audits of a particular operation or work activity, a preaudit conference might interfere with the spontaneity of the operation or activity being audited. In other cases, persons who should be present at a preaudit conference may not always be available. Such lack of availability should not be an impediment to beginning an audit. Even in the above examples, which are not intended to be all inclusive, the material set forth in paragraph 4.3.1 will normally be covered during the course of the audit.

7. Paragraph 4.3.2, Audit/Assessment Process:

Table B17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.144, Auditing Of Quality Assurance Programs For Nuclear Power Plants (Rev. 0)
HNP shall comply with requirements of Regulatory Guide 1.144, January 1979, which endorses ANSI N45.2.12-1977, Requirements For Auditing Of Quality Assurance Programs For Nuclear Power Plants, with the following clarifications.

A. Subparagraph 4.3.2.2 could be interpreted to limit auditors to the review of only objective evidence. Sometimes objective evidence may not be available; therefore, HNP will comply with an alternate sentence which reads: "When available, objective evidence shall be examined for compliance with quality assurance program requirements. If subjective evidence is used (e.g., personnel interviews, direct observations by the auditor), then the audit report or checklist must indicate how the evidence is obtained."

B. Subparagraph 4.3.2.4 is modified as follows to take into account the fact that some nonconformances are virtually "obvious" with regards to the needed corrective action. As a result of this, HNP proposes the following alternate words: "When a nonconformance or quality assurance program deficiency is identified as a result of an audit, unless the apparent cause, extent, and corrective action is readily evident, further investigations shall be conducted by the audited organization in an effort to identify the cause and effect and to determine the extent of the corrective action required."

C. Subparagraph 4.3.2.5 contains a statement "acknowledged by a member of the audited organization". This is clarified to mean that "A member of the audited organization has been informed to the findings. Agreement or disagreement with a finding may be expressed in the response from the audited organization."

D. Subparagraph 4.3.2.6 is modified as follows to account for the fact that immediate notification is not always possible: "Conditions requiring immediate corrective action (i.e., those which are so severe that any delay would be undesirable) shall be reported as immediately as practical to management of the audited organization."

8. Paragraph 4.3.3, Post Audit Conference: HNP will substitute and comply with the following paragraphs: "For all external audits, a postaudit conference shall be held with management of the audited organization to present audit findings and clarify misunderstandings. Where no adverse findings exist, this conference may be waived by management of the audited organization. Such waiver shall be documented in the audit report. For all internal assessments unless unusual operating or maintenance conditions preclude attendance by appropriate managers/supervisors, an assessment debrief shall be held with managers/supervisors. If there are no adverse findings, management of the internal assessed organization may waive the assessment debrief. Such waiver shall be documented in the assessment report."

9. Paragraph 4.4, Reporting:

   A. This paragraph requires that the audit report shall be signed by the audit team leader which is not always the most expeditious route for the audit report to be issued as soon as practical. HNP will comply with paragraph 4.4 as clarified by the following words: "An audit report, which shall be signed by the unit team leader, or his supervisor in the absence of the audit team leader shall provide:" in cases where the audit report is not signed by the lead auditor due to his absence, the record copy of the report must be signed by the lead auditor upon his return. The report shall not require the lead auditor's review/concurrence/signature if the lead auditor is no longer employed by HNP at the time audit report is issued.

Table B17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.144, Auditing Of Quality Assurance Programs For Nuclear Power Plants (Rev. 0)
HNP shall comply with requirements of Regulatory Guide 1.144, January 1979, which endorses ANSI N45.2.12-1977, Requirements For Auditing Of Quality Assurance Programs For Nuclear Power Plants, with the following clarifications.

B. HNP will comply with subparagraph 4.4.3 clarified to read: "Supervisory level personnel with whom significant discussions were held during the course of preaudit (where conducted), audit, and postaudit (where conducted) activities.

C. Audit reports may not necessarily contain an evaluation statement regarding the effectiveness of the quality assurance program elements which were audited, as required by subparagraph 4.4.4, but they will provide an effectiveness summary of the audited areas."

D. Subparagraph 4.4.6 - Nuclear Oversight section management will determine the need for audit reports to include recommendations for corrective actions.

E. HNP will comply with the last paragraph of section 4.4 of ANSI N45.2.12 concerning issuing audit reports with the following clarification: "Audit reports shall be issued within thirty working days after the last day of the audit. The last day of an audit shall be considered to be the day of the post-audit conference. If a post-audit conference is not held because it was deemed unnecessary, the last day of the audit shall be considered to be the date the post-audit conference was deemed unnecessary as documented in the audit report."

10. Paragraph 4.5.1, By Audited Organization: HNP will comply with the following clarification of this paragraph:

    "Management of the audited organization or activity shall review and investigate all adverse audit findings, as necessary, (cause, etc.) To determine and schedule appropriate corrective action including action to prevent recurrence. They shall respond, in writing, within thirty days after the date of receipt of the audit report. The response shall clearly state the corrective action taken or planned to prevent recurrence and the results of the investigation if conducted. In the event that corrective action is not completed by the time the response is submitted, the audited organization's response shall include a scheduled date for completion of planned corrective action. A follow-up response shall be provided stating the corrective action was completed.

    If corrective actions are verified as satisfactorily completed by the quality organization prior to the scheduled completion date or when completion of corrective action can be verified during a follow-up audit, no follow-up response is required. The audited organization shall take appropriate action to assure that corrective action is accomplished as scheduled."

11. Paragraph 5 - audit checklists are not considered QA records. HNP believes that actual audit reports provide sufficient detail to substantiate the results of the audit, and the checklist is maintained as an audit "tool" versus a QA record. Additionally, the audit checklist need only document objective evidence examined to support the audit findings.

Table B17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.146, Qualification of QA Program Audit Personnel For Nuclear Power Plants (Rev. 0, 8/80)
HNP shall comply with requirements of Regulatory Guide 1.146, August 1980, which endorses ANSI N45.2.23-1978, Qualification Of Quality Assurance Program Audit Personnel For Nuclear Power Plants with the following clarifications.

1. Paragraph 2.2, Qualification Of Auditors: subparagraph 2.2.1 references an "ANSI B45.2" (presumed to be N45.2); therefore, HNP will comply with an alternate subparagraph 2.2.1 which reads:

   "Orientation to provide working knowledge and understanding of the HNP QA program, including the ANSI standards and Regulatory Guides included in the program, and Duke Energy's procedures for implementing audits and reporting results."

2. Paragraph 4.1, Organization Responsibility: HNP will comply with this paragraph with the substitution of the following sentence in place of the last sentence in the paragraph.

   "The NOS manager or the audit team leader shall, prior to commencing the audit, assign personnel who collectively have experience or training commensurate with the scope, complexity, or special nature of the activities to be audited."

3. Paragraph 5.3, Updating Of Lead Auditor's Records: HNP will substitute the following sentence for this paragraph:

   "Records for each lead auditor shall be maintained and updated during the period of the annual management assessment. This annual management assessment shall be as defined in the clarification for paragraph 3.2 noted above."

4. ANSI N45.2.23, paragraph 2.3.4 states, "The prospective lead auditor shall have participated in a minimum of five (5) quality assurance audits within a period of time not to exceed three (3) years prior to the date of qualification, one audit of which shall be a nuclear quality assurance audit within the year prior to qualification."

HNP substitutes the following instead of the cited sentence of ANSI N45.2.23, paragraph 2.3.4:

"Prospective lead auditors shall demonstrate the ability to effectively implement the audit process and effectively lead an audit team. This process is described in written procedures that provide for evaluation and documentation of the results of this demonstration. In addition, the prospective lead auditor shall have participated in at least two nuclear quality assurance audits within the year preceding the individual's effective date of qualification. Upon successful demonstration of the ability to effectively implement the audit process and effectively lead audits, and having met the other provisions of section 2.3 of ANSI N45.2.23-1978, the individual may be certified as being qualified to lead audits."

Table B17-2. Site Specific Response to Regulatory Guides and Industry Standards

Table B17-2 identifies additional Regulatory Guides addressing subjects related to implementation of the QAP but the implementation is site specific and controlled with the UFSAR in accordance with 10 CFR 50.59.

Regulatory Guide 1.8, Personnel Selection And Training
Personnel selection and training is site specific. Harris addresses conformance with Regulatory Guide 1.8 in UFSAR Chapter 1 Section 8.

Regulatory Guide 1.26, Quality Group Classifications And Standards For Water-, Steam-, And Radioactive-Waste-Containing Components Of Nuclear Power Plants
Quality group classifications and standards trace to the original design and construction of the nuclear power plant and therefore are site specific. Harris addresses conformance with Regulatory Guide 1.26 in UFSAR Chapter 1 Section 8.

Regulatory Guide 1.29, Seismic Design Classification
Seismic design classification trace to the original design and construction of the nuclear power plant and therefore is site specific. Harris addresses conformance with Regulatory Guide 1.29 in UFSAR Chapter 1 Section 8.

Regulatory Guide 1.36, Nonmetallic Thermal Insulation For Austenitic Stainless Steel
Nonmetallic thermal insulation for austenitic stainless steel trace to the original design and construction of the nuclear power plant and therefore is site specific. Harris addresses conformance with Regulatory Guide 1.36 in UFSAR Chapter 1 Section 8.

Regulatory Guide 1.54, Quality Assurance Requirements For Protective Coatings Applied To Water-Cooled Nuclear Power Plants
Quality assurance requirements for protective coatings applied to water-cooled nuclear power plants trace to the original design and construction of the nuclear power plant and therefore is site specific. Harris addresses conformance with Regulatory Guide 1.54 in UFSAR Chapter 1 Section 8.

Table B17-2. Site Specific Response to Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.143, Design Guidance For Radioactive Waste Management Systems, Structures, And Components Installed In Light-Water-Cooled Nuclear Power Plants
Design guidance for radioactive waste management systems, structures, and components installed in light-water-cooled nuclear power plants trace to the original design and construction of the nuclear power plant and therefore is site specific. Harris addresses conformance with Regulatory Guide 1.143 in UFSAR Chapter 1 Section 8.
Regulatory Guide 1.155, Station Blackout
Addressing Station Blackout is site specific. Harris addresses conformance with Regulatory Guide 1.155 in UFSAR Chapter 1 Section 8.
Regulatory Guide 4.15, Quality Assurance For Radiological Monitoring Programs (Normal Operations) – Effluent Streams And The Environment
Quality assurance for radiological monitoring program (normal operations) – effluent streams and the environment is site specific. Harris does not address conformance to Regulatory Guide 4.15 in UFSAR Chapter 1 Section 8. The radiological monitoring program is addressed in UFSAR Chapter 11.

B17.3.1 MANAGEMENT

B17.3.1.1 Methodology

There are no Harris specific amplifications for this section.

B17.3.1.2 Organization

There are no Harris specific amplifications for this section.

B17.3.1.3 Responsibility

There are no Harris specific amplifications for this section.

B17.3.1.4 Authority

The program and procedures require that the authority and duties of persons and organizations performing activities affecting quality be clearly established and delineated in writing and that these individuals and organizations have sufficient authority and organizational freedom to:

1. Identify quality, nuclear safety, and performance problems.
2. Order unsatisfactory work to be stopped and control further processing, delivery, or installation of nonconforming material.
3. Initiate, recommend, or provide solutions for conditions adverse to quality.
4. Verify implementation of solutions.

B17.3.1.5 Personnel Training And Qualification

There are no Harris specific amplifications for this section.

B17.3.1.6 Corrective Action

The program requires that an evaluation of adverse conditions such as conditions adverse to quality, nonconformances, failures, malfunctions, deficiencies, deviations, and defective material and equipment is conducted to determine need for corrective action. Conditions adverse to quality are identified through inspections, assessments, tests, checks, and review of documents.

The program requires corrective action to be initiated to preclude recurrence of significant conditions adverse to quality.

For significant conditions adverse to quality, procedures require follow-up reviews, verifications, inspections, etc., to be conducted to verify proper implementation of corrective action and to close out the corrective action documentation.

The program outlines the methodology for resolution of disputes involving quality and nuclear safety issues arising from a difference of opinion between identifying personnel and other groups.

Significant conditions adverse to quality are reported to appropriate management for review and evaluation.

Periodic review and evaluation of adverse trends are performed by management.

B17.3.1.7 Regulatory Commitments

There are no Harris specific amplifications for this section.

B17.3.2 Performance/Verification

B17.3.2.1 Methodology

There are no Harris specific amplifications for this section.

B17.3.2.2 Design Control

Controls are applied to the development, content and use of computer codes to ensure (1) the codes are developed, documented, verified and certified for use per approved procedures; (2) the codes are properly controlled to preclude use of outdated or obsolete codes; (3) that proper instructions concerning the use of the codes are provided; and (4) adequate QA provisions are implemented for the procurement of computer codes.

B17.3.2.3 Design Verification

There are no Harris specific amplifications for this section.

B17.3.2.4 Procurement Control

Potential contractors and suppliers are evaluated prior to award of a procurement contract when needed to assure the contractor's or supplier's capability to comply with applicable technical and quality requirements.

Procurement documents, such as purchase specifications, contain or reference the following:

1. Technical, administrative, regulatory, and reporting requirements, including material and component identification requirements, drawings, specifications, codes and industrial standards, test and inspection requirements, and special process instructions.
2. Identification of the documentation to be prepared, maintained, or submitted (as applicable) to HNP for review and approval. These documents may include, as necessary, inspection and test records, qualification records, or code required documentation.
3. Identification of those records to be retained, controlled, and maintained by the supplier, and those delivered to the purchaser prior to use or installation of the hardware.

Procurement documents require suppliers to operate in accordance with QA programs which are compatible with the applicable requirements of the HNP QA Program and procedures where their services are utilized in support of plant activities.

B17.3.2.5 Procurement Verification

There are no Harris specific amplifications for this section.

B17.3.2.6 Identification and Control of Items

Procedures require that materials, parts, and components be identified and controlled to prevent the use of incorrect or defective items.

These procedures also require that identification of items be maintained either on the item in a manner that does not affect the function or quality of the item, or on records traceable to the item.

Procedures implementing these requirements provide for the following:

1. Verification that items received at the plant are properly identified and can be traced to the appropriate documentation, such as drawings, specifications, purchase orders, manufacturing and inspection documents, nonconformance reports, or material test reports.
2. Verification of item identification consistent with the HNP inventory control system and traceable to documentation which identifies the proper uses or applications of the item.
3. Verification of correct identification of material, parts and components prior to fabrication, assembly installation or use, and results documented.

B17.3.2.7 Handling, Storage, and Shipping

Provisions are established to control the shelf life and storage of chemicals, reagents, lubricants, and other consumable materials.

B17.3.2.8 Test Control

Test procedures incorporate or reference the following, as required:

1. Instructions and prerequisites for performing the test.
2. Use of proper test equipment.
3. Mandatory inspection hold points.
4. Acceptance criteria.

Test results are documented, evaluated, and their acceptability determined by a qualified, responsible individual or group.

When the acceptance criteria is not met, affected areas are to be retested or evaluated, as appropriate.

B17.3.2.9 Measuring and Test Equipment Control

Portable measuring and test equipment is calibrated by standards which are at least four times as accurate as the portable measuring and test equipment, unless limited by the state of the art. In cases where the accuracy is not achievable or is limited by the state of the art, an engineering evaluation or other appropriate justification is performed and documented to justify acceptability of the M&TE in question. The evaluation is reviewed in accordance with approved procedures.

Calibration of installed plant devices shall be against M&TE having sufficient accuracy, greater than the device being calibrated, to assure that the system containing the device is within the specified system tolerance. The basis for determining the "greater than accuracy" shall be documented.

Reference and transfer standards are traceable to nationally recognized standards; or where national standards do not exist, provisions are established to document the basis for the calibration.

B17.3.2.10 Inspection, Test, and Operating Status

These procedures include the application, removal, and verification of inspection and welding stamps, or other status indicators as appropriate.

Altering the sequence of required tests, inspections, and other operations important to safety can only be accomplished by methods outlined in procedures.

B17.3.2.11 Special Process Control

There are no Harris specific amplifications for this section.

B17.3.2.12 Inspection

There are no Harris specific amplifications for this section.

B17.3.2.13 Corrective Action

The primary goal of the corrective action program is to improve overall plant operations and performance by identifying and correcting root causes of equipment and human performance problems.

Procedures define requirements for a corrective action program that charges personnel working at or supporting the nuclear plants with the responsibility to identify adverse conditions (including conditions adverse to quality).

Procedures include requirements for verification of the acceptability of the rework/repair of items by reinspection and/or testing in accordance with the original inspection or test requirements or by an accepted alternative inspection and testing method.

Conditions that require rework/repairs are identified through the use of maintenance work request forms.

B17.3.2.14 Control of Documents

Changes to documents are reviewed and approved by the same organization that performed the original review and approval or by other designated qualified responsible organizations.

B17.3.2.15 Records

The structure in which single copy records are maintained is designed to prevent destruction, deterioration, or theft. This structure ensures protection against destruction by fire, flooding, theft, and deterioration by the environmental conditions of temperature and humidity.

B17.3.3 Assessment

B17.3.3.1 Methodology

The following are Harris specific amplifications from prior sections 17.3.3.1 and 17.3.3.2.2.

NOS site management and Independent Review Engineers, separately, will hold periodic, but not less frequently than semi-annual (+25% for scheduling flexibility), peer review meetings to share and exchange information among sites. These meetings will allow the use of designated alternates to attend.

B17.3.3.2 Independent Review

B17.3.3.2.1 Function

The HNP Nuclear Oversight Section shall function to provide independent review of plant changes, tests, and procedures; verify that reportable events are investigated in a timely manner and corrected in a manner that reduces the probability of recurrence of such events; and detect trends that may not be apparent to a day-to-day observer.

B17.3.3.2.2 Organization

The individuals assigned responsibility for independent reviews shall be technically qualified in a specified technical discipline or disciplines. These individuals shall collectively have the experience and competence required to review activities in the following areas:

a) Nuclear power plant operations,

b) Nuclear engineering,

c) Chemistry and radiochemistry,

d) Metallurgy,

e) Nondestructive testing,

f) Instrumentation and control,

g) Radiological safety,

h) Mechanical and electrical engineering,

i) Administrative controls,

j) Seismic and environmental,

k) Quality assurance practices, and

l) Other appropriate fields.

B17.3.3.2.3 Requirements

a) The Manager - HNP Nuclear Oversight Section shall have a bachelor degree in an engineering or related field, and in addition, shall have a minimum of 10 years' related experience, of which a minimum of 5 years shall be in the operation and/or design of nuclear power plants.

b) The individuals performing independent reviews shall have a bachelor degree in an engineering or related field or equivalent, and in addition, shall have a minimum of 5 years' related experience.

c) An individual may possess competence in more than one specialty area. If sufficient expertise is not available within the Nuclear Oversight Section, competent individuals from other Duke Energy organizations or outside consultants shall be utilized in performing independent reviews and investigations.

d) The documents submitted under B17.3.3.2.4 shall be reviewed by individuals meeting the requirements of B17.3.3.2.2 and paragraph b) to ensure disciplines are encompassed. Multiple reviews will be conducted on documents where required to meet applicable disciplines of Section B17.3.3.2.2.

e) Independent reviews shall be performed by individuals not directly involved with the activity under review or responsible for the activity under review.

f) The Nuclear Oversight Section independent review program shall be conducted in accordance with written, approved procedures.

g) Individuals who do not possess the formal educational requirements specified in paragraphs a) and b) shall not be automatically eliminated where other factors provide sufficient demonstration of their abilities. These other factors shall be evaluated on a case-by-case basis and approved and documented by the responsible NOS management.

The positive factors listed as follows may be considered in making the evaluation of an acceptable alternative to the educational requirements:

1) High school diploma or GED.
2) Academic and related technical training.
3) Has or has held a license as a senior reactor operator at HNP.
4) Four years of additional experience in Nuclear Oversight or related field (i.e., Quality Assurance, Performance Evaluation, or Nuclear Assessment).
5) Four years of supervisory or management experience.
6) Demonstrated ability to communicate clearly (orally and in writing).
7) Certification of academic ability and knowledge by corporate management.
8) Successful completion of the Engineer-In-Training examination.
9) Professional Engineer License.
10) Associate Degree in Engineering or related science.

B17.3.3.2.4 Review

The Nuclear Oversight Section shall perform reviews of the following:

a) Written 10CFR50.59 evaluations of changes in the facility as described in the Safety Analysis Report, changes in procedures as described in the Safety Analysis Report, and tests or experiments not described in the Safety Analysis Report which are completed without prior NRC approval under the provisions of 10CFR50.59. These reviews are to verify that such changes, tests, or experiments do not involve a change in the HNP Technical Specifications or require a license amendment as defined in 10CFR50.59. These reviews may be conducted after appropriate management approval, and implementation may proceed prior to completion of the review.

b) Proposed changes in procedures required by the HNP Technical Specifications, proposed changes in the facility, or proposed tests or experiments, any of which involve a change in the HNP Technical Specifications or require a license amendment pursuant to 10CFR50.59 prior to implementation.

c) Proposed changes to the HNP Technical Specifications or the operating license prior to implementation.

d) Violations, deviations, and reportable events, which required reporting to the NRC in writing, such as:

1) Violations of applicable codes, regulations, orders, HNP Technical Specifications, license requirements, or internal procedure or instructions having safety significance,

2) Significant operating abnormalities or deviations from normal or expected performance of plant safety-related structures, systems, or components, and

3) Reportable events, as specified in 10CFR50.73.

e) Any other matter involving safe operation of the nuclear power plant that the Manager - HNP Nuclear Oversight Section, deems appropriate for consideration or which is referred to the Manager - HNP Nuclear Oversight Section, by the on-site operating organization, Plant Nuclear Safety Committee (PNSC), or by other functional organizational units within Duke Energy.

B17.3.3.2.5 Records

Results of HNP Nuclear Oversight Section independent reviews shall be documented and retained.

B17.3.3.3 Independent Assessment

There are no Harris specific amplifications for this section.

B17.3.3.3.1 Organization

Personnel performing independent assessment activities are generally assigned to Nuclear Oversight from the line and other organizations on a rotational basis for two to five year assignments. Since these personnel are full-time assessors during this time period, they have no direct responsibilities in the areas being assessed.

The Vice President - Harris Nuclear Plant, working with the Vice President - Nuclear Oversight, also ensures that assessment personnel are assigned from line and other organizations on a rotational basis to the HNP Nuclear Oversight organization.

B17.3.3.3.2 Internal Assessment Process

There are no Harris specific amplifications for this section.

B17.3.3.3.3. Internal Audit Program

B17.3.3.3.3.1 Other Audits Prescribed by the Code of Federal Regulations

The periodic review of Radiation Protection (per 10CFR 20.1101c) identified in 17.3.3.3.3.1 is conducted by NOS at Harris.

B17.3.3.3.3.2 Independent Audit of Fire Protection Program

- An independent fire protection assessment shall be performed at least once per 36 months using an outside (external to DEP) qualified (meeting Member grade qualifications of the SFPE) fire protection engineer.
- Copies of the audit reports and responses to them shall be forwarded to the Site Vice President and the site NOS manager.

B17.3.3.3.4 Results

There are no Harris specific amplifications for this section.

B17.3.3.3.5 Supplier Oversight

There are no Harris specific amplifications for this section.

B17.3.3.3.6 Independent Audit of QA Functions

There are no Harris specific amplifications for this section.

B17.3.3.3.7 Audit Frequency Extensions

HNP Audit Schedules shall be based on the exit date of the audit as identified in exceptions for Regulatory Guide 1.33.

B17.3.4 ADMINISTRATIVE CONTROLS

This section was added to the HNP UFSAR description of the QA Program to relocate certain administrative controls from HNP Technical Specifications. These relocated administrative controls include Review and Audit, Procedure Review Requirements, and Record Retention.

Review and Audit

B17.3.4.1 10CFR50.59 and technical reviews

B17.3.4.1.1 General program control

A 10CFR50.59 and a technical evaluation shall be prepared for each of the following:

a) All procedures and programs required by HNP Technical Specification 6.8, other procedures that affect nuclear safety, and changes thereto, with the exception of those procedures which are exempt from review under 10CFR50.59 in accordance with NEI 96-07, Revision 1, as endorsed by Regulatory Guide 1.187, November 2000:

b) All proposed tests and experiments that are not described in the HNP Final Safety Analysis Report; and

c) All proposed changes or modifications to plant systems or equipment that affect nuclear safety.

B17.3.4.1.2 Technical evaluations

a) Technical evaluations will be performed by personnel qualified in the subject matter and will determine the technical adequacy and accuracy of the proposed activity. If interdisciplinary evaluations are required to cover the technical scope of an activity, they will be performed.

b) Technical review personnel will be identified by the responsible manager or his designee for a specific activity when the review process begins.

B17.3.4.1.3 Qualified 10CFR50.59 Reviewers

The Plant Manager shall designate those individuals who will be responsible for performing 10CFR50.59 reviews described in Section B17.3.4.1.4. These individuals shall have a baccalaureate degree in an engineering or related field or equivalent, and 2 years of related experience. Such designation shall include the disciplines or procedure categories for which each individual is qualified. Qualified individuals or groups not on the plant staff may be relied upon to perform 10CFR50.59 reviews if so designated by the Plant Manager.

B17.3.4.1.4 10CFR50.59 Evaluations and Approvals

a) The 10CFR50.59 evaluation prepared in accordance with Section B17.3.4.1.1 shall include a written determination, with basis, of whether or not the procedures or changes thereto, proposed tests and experiments and changes thereto, and modifications require a license amendment in accordance with 10CFR50.59, or whether they involve a change to the HNP Final Safety Analysis Report, the HNP Technical Specifications, or the operating license.

b) The 10CFR50.59 evaluation shall be prepared by a qualified individual. The 10CFR50.59 evaluation shall be reviewed by a second qualified individual.

c) A 10CFR50.59 evaluation and subsequent review that conclude that the subject action may require a license amendment, a change to the HNP Technical Specifications, or a

change to the operating license, will be referred to the Plant Nuclear Safety Committee (PNSC) for their review in accordance with Section B17.3.4.2.5. If the PNSC recommendation is that an item requires a license amendment, a change to the HNP Technical Specifications, or a change to the operating license, the action will be referred to the commission for approval prior to implementation. Implementation may not proceed until after review by the Nuclear Oversight Section in accordance with Section B17.3.4.3.4.

d) If a 10CFR50.59 evaluation and subsequent review conclude that the subject action does not require a license amendment, a change to the HNP Technical Specification, or a change to the operating license, the action may be approved by the Plant Manager or his designee, or as applicable, by the manager of the primary functional area affected by the action. The individual approving the action shall assure that the reviewers collectively possess the background and qualification in all of the disciplines necessary and important to the specific review for both safety and technical aspects.

e) A 10CFR50.59 evaluation and subsequent review that conclude that the modifications, procedures, tests or experiments which constitute a change to the facility as described in the HNP Final Safety Analysis Report shall be referred to the Nuclear Oversight Section for review in accordance with Section B17.3.4.3.4, but implementation may proceed prior to the completion of that review.

f) The individual approving the procedure, tests, or experiment or change thereto shall be other than those who prepared the 10CFR50.59 evaluation or performed the 10CFR50.59 review.

B17.3.4.2 Plant Nuclear Safety Committee (PNSC)

B17.3.4.2.1 Function

The PNSC shall function to advise the Plant Manager on all matters related to nuclear safety.

B17.3.4.2.2 Composition

a) The PNSC will be composed of six to eight members. Members and the Chairman shall be designated in writing by the Plant Manager. The members shall represent the engineering, operations, maintenance, health physics, chemistry, and licensing/regulatory programs functions. The Plant Manager may designate in writing additional non-voting members from additional site functional areas as deemed appropriate (e.g., Training, Organizational Effectiveness, and/or Outage and Scheduling). Non-voting members shall not be considered in the establishment of a quorum except when designated as Acting Chairman.

b) The Plant Manager may designate in writing other regular or non-voting members who may serve as Acting Chairman of PNSC meetings. The Chairman shall have a bachelor's degree in an engineering or science field or equivalent, and in addition shall have 10 years of power plant experience of which 3 years shall be nuclear power plant experience.

The other regular members (and any alternates) and non-voting members shall have a bachelor's degree in an engineering or science field or equivalent and in addition shall have a minimum of 5 years technical experience of which a minimum of 3 years

shall be in one or more of the areas listed above. Members without an applicable bachelor's degree shall have a minimum of 10 years technical experience, of which a minimum of 3 years

shall be in one or more of the areas listed above. No more than two alternates shall participate as voting members in PNSC activities at any one time.

B17.3.4.2.3 Meeting frequency

The PNSC shall meet at least once per calendar month and as convened by the PNSC Chairman or his designated alternate. The PNSC must meet in session to perform its function under the HNP UFSAR.

B17.3.4.2.4 Quorum

The quorum of the PNSC necessary for the performance of the PNSC responsibility and authority provisions of the HNP UFSAR shall consist of the Chairman or his designated alternate and four members including alternates.

B17.3.4.2.5 Responsibilities

The PNSC shall be responsible for:

a) Review of proposed procedures or changes thereto that have been initially determined to require a license amendment or involve an unreviewed change to the HNP Technical Specification;

b) Review of all proposed tests and experiments that affect nuclear safety and that have been initially determined to appear to require a license amendment or involve an unreviewed change to the HNP Technical Specifications;

c) Review of all proposed changes to Appendix A HNP Technical Specifications;

d) Review of all proposed changes or modifications to unit systems or equipment that affect nuclear safety and that have been initially determined to appear to require a license amendment as defined in 10CFR50.59 or involve a change to the HNP Technical Specifications;

e) Investigation of all violations of the HNP Technical Specifications, including the preparation and forwarding of reports covering evaluation and recommendations to prevent recurrence, to the Vice President - Harris Nuclear Plant;

f) Review of all reportable events;

g) Review of unit operations to detect potential hazards to nuclear safety;

h) Performance of special reviews, investigations, or analyses and reports thereon as requested by the Plant General Manager or the Manager - Nuclear Oversight Section;

i) Review of the Security Plan;

j) Review of the Emergency Plan;

k) Review of any accidental, unplanned, or uncontrolled radioactive release including the preparation of reports covering evaluation, recommendations, and disposition of the corrective action to prevent recurrence and the forwarding of these reports to the Vice President - Harris Nuclear Plant;

l) Review, prior to implementation, of changes to the Off-Site Dose Calculation Manual, the Process Control Program, the Radwaste Treatment Systems, and the HNP Technical Specification Equipment List Program.

B17.3.4.2.6 Requirements

The PNSC shall:

a) Render determinations in writing with regard to whether or not each item considered under Section B17.3.4.2.5.a. through e. requires a license amendment; and

b) Provide written notification within 24 hours to the Vice President - Harris Nuclear Plant of disagreement between the PNSC and the Plant Manager. However, the Plant Manager shall have responsibility for resolution of such disagreements pursuant to HNP Technical Specification 6.1.1.

B17.3.4.2.7 Records

The PNSC shall maintain written minutes of each PNSC meeting that, at a minimum, document the results of all PNSC activities performed under the responsibility provisions of the HNP UFSAR. Copies shall be provided to the Vice President - Harris Nuclear Plant and the Manager - Nuclear Oversight Section.

B17.3.4.3 HNP Nuclear Oversight Section Independent Review Program

This section content moved to B17.3.3.2

B17.3.4.4 Independent Safety Engineering Group

B17.3.4.4.1 Organization

The Independent Safety Engineering Group (ISEG) functions of improving licensee safety performance and ability to respond to accidents by providing onsite technical support and continuous evaluation and feedback of lessons learned from operating experience are performed by a combination of different groups through the performance of their normal activities.

B17.3.4.4.2 Activities

Key ISEG activities are outlined below with the groups that currently perform these activities:

1. Examination of Unit Operating Characteristics:
    - HNP has an established Corrective Action Program that includes processes for the identification, classification, trending and correcting of conditions adverse to quality.
    - The Nuclear Oversight Section at HNP is charged with the responsibility for the independent monitoring and assessment of activities as defined in section B17.3.3.3.
    - HNP has implemented a Maintenance Rule Program that provides reasonable assurance that structures, systems, trains, and components are capable of fulfilling their intended safety significant functions.
    - Harris Engineering Section has implemented a program that provides for the systematic trending of system and component performance to determine the effectiveness of system/component maintenance
    - A corporate Probabilistic Safety Assessment Unit has been established with the mission of maintaining and updating plant specific risk models and risk based tools that are used to provide risk insights and tools to: support on-line maintenance and outage risk assessments; support the Maintenance Rule Program; evaluate proposed plant changes for risk impact; monitor the risk

effectiveness of plant on-line maintenance activities; and support other regulatory activities.

2. Examination of NRC Issuances, Industry Advisories, and Licensee Event Reports and other Sources of Unit Design Information which May Indicate Areas of Improving Unit Safety:
    - HNP has implemented an Operating Experience (OE) Program that provides for the receipt, processing, status reporting, screening, reviewing, evaluating, and taking preventive/corrective actions in response to OE information.
    - The Nuclear Oversight organization independently evaluates the use of OE and the evaluation of relevant design information assessments of the stations OE Program, implementation of INPO SOER recommendations, and in each functional area assessment.
    - HNP Nuclear Oversight reviews License Event Reports developed pursuant to 10CFR50.73 as part of the Independent Safety Review process defined in section B17.3.4.3.
3. Review of Plant Operations, Modifications, Maintenance, and Surveillances to Verify Independently that these Activities are Performed Safely and Correctly and that Human Errors are Reduced as Much as Practical:
    - The Nuclear Oversight Section assessments defined in section B17.3.3.3 and the Independent Review Program defined in section B17.3.4.3 accomplish this function.

B17.3.4.5 Outside agency inspection and audit program

The fire protection audit is addressed in Section B17.3.3.3.3.2, Independent Audit of Fire Protection Program.

B17.3.4.6 Procedure Review Requirements

B17.3.4.6.1 Procedure revisions

Each procedure of HNP Technical Specification 6.8.1, and changes thereto, shall be reviewed and approved in accordance with Section B17.3.4.1 prior to implementation and reviewed periodically as set forth in administrative procedures.

B17.3.4.6.2 Temporary changes

Temporary changes to procedures of HNP Technical Specification 6.8.1 may be made provided:

a) The intent of the original procedure is not altered;

b) The change is approved by two members of the plant management staff, at least one of whom holds a Senior Operator license on the unit affected; and

c) The change is documented, reviewed in accordance with Section B17.3.4.1, and approved within 14 days of implementation by the Plant Manager or by the manager of the functional area affected by the procedure.

B17.3.4.7 Record Retention

A list of typical operational phase QA Records is included in 17.3.2.15.

Attachment C, Robinson Specific QAPD

Information presented in this section is transferred from the Robinson UFSAR with approved changes as allowed under 10 CFR 50.54(a)(3). Change bars in this section indicate changes since UFSAR Amendment 26.

Where a section contains no descriptive information beyond that in the generic text in the body of the document, a statement is made to that effect and no content is included. See C17.3.1.2, Organization for example.

C17. QUALITY ASSURANCE

C17.1 QA DURING DESIGN AND CONSTRUCTION

See Robinson UFSAR Chapter 17 for historic information from the description of the QA Program for design and construction.

C17.2 OPERATIONAL QA

Deleted

(NOTE: In April 1995, NRC approved the reformatting of the description of the Robinson QA Program to follow Standard Revision Plan Section 17.3, replacing the content of 17.2.)

C17.3 QUALITY ASSURANCE PROGRAM (QAP) DESCRIPTION

INTRODUCTION

This content is not addressed in SRP Section 17.3; therefore, the Robinson description of the QA Program did not include this section.

DEFINITIONS

There are no Robinson specific definitions.

EXPLANATION OF “QUALITY ASSURANCE”

There is no Robinson specific content.

QA STANDARDS AND GUIDES

The Robinson QAP conforms to Appendix B of 10CFR 50, as discussed in Section 17, “Quality Assurance.” The QAP also conforms to applicable NRC Regulatory Guides and approved ANSI Standards, or applicable alternatives. Table C17-1 and C17-2 address QAP conformance to the referenced regulatory and program guidance contained in NUREG-0800 Section 17.3.

The content of Table C17-1 was transferred from Section 1.8 of the Robinson UFSAR. Changes to the content of Table C17-1 are controlled in accordance with 10 CFR 50.54(a). Subsequent changes to the Robinson QAP are incorporated in this document as identified in Section 17.3.1.7.

Table C17-2 addresses additional Regulatory Guides that relate to implementation of the QAP but the implementation is site specific and controlled with the Robinson UFSAR in accordance with 10 CFR 50.59.

Table C17-1. Conformance with QA Regulatory Guides and Industry Standards

Generic Exception:

Table C17-1 addresses Robinson's Conformance of the Quality Assurance Program to certain NRC Regulatory Guides. In so doing, specific editions of industry standards are identified for compliance with exceptions and alternatives. Those identified standards include references to other industry standards for activities including, but not limited to; design, fabrication, inspection, and testing. Those included reference industry standards are considered to be guidance documents for details of how activities may be accomplished. The actual standard to be used in such cases is controlled by each station's current licensing and design bases.

The content of Table C17-1 was transferred from H. B. Robinson (RNP) UFSAR Section 1.8. As identified therein, Regulatory Guides (originally called Safety Guides) have been published beginning in late 1970. Since H. B. Robinson (RNP) was licensed for operation prior to that time, they were not addressed. Applicable QA Regulatory Guides which have been addressed during the operating phase are discussed below.

Regulatory Guide 1.28, Quality Assurance Program Requirements (Design And Construction) (Rev. 0)
ANSI Standard N45.2-1971, Quality Assurance Requirements For Nuclear Power Plants
This guide and the standard it endorses have been superseded for operations activities by Regulatory Guide 1.33 and ANSI N18.7-1976 which it endorses. The Operational Quality Assurance Program complies with Regulatory Guide 1.33 and ANSI N18.7-1976 as stipulated in Appendix A to that program; therefore, Regulatory Guide 1.28 (Safety Guide 28) and ANSI N45.2-1971 which it endorses are not considered necessary and are not included as part of the program.

Regulatory Guide 1.30, Quality Assurance Requirements For The Installation, Inspection, And Testing Of Instrumentation And Electrical Equipment (Revision 0) (August, 1972)
ANSI standard N45.2.4-1972, (IEEE-336-1971), Installation, Inspection, And Testing Requirements For Instrumentation And Electrical Equipment During The Construction Of Nuclear Power Generating Stations
RNP shall comply with the provisions of Regulatory Guide 1.30, August 1972, as indicated below: The installation, inspection, and testing of nuclear power plant instrumentation and electrical equipment at RNP will be in accordance with the applicable requirements of ANSI N45.2.4-1972 with the following exceptions: a) Section 1.4 titled Definitions: Definitions in this standard which are not included in ANSI N45.2.10 will be used; definitions which are included in ANSI N45.2.10 will be used as clarified in Duke Energy Progress, Inc.'s (DEP) commitment to Regulatory Guide 1.74. b) Section 1.5 titled Referenced Documents: DEP's commitment to other documents referenced in this standard shall be as stated in our commitment to that document. c) Section 2.5 titled Measuring and Test Equipment: DEP will implement the applicable portions of this Section as follows: The status of portable items of measuring and test equipment and reference standard shall be identified by use of tags, stickers, labels, routing cards, computer programs, or other suitable means for the date recalibration is due or the frequency of recalibration. These items are in a calibration program which requires recalibration on a specified frequency or, in certain cases, prior to use.

Table C17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.30, Quality Assurance Requirements For The Installation, Inspection, And Testing Of Instrumentation And Electrical Equipment (Revision 0) (August, 1972)

ANSI standard N45.2.4-1972, (IEEE-336-1971), Installation, Inspection, And Testing Requirements For Instrumentation And Electrical Equipment During The Construction Of Nuclear Power Generating Stations

Instrumentation and electrical equipment in the categories listed below shall be in a calibration program. This program provides, by the use of status cards, computer schedules, or tags, for the date that recalibration is due and indicates the status of calibration. The identity of person(s), performing calibration is provided on the calibration documents.

1) Instruments installed as listed in the RNP Technical Specifications
2) Installed instrumentation used to verify RNP Technical Specification parameters, and
3) Installed safety-related instruments and electrical equipment that provide an active function during operation or during shutdown; i.e., not a device being designated safety-related solely because the instrument is an integral part of a pressure retaining boundary.

d) Section 7 titled Data Analysis and Evaluation states in part, "Procedures shall be established for processing inspection and test data and their analysis and evaluation." At RNP, data processing procedures per se have not been developed; instead, test data are recorded, processed, and analyzed in accordance with procedures and instructions in appropriate functional areas; e.g., maintenance, startup.

Regulatory Guide 1.33, Quality Assurance Program Requirements (Operation) Revision 2, February 1978

ANSI Standard N18.7-1976, Administrative Controls And Quality Assurance Requirements For The Operational Phase Of Nuclear Power Plants

Comply with the provisions of Regulatory Guide 1.33, Rev. 2 February 1978, and the requirements and recommendations for administrative controls described in ANSI N18.7-1976, except as stated below:

1. Paragraph C.3 of Regulatory Guide 1.33 states that changes to RNP Technical Specifications or license amendments should be reviewed by the independent review body prior to their submittal to the NRC for approval. Changes to RNP Technical Specifications or license amendments shall receive independent review prior to their implementation as required by ANSI N18.7-1976. The requirements of the standard provide adequate assurance that items affecting safety will be reviewed before they are put into effect. Independent review prior to NRC submittal is not part of the commitment. See Section C17.3.3.2 for independent review requirements.
2. In lieu of the audit program provisions contained in Regulatory Position C.4 of Regulatory Guide 1.33, audits of facility activities will be conducted in accordance with Section 17.3.3.3.3.
3. Paragraph 4.5 - Written audit reports are not formally reviewed as part of the Independent Review function.
4. Paragraph 4.5 - The Chief Nuclear Officer will assure that an independent assessment of the overall Nuclear Oversight program is conducted at least once every 24 months. Results of the independent assessment will be reported directly to the Chief Nuclear Officer and entered into the Corrective Action Program for resolution. (For scheduling consistency, the exceptions included in paragraph 5 of this section will be used as clarification for scheduling this independent assessment).

Table C17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.33, Quality Assurance Program Requirements (Operation) Revision 2, February 1978
ANSI Standard N18.7-1976, Administrative Controls And Quality Assurance Requirements For The Operational Phase Of Nuclear Power Plants
Comply with the provisions of Regulatory Guide 1.33, Rev. 2 February 1978, and the requirements and recommendations for administrative controls described in ANSI N18.7-1976, except as stated below:

5. Paragraph 4.5 - Audit Programs - RG 1.33 (Safety Guide 33, November 1972) endorses ANSI N18.7-1976/ANS-3.2, Section 4.5, that states that audits of selected aspects of the operational phase activities, including safety-related functions, are completed within a period of two years, with the following clarification:
   a) Audits shall be performed at the intervals designated herein for each audit area. Schedules shall be based on the exit date of the audit.
   b) A maximum extension not to exceed 25 percent of the audit interval shall be allowed. That is to say that, for audits on a 24-month frequency, the maximum time between specific audits shall not exceed 30 months. Likewise, audits on an annual (12 month) frequency shall not be extended beyond 15 months.
   c) When an audit interval extension is used, the next audit for that particular audit area will be scheduled from the anniversary exit date rather than from the exit date of the extended audit.
   d) Item b shall also apply to supplier audits and evaluations except that a total combined time interval for any three consecutive inspection or audit intervals should not exceed 3.25 times the specified inspection or audit interval.

   NOTE: This grace period will not be applied to audits of the Nuclear Emergency Response Plan to satisfy the requirements of 10CFR 50.54(t), Security Plan to satisfy the requirements of 10CFR 50.54(p), Radiation Protection to satisfy 10CFR 20.1101c, and Fire Protection to satisfy GL 82-21. The schedule for these audits will continue to be based on the exit date and not the exit month.
6. Section 5.2.16 titled Measuring and Test Equipment: See Section 17.3.2.9 for clarification.
7. The applicable procedures recommended in Appendix "A" of Regulatory Guide 1.33, Rev. 2, February 1978, shall be established, implemented, and maintained as specified in the RNP Technical Specifications.
8. Section 5.2.17 titled Inspections: The second to the last sentence in the last paragraph, "Deviations, their cause, and any," to be consistent with Paragraph 5.2.11 and 10CFR50, Appendix B, the cause of the deviation will be determined for only significant conditions adverse to safety.
9. Section 5.3.9.1 titled Emergency Procedure Format and Content: Emergency procedures shall be in the format as committed to in NUREG-0737, TMI Action Plan.
10. Section 5.2.2 titled Procedure Adherence: Temporary changes to approved procedures shall be approved by persons specified in Section C17.3.4.1.2.
11. Section 5.2.15 titled Review, Approval and Control of Procedures, states that, "Plant procedures shall be reviewed by an individual knowledgeable in the area affected by the procedure no less frequently than every two years to determine if changes are necessary. A revision to a procedure constitutes a procedure review." In lieu of this commitment, H. B. Robinson Steam Electric Plant, Unit No. 2 has programmatic controls in place to continually identify procedure revisions which may be needed to ensure that procedures are appropriate for the circumstance and are maintained current.

Table C17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.33, Quality Assurance Program Requirements (Operation) Revision 2, February 1978
ANSI Standard N18.7-1976, Administrative Controls And Quality Assurance Requirements For The Operational Phase Of Nuclear Power Plants
Comply with the provisions of Regulatory Guide 1.33, Rev. 2 February 1978, and the requirements and recommendations for administrative controls described in ANSI N18.7-1976, except as stated below:
12. Paragraph 5.2.13.1, Procurement Document Control: When purchasing commercial-grade calibration services from certain accredited calibration laboratories, the procurement documents are not required to impose a quality assurance program consistent with ANSI N45.2-1971. Alternate requirements described in Section 1.8 for Regulatory Guide 1.123 may be implemented in lieu of imposing a quality assurance program consistent with ANSI N45.2-1971.
Regulatory Guide 1.37, Quality Assurance Requirements For Cleaning Of Fluid Systems And Associated Components Of Water-Cooled Nuclear Power Plants (March 1973)
ANSI Standard N45.2.1-1973, Cleaning Of Fluid Systems And Associated Components During Construction Phase Of Nuclear Power Plants
Those areas of the QA Program applicable to onsite cleaning of materials and components, cleanliness control, and preoperation cleaning and layup of RNP fluid systems, will be in accordance with ANSI N45.2.1-1973, with the following exceptions: a) At RNP a classification system similar to ANSI N45.2.1-1973 has been developed and is fully implemented for cleaning of fluid systems. b) Section 1.4 titled Definitions: Definitions in this standard which are not included in ANSI N45.2.10 will be used; definitions which are included in ANSI N45.2.10 will be used as clarified in DEP commitment to Regulatory Guide 1.74. c) Section 1.5 titled Referenced Documents: DEP's commitment to other documents referenced in this standard shall be as stated in our commitment to that document.
Regulatory Guide 1.38, Quality Assurance Requirements For Packaging, Shipping, Receiving, Storage, And Handling Of Items For Water-Cooled Nuclear Power Plants (March 1973)
ANSI Standard N45.2.2-1972, Packing, Shipping, Receiving, Storage, And Handling Of Items For Nuclear Power Plants
Packaging, shipping, receiving, storage, and handling of RNP items are in accordance with applicable requirements of ANSI N45.2.2-1972 with the following specific exceptions: a) Section 1.4 titled Definitions: Definitions in this standard which are not included in ANSI N45.2.10 will be used; definitions which are included in ANSI N45.2.10 will be used as clarified in DEP commitment to Regulatory Guide 1.74. b) Section 1.5 titled Referenced Documents: DEP's commitment to other documents referenced in this standard shall be as stated in our commitment to that document. c) Section 2.7 titled Classification of Items and Section 6.1.2 titled Levels of Storage: 1) Special electronic equipment and instrumentation received as assembled panels will be stored as recommended by the manufacturer and/or based on engineering evaluation to prevent damage, deterioration, or contamination, but not necessarily in a Level A storage area. 2) Chemicals used at RNP are stored at the point of use and/or in warehouse areas that satisfy the requirement of Level B storage. These storage areas have been evaluated and determined to be adequate for the limitations established by the manufacturer. 3) Special nuclear materials are stored in areas specifically designed for such storage.

Table C17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.38, Quality Assurance Requirements For Packaging, Shipping, Receiving, Storage, And Handling Of Items For Water-Cooled Nuclear Power Plants (March 1973)
ANSI Standard N45.2.2-1972, Packing, Shipping, Receiving, Storage, And Handling Of Items For Nuclear Power Plants
Packaging, shipping, receiving, storage, and handling of RNP items are in accordance with applicable requirements of ANSI N45.2.2-1972 with the following specific exceptions: d) Section 7.3.4 - DEP intends to comply with the requirements of this section with the following clarification: Test loads equal to or greater than the original crane rating shall not pass over locations where special nuclear material is stored or where reactor system components or high cost equipment are located. e) Section 6.4.2 of ANSI N45.2.2 - 1972, titled Care, sub-items (5), (6), and (7) are clarified as follows: 1) Sub-item (5), space heaters in electrical equipment shall be energized, unless a documented engineering evaluation determines that such space heaters are not required. 2) Sub-item (6). large rotating electrical equipment (i.e. greater than or equal to 50 horsepower) shall be given insulation resistance tests on a scheduled basis, unless a documented engineering evaluation determines such tests are not needed. 3) Sub-item (7). prior to being placed in storage, rotating equipment weighing over approximately 50 lbs. shall be evaluated and documented by engineering personnel to determine if shaft rotation during storage is required. If rotation is required the degree of turn shall be such that the parts receive lubrication where applicable and the shaft does not come to rest in a previous position. Required rotation shall be performed at the necessary intervals and documented.
Regulatory Guide 1.39, Housekeeping Requirements For Water- Cooled Nuclear Power Plants (March 1973)
ANSI Standard N45.2.3-1973, Housekeeping, During The Construction Phase Of Nuclear Power Plants
The applicable requirements of ANSI N45.2.3-1973 are followed at Robinson 2 within the context of the established QA Program with the following specific exception -- the zone designations of Section 2.1 of ANSI N45.2.3 and the requirements associated with each zone are considered impractical for implementation, as stated, at Robinson 2 during the operations phase. Instead, procedures or instruction for housekeeping activities, which include the applicable requirements outlined in Section 2.1 of ANSI N45.2.3 and which take into account radiation control considerations, security considerations, and cleanliness requirements are developed on a case basis for work to be performed.

Table C17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.58, Qualification Of Nuclear Power Plant Inspection, Examination, And Testing Personnel (September, 1980)
ANSI Standard N45.2.6-1978, Qualification Of Inspection, Examination, And Testing Personnel For Nuclear Power Plants
RNP shall comply with NRC Regulatory Guide 1.58, September 1980 which endorses ANSI N45.2.6-1978, with the following exceptions:

1. Section 1.2 titled Applicability: DEP elects not to apply the requirements of this guide to those personnel who are involved in the daily operations of surveillance, maintenance, and certain technical and support services whose qualifications are controlled by the RNP Technical Specifications or are controlled by other QA Program commitment requirements. Only personnel in the following listed categories will be required to meet ANSI N45.2.6-1978 requirements:
   a. Nondestructive examination (NDE) personnel
   b. QC inspection personnel
   c. Receipt inspection personnel
2. The fourth paragraph of Section 1.2 requires that the Standard be imposed on personnel other than DEP employees. The applicability of the Standard to suppliers and contractors will be documented and applied, as appropriate, in the procurement documents for such suppliers and contractors.
3. Section 1.4 titled Definitions: Definitions in this Standard which are not included in ANSI N45.2.10 will be used; definitions which are included in ANSI N45.2.10 will be used as clarified in DEP commitment to Regulatory Guide 1.74.
4. Section 2.5 titled Physical: DEP will implement the requirements of this Section with the stipulation that, where no special physical characteristics are required, none will be specified. The converse is also true: if no special physical requirements are stipulated by DEP, none are considered necessary. DEP employees receive an initial physical examination to assure satisfactory physical condition; however, only the following listed personnel will receive an annual (± 2 months) examination:
   a. NDE personnel
   b. QC inspection personnel
   c. Receipt inspection personnel

   This annual examination shall consist of the near visual acuity using the standard Jaeger's type chart or equivalent test.
5. Section 3 titled Qualifications: Only personnel performing NDE (such as LP, MT, UT, & RT) will be grouped in levels of capability and certified as such. Personnel performing inspection will be certified for inspection, review and evaluation of inspection data, and reporting of inspection and test results.
6. Section 3.5 titled Education & Experience Recommendations: DEP will certify individual inspectors through training and experience to requirements appropriate to the specific assignment; however, except for NDE, personnel will not be classified by levels of capability. The training and experience requirements will be directed toward qualifying personnel for specific inspection and testing operations.

Table C17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.64, Quality Assurance Requirements For The Design Of Nuclear Power Plants (October 1973)

ANSI Standard N45.2.11-1974, Quality Assurance Requirements For The Design Of Nuclear Power Plants

Those areas of the QA Program for RNP applicable to design or modification of the plant are in accordance with the applicable guidance of ANSI N45.2.11-1974, with the following exception:

a) Section 1.4 titled Definitions: Definitions in this standard which are not included in ANSI N45.2.10 will be used; definitions which are included in ANSI N45.2.10 will be used as clarified in DEP commitment to Regulatory Guide 1.74.

Regulatory Guide 1.74, Quality Assurance Terms And Definitions (February, 1974)

ANSI Standard N45.2.10-1973, Quality Assurance Terms And Definitions

The quality assurance terms and definitions of ANSI N45.2.10-1973 and Regulatory Guide 1.74 are being complied with for use in describing and implementing the Robinson 2 QA Program.

Regulatory Guide 1.88 , Requirements For Collection, Storage, And Maintenance Of Quality Assurance Records For Nuclear Power Plants

ANSI Standard N45.2.9-1979 , "Requirements For Collection, Storage, And Maintenance Of Quality Assurance Records For Nuclear Power Plants"

As documented in DEP Letter to the NRC dated March 23, 1993, RNP is no longer committed to Regulatory Guide 1.88 "Collection, Storage, and Maintenance of Nuclear Power Plant Quality Assurance Records," August 1974.

See standard exception in Table 17-1 Regulatory Guide 1.88 for the appropriate controls on quality in the management of electronic records.

The requirements for collection, storage, and maintenance of QA records at RNP will be in accordance with ANSI N45.2.9-1979 and Section 17.3.2.15, subject to the following:

1. Section 1.5 titled Referenced Documents: DEP's commitment to other documents referenced in this standard shall be as stated in our commitment to that document.
2. Section 5.4 Item 2 "Records shall be firmly attached in binders or placed in folders or envelopes for storage in steel file cabinets or on shelving in containers." RNP complies with this requirement except for periods when records are in the receipt process.
3. Section 5.6 states: "Records shall be stored in facilities constructed and maintained in a manner which minimizes the risk of damage or destruction from the following:
   a. Natural disasters such as winds, floods, or fires.
   b. Environmental conditions such as high and low temperatures and humidity.
   c. Infestation of insects, mold, or rodents."

   Records are stored in permanent and temporary facilities as follows:
   1) One hour UL-rated fireproof file cabinets are utilized for temporary storage of hardcopy records. These file cabinets are located at work locations throughout the plant and will contain the records until the records are transmitted to the appropriate Document Control Center. Records being processed in Document Control Centers will be stored in fireproof cabinets when they are not being processed and until they are sent to the vault. In addition, records that are generated and authenticated electronically are afforded protection as described in N45.2.9-(1979) prior to conversion to permanent storage media.
   2) Permanent storage of QA records will be in the plant vault constructed to meet the requirements of this ANSI standard, and via electronic means which also meet applicable provisions of this standard, in addition to those delineated below.

Table C17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.88 , Requirements For Collection, Storage, And Maintenance Of Quality Assurance Records For Nuclear Power Plants
ANSI Standard N45.2.9-1979 , "Requirements For Collection, Storage, And Maintenance Of Quality Assurance Records For Nuclear Power Plants"
As documented in DEP Letter to the NRC dated March 23, 1993, RNP is no longer committed to Regulatory Guide 1.88 "Collection, Storage, and Maintenance of Nuclear Power Plant Quality Assurance Records," August 1974. 3) Selected records may be stored off-site by a QA Records Storage supplier provided that supplier meets the applicable sections of this ANSI standard. 4. Section 6.2 states: "Storage systems shall provide for retrieval of information in accordance with planned retrieval times based upon the record type." Retrieval of records at RNP is via a random access computer system using key words and document identification numbers, or through a manual index for records completed prior to 1982. The manual system is keyed to Plant Systems. 5. Section 7.3.3 states: "Various regulatory agencies have requirements concerning records that are within the scope of this Standard. The most stringent requirements shall be used in determining the retention period." 6. RNP will continue to adhere to the recommendations of Appendix A of ANSI N45.2.9-1974, or with the most stringent requirement with respect to records retention.
Regulatory Guide 1.94, Quality Assurance Requirements For Installation, Inspection, And Testing Of Structural Concrete And Structural Steel During The Construction Phase Of Nuclear Power Plants (April 1976)
ANSI Standard N45.2.5-1974, Supplementary Quality Assurance Requirements For Installation, Inspections, And Testing Of Structural Concrete And Structural Steel During The Construction Phase Of Nuclear Power Plants
The original specification requirements, applicable guidance contained in Regulatory Guide 1.94, or acceptable alternatives based on an engineering evaluation will be utilized in the event future structural work is to be performed which falls under the established requirements of the Robinson 2 QA Program. Future field production welding acceptance criteria will be based on NCIG-01, "Visual Weld Acceptance Criteria for Structural Welding at Nuclear Power Plants," Revision 2, dated May 7, 1985, Prepared by the Nuclear Construction Issues Group (NCIG) for structural safety-related and non-safety related pipe, conduit, cable tray, duct, and equipment supports where welding is specified to be in accordance with AWSD1.1. This will be implemented through appropriate RNP specifications.

Table C17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.116, QA Requirements For Installation, Inspection, And Testing Of Mechanical Equipment And Systems (June, 1976)
ANSI Standard 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
Regulatory Guide 1.116, June, 1976, endorses ANSI N45.2.8-1975. RNP does not commit to Regulatory Guide 1.116 but does endorse parts of ANSI N45.2.8-1975 as described below.
Within the context of the established QA Program, the applicable guidance contained in ANSI N45.2.8-1975 will be utilized in relation to mechanical maintenance or modification with the following exception: a) Section 1.4 titled Definitions: Definitions in this standard which are not included in ANSI N45.2.10 will be used; definitions which are included in ANSI N45.2.10 will be used as clarified in DEP commitment to Regulatory Guide 1.74. b) Section 1.5 titled Referenced Documents: DEP's commitment to other documents referenced in this standard shall be as stated in our commitment to that document. c) Section 2.8 titled Measuring and Test Equipment: DEP will implement the applicable portions of this section as follows: The status of portable items of measuring and test equipment and reference standards shall be identified by use of tags, stickers, labels, routing cards, computer programs, or other suitable means for the date recalibration is due or the frequency of recalibration. These items are in a calibration program which requires recalibration on a specified frequency or, in certain cases, prior to use. Instrumentation and electrical equipment in the categories listed below shall be in a calibration program. This program provides, by the use of status cards, computer schedules, or tags, for the date that recalibration is due and indicates the status of calibration. The identity of person(s) performing the calibration is provided on the calibration documents. 1) Instruments installed as listed in the RNP Technical Specifications, 2) Installed instrumentation used to verify RNP Technical Specification parameters, and 3) Installed safety-related instruments and electrical equipment that provide an active function during operation or during shutdown; i.e., not a device being designated safety-related solely because the instrument is an integral part of a pressure retaining boundary. d) Section 6 titled Data Analysis and Evaluation states in part, "Procedures shall be established for processing inspection and test data and their analysis and evaluation." At H. B. Robinson 2 data processing procedures per se have not been developed; instead, test data are recorded, processed, and analyzed in accordance with procedures and instructions in appropriate functional areas; e.g., maintenance, startup.
Regulatory Guide 1.123, Quality Assurance Requirements For Control Or Procurement Of Items And Services For Nuclear Power Plants (July, 1977)
ANSI Standard N45.2.13, Quality Assurance Requirements For (Draft 2, Rev. 4, April, 1974) Control Or Procurement Of Items And Services For Nuclear Power Plants
RNP does not commit to Regulatory Guide 1.123; however, the applicable guidance contained in ANSI N45.2.13-1974, Draft 2, Rev. 4, and ANSI N18.7-1976 will be utilized in relation to procurement of items and services performed under the established requirements of the RNP QA Program. See standard exceptions in Table 17-1 for Regulatory Guide 1.123 for the procurement of Commercial Grade Items and services including, purchasing commercial-grade calibration services from calibration laboratories.

Table C17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.144, Auditing Of Quality Assurance
ANSI Standard N45.2.12-1977, Requirements For Auditing Of Quality Assurance Programs For Nuclear Power Plants
DEP will follow the requirements and recommendations of Regulatory Guide 1.144 and ANSI N45.2.12 with the following clarifications:

1. DEP will follow the requirements and recommendations of Regulatory Guide 1.144 paragraphs C.1, C.2, C.3.a.2, C.3.b, and C.4. Our position on paragraph C.3.a.1 is as follows:

   Audits of operational phase activities, as outlined in Section 17.3.3.3.3, shall be performed at the frequencies specified therein.

   See standard exceptions in Table 17-1 for Regulatory Guide 1.123 for the procurement of Commercial Grade Items and services including, purchasing commercial-grade calibration services from calibration laboratories.
2. DEP will comply with the last paragraph of Section 4.4 of ANSI N45.2.12 concerning issuing audit reports with the following clarification: “Audit reports shall be issued within thirty working days after the last day of the audit. The last day of an audit shall be considered to be the day of the post-audit conference. If a post-audit conference is not held because it was deemed unnecessary, the last day of the audit shall be considered to be the date the post-audit conference was deemed unnecessary as documented in the audit report.”
3. ANSI N45.2.12 Paragraph 4.3. 1, Preaudit Conference: DEP will comply with the requirement of this paragraph by inserting the word "Normally" at the beginning of the first sentence. This clarification is required because, in the case of certain unannounced audits or audits of a particular operation or work activity, a preaudit conference might interfere with the spontaneity of the operation or activity being audited. In other cases, persons who should be present at a preaudit conference may not always be available. Such lack of availability should not be an impediment to beginning an audit. Even in the above examples, which are not intended to be all inclusive, the material set forth in Paragraph 4.3.1 will normally be covered during the course of the audit.
4. ANSI N45.2.12 Paragraph 4.3.3, Post Audit Conference: DEP will substitute and comply with the following paragraphs: "For all external audits, a post audit conference shall be held with management of the audited organization to present audit findings and clarify misunderstandings.

   Where no adverse findings exist, this conference may be waived by management of the audited organization. Such waiver shall be documented in the audit report. For all internal audits, unless unusual operating or maintenance conditions preclude attendance by appropriate managers/supervisors, an audit exit shall be held with managers/supervisors. If there are no adverse findings, management of the audited organization may waive the audit exit. Such waiver shall be documented in the audit report."
5. ANSI N45.2.12 Paragraph 4.4, Reporting:
   a. This paragraph requires that the audit report be signed by the audit team leader which is not always the most expeditious route for the audit report to be issued as soon as practical. DEP will comply with Paragraph 4.4 as clarified to read:

      "An audit report shall be signed by the audit team leader or the leader's supervisor in the absence of the audit team leader. In cases where the audit report is not signed by the audit team leader due to the leader's absence, the record copy of the report must be signed by the audit team leader upon return . The report shall not require the audit team leader's review/concurrence/signature if the audit team leader is no longer employed by DEP at the time audit report is issued. The audit report shall provide:"

Table C17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.144, Auditing Of Quality Assurance
ANSI Standard N45.2.12-1977, Requirements For Auditing Of Quality Assurance Programs For Nuclear Power Plants
DEP will follow the requirements and recommendations of Regulatory Guide 1.144 and ANSI N45.2.12 with the following clarifications: b. DEP will comply with subparagraph 4.4.3 clarified to read: "Supervisory level personnel with whom significant discussions were held during the course of preaudit (where conducted) , audit, and post audit (where conducted) activities. c. Subparagraph 4.4.6 requires audit reports to include recommendations for corrective actions. DEP may choose not to comply with this requirement. Instead, DEP audit reports are required to document findings.
Regulatory Guide 1.146, Qualification Of QA Program Audit Personnel For Nuclear Power Plants (Revision 0) (August, 1980)
ANSI Standard N45.2.23-1978, Qualification Of Quality Assurance Program Audit Personnel For Nuclear Power Plants
RNP shall comply with NRC Regulatory Guide 1.146, Revision 0, which endorses ANSI N45.2.23-1978, with the following exceptions: 1. Section 1.4 titled Definitions: Definitions in this Standard which are not included in ANSI N45.2.10 will be used; definitions which are included in ANSI N45.2.10 will be used as clarified in DEP commitment to Regulatory Guide 1.74. 2. Section 2.2 titled Qualification of Auditors: Subsection 2.2.1 references an ANSI B45.2, which will be assumed to be N45.2. DEP will comply with an alternate subsection 2.2.1 which reads: Orientation to provide a working knowledge and understanding of the DEP QA program, including the Regulatory Guides and ANSI standards included in the program, and DEP procedures for performing audits and reporting results. 3. Section 4.1 titled Organizational Responsibility: DEP will comply with this Section with the substitution of the following sentence in place of the last sentence in the Section. NOS Management or the Audit Team Leader shall, prior to commencing the audit, assign personnel who collectively have experience or training commensurate with the scope, complexity, or special nature of the activities to be audited. 4. Section 5.3 titled Updating of Lead Auditors' Records: DEP will substitute the following sentence for this Section: Records for each Lead Auditor shall be maintained and updated during the annual management assessment as defined in Section 3.2 (as clarified). 5. Section 5.4 titled Record Retention: DEP will substitute the following sentence for this section. Qualification records shall be retained as required by the DEP QA Program. 6. Section 2.3.4 titles For Audits: DEP will substitute the following instead of the cited sentence. Prospective Lead Auditors shall demonstrate the ability to effectively implement the audit process and effectively lead an audit team. This process is described in written procedures, which provide for evaluation and documentation of the results of this demonstration. In addition, the prospective Lead Auditor shall have participated in at least two Nuclear Oversight audits within a one-year period preceding the individual's effective date of qualification. Upon successful demonstration of the ability to effectively implement the audit process and effectively lead audits, and having met other provisions of section 2.3 of ANSI/ASME N45.2.23-1978, the individual may be certified to lead audits.

Table C17-2. Site Specific Response to Regulatory Guides and Industry Standards

Table C17-2 identifies additional Regulatory Guides addressing subjects related to implementation of the QAP but the implementation is site specific and controlled with the UFSAR in accordance with 10 CFR 50.59.

Regulatory Guide 1.8, Personnel Selection And Training
Personnel selection and training is site specific. Robinson addresses conformance with Regulatory Guide 1.8 in UFSAR Chapter 1 Section 8.

Regulatory Guide 1.26, Quality Group Classifications And Standards For Water-, Steam-, And Radioactive-Waste-Containing Components Of Nuclear Power Plants
Quality group classifications and standards trace to the original design and construction of the nuclear power plant and therefore are site specific. Robinson does not address Regulatory Guide 1.26 in UFSAR Chapter 1 Section 8. Quality group classifications are addressed in UFSAR Chapter 3.

Regulatory Guide 1.29, Seismic Design Classification
Seismic design classification trace to the original design and construction of the nuclear power plant and therefore is site specific. Robinson addresses conformance with Regulatory Guide 1.29 in UFSAR Chapter 1 Section 8.

Regulatory Guide 1.36, Nonmetallic Thermal Insulation For Austenitic Stainless Steel
Nonmetallic thermal insulation for austenitic stainless steel trace to the original design and construction of the nuclear power plant and therefore is site specific. Robinson does not address conformance with Regulatory Guide 1.36 in UFSAR Chapter 1 Section 8. See UFSAR Chapters 5 and 6 for insulation of austenitic stainless steel.

Regulatory Guide 1.54, Quality Assurance Requirements For Protective Coatings Applied To Water-Cooled Nuclear Power Plants
Quality assurance requirements for protective coatings applied to water-cooled nuclear power plants trace to the original design and construction of the nuclear power plant and therefore is site specific. Robinson addresses conformance with Regulatory Guide 1.54 in UFSAR Chapter 1 Section 8.

Table C17-2. Site Specific Response to Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.143, Design Guidance For Radioactive Waste Management Systems, Structures, And Components Installed In Light-Water-Cooled Nuclear Power Plants
Design guidance for radioactive waste management systems, structures, and components installed in light-water-cooled nuclear power plants trace to the original design and construction of the nuclear power plant and therefore is site specific. Robinson does not address conformance with Regulatory Guide 1.143 in UFSAR Chapter 1 Section 8. Design guidance for radioactive waste management systems, structures, and components is addressed in UFSAR Chapter 11.

Regulatory Guide 1.155, Station Blackout
Addressing Station Blackout is site specific. Robinson addresses conformance with Regulatory Guide 1.155 in UFSAR Chapter 1 Section 8.

Regulatory Guide 4.15, Quality Assurance For Radiological Monitoring Programs (Normal Operations) – Effluent Streams And The Environment
Quality assurance for radiological monitoring program (normal operations) – effluent streams and the environment is site specific. Robinson addresses Regulatory Guide 4.15 in UFSAR Chapter 1 Section 8.

C17.3.1 MANAGEMENT

C17.3.1.1 Methodology

There are no Robinson specific amplifications for this section.

C17.3.1.2 Organization

There are no Robinson specific amplifications for this section.

C17.3.1.3 Responsibility

There are no Robinson specific amplifications for this section.

C17.3.1.4 Authority

The program and procedures require that the authority and duties of persons and organizations performing activities affecting quality functions be clearly established and delineated in writing and that these individuals and organizations have sufficient authority and organizational freedom to:

1. Identify quality, nuclear safety, and performance problems.
2. Order unsatisfactory work to be stopped and control further processing, delivery, or installation of nonconforming material.
3. Initiate, recommend, or provide solutions for conditions adverse to quality.
4. Verify implementation of solutions.

C17.3.1.5 Personnel Training and Qualification

There are no Robinson specific amplifications for this section.

C17.3.1.6 Corrective Action

The program requires that an evaluation of adverse conditions such as conditions adverse to quality, nonconformances, failures, malfunctions, deficiencies, deviations, and defective material and equipment is conducted to determine need for corrective action.

Conditions adverse to quality are identified through inspections, assessments, tests, checks, and review of documents.

The program requires corrective action to be initiated to preclude recurrence of significant conditions adverse to quality.

Procedures require follow-up reviews, verifications, inspections, etc., to be conducted to verify proper implementation of corrective action and to close out the corrective action documentation.

The program outlines the methodology for resolution of disputes involving quality and nuclear safety issues arising from a difference of opinion between identifying personnel and other groups.

Significant conditions adverse to quality are reported to appropriate management for review and evaluation.

Periodic review and evaluation of adverse trends are performed by management.

C17.3.1.7 Regulatory Commitments

There are no Robinson specific amplifications for this section.

C17.3.2 PERFORMANCE/VERIFICATION

C17.3.2.1 Methodology

There are no Robinson specific amplifications for this section.

C17.3.2.2 Design Control

There are no Robinson specific amplifications for this section.

C17.3.2.3 Design Verification

There are no Robinson specific amplifications for this section.

C17.3.2.4 Procurement Control

Potential contractors and suppliers are evaluated prior to award of a procurement contract when needed to assure the contractor's or supplier's capability to comply with applicable technical and quality requirements.

Procurement documents, such as purchase specifications, contain or reference the following:

1. Technical, administrative, regulatory, and reporting requirements, including material and component identification requirements, drawings, specifications, codes and industrial standards, test and inspection requirements, and special process instructions.
2. Identification of the documentation to be prepared, maintained, or submitted (as applicable) to RNP for review and approval. These documents may include, as necessary, inspection and test records, qualification records, or code required documentation
3. Identification of those records to be retained, controlled, and maintained by the supplier, and those delivered to the purchaser prior to use or installation of the hardware.

Procurement documents require suppliers to operate in accordance with QA programs which are compatible with the applicable requirements of RNP's QA Program and procedures where their services are utilized in support of plant activities.

C17.3.2.5 Procurement Verification

There are no Robinson specific amplifications for this section.

C17.3.2.6 Identification and Control of Items

Procedures require that materials, parts, and components be identified and controlled to prevent the use of incorrect or defective items. These procedures also require that identification of items be maintained either on the item in a manner that does not affect the function or quality of the item, or on records traceable to the item.

Procedures implementing these requirements provide for the following:

1. Verification that items received at the plant are properly identified and can be traced to the appropriate documentation, such as drawings, specifications, purchase orders, manufacturing and inspection documents, nonconformance reports, or material test reports.
2. Verification of item identification consistent with the RNP inventory control system and traceable to documentation which identifies the proper uses or applications of the item.

C17.3.2.7 Handling, Storage, and Shipping

Provisions are established to control the shelf life and storage of chemicals, reagents, lubricants, and other consumable materials.

C17.3.2.8 Test Control

Test procedures incorporate or reference the following, as required:

1. Instructions and prerequisites for performing the test,
2. Use of proper test equipment,
3. Mandatory inspection hold points,
4. Acceptance criteria

Test results are documented, evaluated, and their acceptability determined by a qualified, responsible individual or group.

When the acceptance criteria is not met, affected areas are to be retested or evaluated, as appropriate.

C17.3.2.9 Measuring and Test Equipment Control

Portable measuring and test equipment are calibrated by standards at least four times as accurate as the portable measuring and test equipment, unless limited by the state of the art.

Special tools such as torque wrenches, calipers, and micrometers are calibrated to be at least as accurate as the application(s) for which it is used, using standards which are at least as accurate as the special tool being calibrated.

Installed measuring and test instruments are calibrated by instruments at least as accurate as the installed, unless limited by the state of the art.

Reference and transfer standards are traceable to nationally recognized standards; or where national standards do not exist, provisions are established to document the basis for the calibration.

C17.3.2.10 Inspection, Test, and Operating Status

These procedures include the application, removal, and verification of inspection and welding stamps, or other status indicators as appropriate.

Altering the sequence of required tests, inspections, and safety-related operations can only be accomplished by methods outlined in procedures.

C17.3.2.11 Special Process Control

There are no Robinson specific amplifications for this section.

C17.3.2.12 Inspection

There are no Robinson specific amplifications for this section.

C17.3.2.13 Corrective Action

The primary goal of the RNP corrective action program is to improve overall plant operations and performance by identifying and correcting root causes of equipment and human performance problems.

Procedures define requirements for a corrective action program that charges personnel working at or supporting the nuclear plants with the responsibility to identify adverse conditions (including conditions adverse to quality).

Procedures include requirements for verification of the acceptability of the rework/repair of items by reinspection and/or testing in accordance with the original inspection or test requirements or by an accepted alternative inspection and testing method.

Conditions that require rework/repairs are identified through the use of maintenance work request forms.

C17.3.2.14 Control of Documents

Changes to documents are reviewed and approved by the same organization that performed the original review and approval or by other designated qualified responsible organizations.

C17.3.2.15 Records

The structures in which certain records are maintained are designed to prevent destruction, deterioration, or theft. These structures ensure protection against destruction by fire, flooding, theft, and deterioration by the environmental conditions of temperature and humidity.

C17.3.3 ASSESSMENT

C17.3.3.1 Methodology

The following are Robinson specific amplifications from previous sections 17.3.3.1 and 17.3.3.2.2.

NOS site management and Independent Review Engineers, separately, will hold periodic, but not less frequently than semi-annual (+25% for scheduling flexibility), peer review meetings to share and exchange information among sites. These meetings will allow the use of designated alternates to attend.

C17.3.3.2 Independent Review

Content from Robinson UFSAR Section 17.3 Appendix A, QA Program Relocated Technical Specifications Requirements, Section 1.7, Nuclear Oversight Section Independent Review Program, follows:

C17.3.3.2.1 Function

RNP Nuclear Oversight Section shall function to provide independent review of plant changes, tests, and procedures. In addition, the independent review function will verify that reportable events are investigated in a timely manner and corrected in a manner that reduces the probability of recurrence of such events and detect trends that may not be apparent to a day-to-day observer.

C17.3.3.2.2 Organization

1. The individuals assigned responsibility for independent reviews shall be qualified in specific disciplines. These individuals shall collectively have the experience and competence required to review activities in the following areas:

   a) nuclear power plant operations
   b) nuclear engineering
   c) chemistry and radiochemistry
   d) metallurgy
   e) nondestructive testing
   f) instrumentation and control
   g) radiological safety
   h) mechanical and electrical engineering
   i) administrative controls
   j) seismic and environmental
   k) quality assurance practices
   l) other appropriate fields

2. The Manager – RNP Nuclear Oversight Section shall have a bachelor's degree in an engineering or related field and, in addition, shall have a minimum of ten years' related experience, of which five years shall be in the operation and/or design of nuclear power plants.

3. The individuals performing independent safety reviews shall have a bachelor's degree in an engineering or related field or equivalent and, in addition, shall have a minimum of five years' related experience.

4. An individual may possess competence in more than one specialty area. If sufficient expertise is not available within Nuclear Oversight Section, competent individuals from other DEP organizations or outside consultants shall be utilized in performing independent reviews and investigations.

5. The documents submitted under paragraph C17.3.3.2.3 shall be reviewed by individuals meeting the requirements of items 1 and 3 in this listing to ensure all applicable disciplines are encompassed. Multiple reviews will be conducted on documents where required to meet applicable disciplines of item 1.

6. Independent safety reviews shall be performed by individuals not directly involved with the activity under review or responsible for the activity under review.

7. The Nuclear Oversight Section Independent Safety Review Program shall be conducted in accordance with written, approved procedures.

8. Individuals who do not possess the formal educational requirements specified in items 2 and 3 above shall not be automatically eliminated where other factors provide sufficient demonstration of their abilities. These other factors shall be evaluated on a case-by-case basis and approved and documented by the responsible NOS management. The positive factors listed as follows may be considered in making the evaluation of an acceptable alternative to the educational requirements.

    a. High school diploma or GED.
    b. Academic and related technical training.
    c. Has or have held a license as a senior reactor operator at RNP, Unit No. 2
    d. Four years of additional experience in Nuclear Oversight or related field (i.e., Quality Assurance, Performance Evaluation, or Nuclear Assessment).
    e. Four years of supervisory or management experience.
    f. Demonstrated ability to communicate clearly (orally and in writing).
    g. Certification of academic ability and knowledge by corporate management.
    h. Successful completion of the Engineer-In-Training examination.
    i. Professional Engineer License.
    j. Associate Degree in Engineering or related science.

C17.3.3.2.3 Review

RNP Nuclear Oversight Section shall perform reviews of the following:

a. Written safety evaluations of changes in the facility as described in the RNP UFSAR, changes in procedures as described in the RNP UFSAR, and tests or experiments not described in the RNP UFSAR which are completed without prior NRC approval under the provisions of 10CFR 50.59(c)(1).
   These reviews are to verify that such changes, tests, or experiments do not involve a change in the RNP Technical Specifications or a license amendment pursuant to 10CFR 50.59(c)(2). These reviews may be conducted after appropriate management approval, and implementation may proceed prior to completion of the review.

b. Proposed changes in procedures required by RNP Technical Specifications, proposed changes in the facility, or proposed tests or experiments, any of which involve a change in the RNP Technical Specifications or a license amendment pursuant to 10CFR 50.59(c)(2) prior to implementation.

c. Proposed changes to the RNP Technical Specifications or Operating License for the 10CFR50 License and the 10CFR 72 7P-ISFSI License prior to implementation.

d. Violations, deviations, and reportable events, which require reporting to the NRC in writing, such as:

1). Violations of applicable codes, regulations, orders, RNP Technical Specifications, license requirements, or internal procedures or instructions having safety significance;
2). Significant operating abnormalities of deviations from normal or expected performance of plant safety-related structures, systems, or components; and
3). Reportable events, as specified in 10CFR 50.73.

e. Any other matter involving safe operation of the nuclear power plant that the Manager – RNP Nuclear Oversight Section deems appropriate for consideration or which is referred to the Manager – RNP Nuclear Oversight Section by the on-site operating organization, PNSC, or by other functional organizational units within DEP.

C17.3.3.2.4. Records

Results of Nuclear Oversight Section independent safety reviews shall be documented and retained.

C17.3.3.3 Independent Assessment

There are no Robinson specific amplifications for this section.

C17.3.3.3.1 Organization

Personnel performing independent assessment activities are generally assigned to Nuclear Oversight from the line and other organizations on a rotational basis for two to five year assignments.

Since these personnel are full-time assessors during this time period, they have no direct responsibilities in the areas being assessed. However, on an exception basis, personnel in Nuclear Oversight may provide assistance to the line organization by participating in emergency preparedness activities, ad hoc committees or analyzing technical issues, if such assistance is deemed to be in the overall best interest of safety and is approved in advance by Nuclear Oversight Section management.

C17.3.3.3.2 Internal Assessment process

There are no Robinson specific amplifications for this section.

C17.3.3.3.3 Internal Audit Program

C17.3.3.3.3.1 Other Audits Prescribed by the Code of Federal Regulations

The periodic review of Radiation Protection (per 10CFR 20.1101c) identified in 17.3.3.3.3.1 is conducted by NOS at Robinson.

C17.3.3.3.3.2 Independent Audit of Fire Protection Program

An independent fire protection and loss prevention inspection and audit shall be performed at least once per 24 months utilizing either qualified offsite personnel or an outside fire protection firm.

An independent fire protection audit shall be performed at least once per 36 months by an audit team that must include an outside qualified, fire protection engineer. (This individual will be external to DEP and meet education and experience requirements listed for a Professional Member of the Society of Fire Protection Engineers.)

C17.3.3.3.4 Results

There are no Robinson specific amplifications for this section.

C17.3.3.3.5 Supplier Oversight

There are no Robinson specific amplifications for this section.

C17.3.3.3.6 Independent Audit of QA Functions

There are no Robinson specific amplifications for this section.

C17.3.3.3.7 Audit Frequency Extensions

RNP Audit Schedules shall be based on the exit date of the audit as identified in exceptions for Regulatory Guide 1.33.

C17.3.4 REVIEW AND AUDIT

C17.3.4.1 Procedures, Tests, and Experiments

Content from Robinson UFSAR Section 17.3 Appendix A, QA Program Relocated Technical Specifications Requirements, Section 1.1 follows:

1. The procedures established, implemented, and maintained for the Quality Assurance Program for effluent and environmental monitoring use guidance from Regulatory Guide 4.15. RNP is not committed to specific guidance within Regulatory Guide 4.15 or to a specific revision to the Regulatory Guide.
2. Temporary changes to procedures, tests, or experiments may be approved by two members of the plant staff, at least one of whom holds a Senior Reactor Operator License if such change does not change the intent of the original procedure, test, or experiment. Temporary changes shall be documented and, within 21 days of receiving temporary approval, be reviewed in accordance with paragraphs C17.3.4.1.3, C17.3.4.1.4, and C17.3.4.1.5 and incorporated as a permanent change or deleted.
3. A 10CFR 50.59 review shall be prepared for all procedures, tests, and experiments covering the activities identified in RNP Technical Specification 5.4.1 and procedures that affect nuclear safety, with the exception of those procedures exempt from review under 10CFR 50.59 in accordance with NEI 96-07, Revision 1, as endorsed by Regulatory Guide 1.187, November 2000. The 10CFR 50.59 review shall include a written determination of whether or not the procedure, test, or experiment is a change in the facility as described in the RNP UFSAR, involves a change to the RNP Technical Specification, or requires a license amendment in accordance with 10CFR 50.59(c)(2). This analysis constitutes a first review and may be accomplished by the individual who prepared the document.
4. Prior to approval, a second 10CFR 50.59 review shall be performed on all procedures, tests, or experiments that affect nuclear safety. This review shall be performed by an individual other than the individual who was the original preparer.
5. Following the 10CFR 50.59 review, procedures, tests, and experiments and permanent changes thereto (other than editorial or typographical) that affects nuclear safety which have been determined neither to involve a license amendment in accordance with 10CFR 50.59(c)(2), nor a change to the RNP Technical Specifications, shall be approved prior to implementation.
   The individual approving the procedure, test, or experiment or change thereto shall be other than those who performed the required reviews.
   The Plant General Manager - Robinson Nuclear Plant or other designated manager approving the review activities of the 10CFR 50.59 review shall assure that the reviewers

collectively possess the background and qualifications to all of the disciplines necessary and important to the specific review. To assure that the individuals selected for the 10CFR 50.59 review are qualified and have the background necessary, the Plant General Manager - Robinson Nuclear Plant shall approve and maintain a list of qualified persons. Included in this list will be individuals in addition to the first and second reviewer whose expertise may be necessary during the review to assure that the reviewers collectively possess the background and qualifications in the disciplines necessary and important to the specific review. The list will include the disciplines for which each person is qualified.

6. Those procedures, tests, or experiments and changes thereto that require a license amendment, or involve a change to RNP Technical Specifications, shall be reviewed by the Plant Nuclear Safety Committee and submitted to the NRC for approval prior to implementation. All such procedures, tests, or experiments and changes shall be reviewed by the Nuclear Oversight Section prior to implementation.
7. Procedures, tests, or experiments, which constitute a change to the facility as described in the RNP UFSAR, shall also be reviewed by the RNP Nuclear Oversight Section. These reviews may be conducted after plant management approval, and implementation may proceed prior to completion of the review

C17.3.4.2 Modifications

Content from Robinson UFSAR Section 17.3 Appendix A, QA Program Relocated Technical Specifications Requirements, Section 1.2 follows:

1. A 10CFR 50.59 review shall be prepared for all modifications that affect nuclear safety. The analysis shall include a written determination of whether or not the modification is a change in the facility as described in the RNP UFSAR, involves a change to the RNP Technical Specifications, or requires a license amendment in accordance with 10CFR 50.59(c)(2). This analysis constitutes a first party safety review and may be accomplished by the individual who prepared the modification.

2. Prior to approval, a second 10CFR 50.59 review shall be performed on all modifications that affect nuclear safety. This review shall be performed by a qualified individual other than the individual who was the original preparer.

3. The individual approving these modifications shall be other than those who performed the required reviews.

4. The Plant General Manager - Robinson Nuclear Plant or other designated manager approving the review activities of the 10CFR 50.59 review shall assure that the reviewers collectively possess the background and qualifications in all of the disciplines necessary and important to the specific review.
   To assure that the individuals selected for the 10CFR 50.59 review are qualified and have the background necessary, the Plant General Manager - Robinson Nuclear Plant shall approve and maintain a list of qualified persons. Included in this list will be individuals in addition to the first and second reviewers whose expertise may be necessary during the review to assure that the reviewers collectively possess the background and qualifications in the disciplines necessary and important to the specific review. The list will include the disciplines for which each person is qualified.

5. Modifications that are determined to either require a license amendment in accordance with 10CFR 50.59(c)(2), or a change to the RNP Technical Specifications, shall be reviewed by the Plant Nuclear Safety Committee and submitted to the NRC for approval prior to implementation. All such modifications shall be reviewed by the RNP Nuclear Oversight Section prior to implementation.

6. Modifications which constitute changes to the facility as described in the RNP UFSAR shall also be reviewed by the RNP Nuclear Oversight Section. This review may be conducted after plant management approval, and implementation may proceed prior to completion of review.

C17.3.4.3 RNP Technical Specifications and License Changes

Content from Robinson UFSAR Section 17.3 Appendix A, QA Program Relocated Technical Specifications Requirements, Section 1.3 follows:

Each proposed RNP Technical Specification or Operating License change for the 10CFR 50 license and 7P-ISFSI license shall be reviewed by the Plant Nuclear Safety Committee and submitted to the NRC for approval. The 24P ISFSI RNP Technical Specifications and License are processed by Transnuclear, Inc., and will only be reviewed by the Plant Nuclear Safety Committee if a plant specific safety issue is identified.

C17.3.4.4 Review of RNP Technical Specifications Violations

Content from Robinson UFSAR Section 17.3 Appendix A, QA Program Relocated Technical Specifications Requirements, Section 1.4 follows:

All violations of RNP Technical Specifications shall be investigated and a report prepared that evaluates the event and that provides recommendations to prevent recurrence. Such reports shall be reviewed by the Plant Nuclear Safety Committee and approved by the Plant General Manager or his designee and submitted to the Vice President - Robinson Nuclear Plant and to the Manager – RNP Nuclear Oversight Section.

C17.3.4.5 10CFR 50.59 Review Qualification

Content from Robinson UFSAR Section 17.3 Appendix A, QA Program Relocated Technical Specifications Requirements, Section 1.5 follows:

Individuals shall be designated by the Plant General Manager - Robinson Nuclear Plant for the 10CFR 50.59 reviews of paragraphs C17.3.4.1.3, C17.3.4.1.4, C17.3.4.2.1, and paragraph C17.3.4.2.2.

These reviewers shall have a Bachelor of Science in engineering or related field or equivalent and two years related experience.

C17.3.4.6 Plant Nuclear Safety Committee (PNSC)

Content from Robinson UFSAR Section 17.3 Appendix A, QA Program Relocated Technical Specifications Requirements, Section 1.6 follows:

As an effective means for the regular overview, evaluation, and maintenance of plant operational safety, a Plant Nuclear Safety Committee (PNSC) is established.

The committee shall function, through the utilization of subcommittees, audits, investigations, reports, and/or performance of reviews as a group, to advise the General Manager on all matters related to nuclear safety.

The PNSC shall be composed of a Chairman and at least six (6) members. The members shall be from the following functional areas:

- Operations
- Maintenance
- Engineering
- Radiation Control
- Chemistry
- Licensing/Regulatory Programs

The PNSC Chairman, alternate Chairmen, members, and alternate members shall be designated in writing by the Plant General Manager. Members shall be individuals who are unit manager level or above from the site management organization. Alternate members shall, as a minimum, meet equivalent qualification criteria as specified in Section 4.4 of ANSI N18.1-1971 for professional-technical personnel. Alternate members for the Engineering and Licensing/Regulatory Programs functional areas shall have a minimum Bachelor's Degree in Engineering or Physical Sciences and two years experience in their associated discipline. Alternate members for the Operations functional area shall, as a minimum, meet the qualification criteria of Section 4.3.1 of ANSI N18.1-1971.

Alternate for the Maintenance or other functional areas, except for Instrumentation and Control, shall have a minimum of five years of experience in one or more disciplines, of which six months shall be in a nuclear power plant. A maximum of four years of this five years experience may be fulfilled by related technical or academic training.

The quorum of the PNSC necessary for the performance of the activities in this section shall consist of the Chairman (or his designated alternate) and four members (including alternates).

No more than two alternates shall be counted toward meeting the quorum requirement or participate as voting members of the PNSC at any one time.

The PNSC shall meet at least once per calendar month and as convened by the PNSC Chairman or his designated alternate.

The PNSC activities shall include the following:

a) Perform an overview of RNP Technical Specifications 5.4.1 and section 1.2 of the RNP UFSAR to assure that processes are effectively maintained.
b) Performance of special reviews, investigations, and reports thereon requested by the Manager – RNP Nuclear Oversight Section.
c) Annual review of the Security Plan and Emergency Plan.
d) Perform reviews of paragraphs C17.3.4.1.6, C17.3.4.2.5, C17.3.4.3, and paragraph C17.3.4.4.
e) Perform review of all reportable events.
f) Review of facility operations to detect potential nuclear safety hazards.

g) Review of every unplanned on site release of radioactive material to the environs including the preparation and forwarding of reports covering evaluation, recommendations and disposition of the corrective action to prevent recurrences to the Vice President - Robinson Nuclear Plant.
h) Review of changes to the Process Control Program and the Offsite Dose Calculation Manual.
i) Review of major changes to radioactive liquid, gaseous, and solid waste treatment systems.
j) Review of changes to the CORE OPERATING LIMITS REPORT.
k) Annual review of the Fire Protection Program, including Program changes.

In the event of disagreement between the recommendations of the Plant Nuclear Safety Committee and the actions contemplated by the General Manager, the course determined by the General Manager to be more conservative will be followed. The Vice President - Robinson Nuclear Plant will be notified within 24 hours of the disagreement and subsequent actions.

The PNSC shall maintain written minutes of each meeting that, at a minimum, document the results of all PNSC activities performed under the provisions of Section 1.6 requirements; and copies shall be provided to the Vice President - Robinson Nuclear Plant and to the Manager – RNP Nuclear Oversight Section.

C17.3.4.7 Nuclear Oversight Section Independent Review Program

Content from Robinson UFSAR Section 17.3 Appendix A, QA Program Relocated Technical Specifications Requirements, Section 1.7, Nuclear Oversight Section Independent Review Program, has been moved to Section C17.3.3.2.

C17.3.4.8. (Deleted)

There was no content in Robinson UFSAR Section 17.3 Appendix A, QA Program Relocated Technical Specifications Requirements, Section 1.8.

C17.3.4.9. Outside Agency Inspection And Audit Program

Content from Robinson UFSAR Section 17.3 Appendix A, QA Program Relocated Technical Specifications Requirements, Section 1.9 is reflected in Section C17.3.3.3.3.2, Independent Audit of Fire Protection Program.

C17.3.4.10. Reportable Event Action

Content from Robinson UFSAR Section 17.3 Appendix A, QA Program Relocated Technical Specifications Requirements, Section 2.0 follows:

Each reportable event requiring notification per 10CFR 50.72, shall be reviewed in accordance with paragraph 1.6.6 and submitted to the Manager – RNP Nuclear Oversight Section, and the Vice President - Robinson Nuclear Plant.

Each reportable event requiring a Licensee Event Report per 10CFR 50.73, shall be reviewed in accordance with paragraph 1.6.6 and submitted to the Manager – RNP Nuclear Oversight Section, and the Vice President - Robinson Nuclear Plant.

C17.3.4.11. Safety Limit Violation

Content from Robinson UFSAR Section 17.3 Appendix A, QA Program Relocated Technical Specifications Requirements, Section 3.0 follows:

The Following Actions shall be taken in the event a safety limit is violated:

a. The safety limit violation shall be reported to the NRC Region II within one hour and the Vice President - Robinson Nuclear Plant within 24 hours.
b. The Safety Limit Violation Report shall be submitted to the NRC, Vice President - Robinson Nuclear Plant, and the Manager – RNP Nuclear Oversight Section within 14 days of the violation.

C17.3.4.12. Record Retention

A list of typical operational phase QA Records is included in 17.3.2.15.

End of Robinson Specific QAPD

Attachment D, Catawba, McGuire, and Oconee Specific QAPD

The term 'Duke Energy Carolinas' as used in this document means Catawba, McGuire, and Oconee Nuclear Plants. If content is specific to a single nuclear plant, that nuclear plant will be identified by name. See Table D17-2 addressing Regulatory Guide 1.8 for example.

Information presented in this section is transferred from the Duke Energy Carolinas Topical Report Quality Assurance Program with approved changes as allowed under 10 CFR 50.54(a)(3). Change bars in this section indicate changes since Amendment 40.

Where a section contains no descriptive information beyond that in the generic text in the body of the document, a statement is made to that effect and no content is included. See D17.3.1.2, Organization for example.

D17. QUALITY ASSURANCE

D17.1 QA DURING DESIGN AND CONSTRUCTION

Deleted

D17.2 OPERATIONAL QA

Deleted

(NOTE: In August 1992, Amendment 15 of the Duke Energy Carolinas Topical Report reformatted the description of the QA Program to follow Standard Revision Plan Section 17.3, replacing the content of 17.1 and 17.2.)

D17.3 QUALITY ASSURANCE PROGRAM (QAP) DESCRIPTION

INTRODUCTION

As discussed herein, the Quality Assurance Program (QAP) includes the description contained in this document and the procedures providing implementation of the requirements of this document, including the requirements of industry standards to the degree identified in Table 17-1. This Topical Report describes the QAP for those systems, components, items, and services which have been determined to be nuclear safety related. The QAP provides a method of applying graded controls to certain non-nuclear safety related systems, components, items, and services (such as fire protection and radioactive waste structures, systems, and components) through implementing documents.

Duke Energy Carolinas may use QA Conditions as a method for identifying applicability of the QAP, where implementing documents define a Quality Assurance (QA) "Condition" for each level of QA required. These will be designated as "QA Condition _____". The quality of systems, components, items, and services within the scope of QA Conditions is assured through implementing documents commensurate with the system's, component's, item's, or service's importance to safety.

In this approach, QA Condition 1 identifies those systems and their attendant components, items, and services which have been determined to be nuclear safety related. These systems are detailed in the Safety Analysis Report applicable to each nuclear station. The Topical

Report applies in its entirety to systems, components, items, and services identified as QA Condition 1.

QA Condition 5 covers those systems, components, items, and services which are important to the mitigation of design basis and other selected events as defined in applicable procedures and directives. QA Condition 5 only applies to Oconee Nuclear Station.

QA Conditions 2, 3, 4, and others are defined in implementing procedures. These address SSCs and related functions important to the management and containment of liquid, gaseous, and solid radioactive waste, important to fire protection, seismic interaction, etc.

Quality assurance program requirements for Oconee, McGuire, and Catawba dry cask storage activities are performed in accordance with applicable 10CFR72.212 reports for each site which invokes the NRC approved 10CFR50 Appendix B QAP as described in this Topical Report.

This Topical Report also provides the basis for the control and performance of safety related and quality related activities associated with new Duke Energy Carolinas nuclear plants until the NRC approves a QA Program Description specific to the new units and the associated implementing procedures are in place.

DEFINITIONS

There are no Duke Energy Carolinas specific definitions.

EXPLANATION OF “QUALITY ASSURANCE”

There is no Duke Energy Carolinas specific content.

QA STANDARDS AND GUIDES

Table D17-1 and D17-2 address Catawba, McGuire, and Oconee conformance to the referenced regulatory and program guidance contained in NUREG-0800 Section 17.3.

Changes to the content of Table D17-1 are controlled in accordance with 10 CFR 50.54(a). Subsequent changes are incorporated in this document as identified in Section 17.3.1.7.

Table D17-2 addresses additional Regulatory Guides that relate to implementation of the QAP but the implementation is site specific and controlled with each site's UFSAR.

Table D17-1**. Conformance with QA Regulatory Guides and Industry Standards**

Generic Exception:

Table D17-1 addresses Duke Energy Carolinas Conformance of the Quality Assurance Program to certain NRC Regulatory Guides. In so doing, specific editions of industry standards are identified for compliance with exceptions and alternatives. Those identified standards include references to other industry standards for activities including, but not limited to; design, fabrication, inspection, and testing. Those included reference industry standards are considered to be guidance documents for details of how activities may be accomplished. The actual standard to be used in such cases is controlled by each station's current licensing and design bases.

Regulatory Guide 1.28, Rev (2), Feb. 1979 – Quality Assurance Program Requirements (Design And Construction)
The Duke Energy Carolinas QAP conforms to Regulatory Guide 1.28 Rev (2) and ANSI N45.2-1977 with the clarifications and exceptions noted below. Exception to ANSI N45.2 Section 5. Duke Energy Corporation procurement documents shall require suppliers to provide a quality assurance program consistent with the pertinent requirements of 10 CFR Part 50 Appendix B instead of ANSI N45.2-1977. Alternate requirements for purchase of Commercial Grade Items are described in this table addressing compliance for Regulatory Guide 1.123.

Regulatory Guide 1.30, Rev 0, Quality Assurance Requirements For The Installation, Inspection and Testing Of Instrumentation And Electric Equipment
The Duke Energy Carolinas QAP conforms to Regulatory Guide 1.30 Rev 0 and ANSI N45.2.4-1972 with the following Clarifications and Exceptions: Conforms with no exceptions.

Regulatory Guide 1.33, Rev 2, Quality Assurance Program Requirements (Operation)
The Duke Energy Carolinas QAP conforms to Regulatory Guide 1.33 Rev 2 and ANSI N18.7-1976/ANS-3.2 with the following Clarifications and Exceptions: Regulatory position C.4 modifies the audit frequencies in Section 4.5 of ANSI N18.7. Duke Energy Carolinas takes exception to this regulatory position. The audits of selected aspects of operational phase activities as identified in Section 17.3.3, Self Assessment, are performance based and scheduled based on plant performance and importance to safety but at a frequency not to exceed twenty-four months with extensions as allowed in Section 17.3.3.3.6, Audit Frequency Extensions. Schedules shall be based on the month in which the audit starts.

Table D17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.33, Rev 2, Quality Assurance Program Requirements (Operation)
Exception to ANSI N18.7-1976, Section 5.2.15, Review, Approval and Control of Procedures, which states in part that, "Plant procedures shall be reviewed by an individual knowledgeable in the area affected by the procedure no less frequently than every two years to determine if changes are necessary. A revision to a procedure constitutes a procedure review." In lieu of this paragraph, Duke Energy Carolinas has programmatic controls in place to continually identify procedure revisions which may be needed to ensure that procedures are appropriate for the circumstance and are maintained current. When purchasing commercial-grade calibration services from certain accredited calibration laboratories, the procurement documents are not required to impose a QAP consistent with ANSI N45.2-1977. Alternate requirements described in the QA Topical Report for Regulatory Guide 1.123 may be implemented in lieu of imposing a QAP consistent with ANSI N45.2-1977. A person with nondestructive testing experience is not required on the off-site independent review committee as required by section 4.3.1 of ANSI N18.7-1976. The technical experience requirements for off-site independent review committee members were transferred from each site's technical specifications and did not include a person with nondestructive testing experience. The transfer of off-site independent review committee requirements from each site's Technical Specification to the QA Topical Report was approved by an SER dated October 22, 1998 for amendment 23. The independent review of Technical Specification changes and license amendments shall be performed by the on-site review committee. Review and approval of Technical Specification changes and license amendment changes by the off-site independent review committee is not required.
Regulatory Guide 1.37, Rev 0, Quality Assurance Requirements For Cleaning Of Fluid Systems And Associated Components Of Water-Cooled Nuclear Power Plants
The Duke Energy Carolinas QAP conforms to Regulatory Guide 1.37 Rev 0 and ANSI N45.2.1-1973 with the following clarifications and exceptions: Conforms with no exceptions.
Regulatory Guide 1.38, Rev 2, May 1977 – Quality Assurance Requirements For Packaging, Shipping, Receiving, Storage And Handling Of Items For Water-Cooled Nuclear Power Plants
The Duke Energy Carolinas QAP conforms to Regulatory Guide 1.38 Rev 2 and ANSI N45.2.2-1972 with the following Clarifications and Exceptions: Container markings shall be marked on at least one side (A.3.9(1)) and shall be applied with waterproof ink or paint in characters of a legible size, and caps and plugs for pipe and fittings are required unless specified by Engineering, and off-site inspection, examination, and testing is monitored by personnel qualified to ANSI N45.2.12 in lieu of ANSI N45.2.6.

Table D17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.39, Rev (2), Sept. 1977 – Housekeeping Requirements For Water-Cooled Nuclear Power Plants
The Duke Energy Corporation QAP conforms to Regulatory Guide 1.39 Rev 2 and ANSI N45.2.3-1973 with the following clarifications and exceptions. Personnel accountability for personnel entering housekeeping zones I, II, and III without materials shall be maintained by housekeeping logs or alternate methods such as radiation work permits, confined space permits, work requests or other accepted methods capable of assuring personnel accountability.

Regulatory Guide 1.58, Rev (1), Sept. 1980 – Qualification Of Nuclear Power Plant Inspection, Examination And Testing Personnel
The Duke Energy Carolinas QAP conforms Regulatory Guide 1.58 Rev 1 and ANSI N45.2.6-1978 with the following Clarifications and Exceptions: Duke Energy Carolinas' DEC's nondestructive examination (NDE) personnel will meet the qualification requirements of SNT TC-1A and ANSI/SNT-CP-189 as governed by the applicable ASME Section XI requirement or other code requirement. Operational/functional testing personnel will meet the requirements of ANSI N18.1-1971 rather than ANSI N45.2.6. Also, Level I inspectors receive a minimum of 4 months experience as Level I before being certified as Level II, in lieu of one year experience recommended by ANSI N45.2.6. Inspectors are only assigned tasks for which they have been qualified.

Regulatory Guide 1.64, Rev (2), June 1976 – Quality Assurance Requirements For The Design Of Nuclear Power Plants
The Duke Energy Carolinas QAP conforms to Regulatory Guide 1.64, Rev. 2 and ANSI Standard N45.2.11-1974 with the following Clarifications and Exceptions: The use of the originator's immediate supervisor for design verification shall be restricted to special situations where the immediate supervisor is the only individual capable of performing the verification. Advance justification for such use shall be documented and signed by the supervisor's management. And the frequency and effectiveness of the supervisor's use as design verifier are independently verified to guard against abuse. The supervisor will not be the design verifier on work for which he is the actual performer / originator.

Regulatory Guide 1.74, Rev (0), Feb. 1974 – Quality Assurance Terms And Definitions
The Duke Energy Corporation QAP conforms to Regulatory Guide 1.74, Rev 0 and ANSI N45.2.10-1973 with the following Clarifications and Exceptions: The quality assurance terms and definitions contained in ANSI N45.2.10-1973 are generally used in describing and implementing the quality assurance program described in this QAPD except where terms are explicitly defined in this document.

Table D17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.88, Rev (2), Oct. 1976 - Collection, Storage, And Maintenance Of Nuclear Power Plant Quality Assurance Records
The Duke Energy Carolinas QAP conforms to Regulatory Guide 1.88, Rev. 2 and ANSI N45.2.9-1974 with the following Clarifications and Exceptions: The records storage facilities have a minimum 3-hour rating. A qualified Fire Protection Engineer will evaluate record storage areas (including satellite files) to assure records are adequately protected from damage. The fire protection engineer shall be a graduate of an engineering curriculum of accepted standing and shall have completed not less than 6 years of engineering attainment indicative of growth in engineering competency and achievement, 3 years of which shall have been in responsible charge of fire protection engineering work. The Duke Energy Carolinas program for storage of records on microfilm, dual storage or in electronic format meets the preservation requirement for the retention of QA Records. See standard exception in Table 17-1 Regulatory Guide 1.88 for the appropriate controls on quality in the management of electronic records.

Regulatory Guide 1.94, Rev (1), Apr. 1976 – Quality Assurance Requirements For Installation, Inspection, And Testing of Structural Concrete And Structural Steel During The Construction Phase of Nuclear Power Plants
The Duke Energy Carolinas QAP conforms to Regulatory Guide 1.94. Rev. 1 and ANSI N45.2.5-1974 with the following Clarifications and Exceptions: the length of bolts shall be flush with the outside face of the nut. Paragraph 5.5 requires inspection of structural steel welding to be performed in accordance with the provisions of Section 6 of the AWS D1.1. Visual Weld Acceptance Criteria (VWAC) for Structural Welding at Nuclear Power Plants, NCIG-01, Revision 2, prepared by the Nuclear Construction Issues Group (NCIG) and accepted by the NRC in their letter to the NCIG dated June 26, 1985 may be used as an alternative to AWSD1.1 for non ASME Code structural weld inspections. (July 31, 2000 J M Farley SER)

Regulatory Guide 1.116, Rev (0-R), June 1976, (Reissued May 1977) – Quality Assurance Requirements For Installation, Inspection, And Testing Of Mechanical Equipment And Systems
The Duke Energy Corporation QAP conforms to Regulatory Guide 1.116 Rev (0-R) and ANSI N45.2.8-1975 with the following Clarifications and Exceptions: Conforms

Table D17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.123, Rev (1), July 1977 – Quality Assurance Requirements For Control Of Procurement Of Items And Services For Nuclear Power Plants
The Duke Energy Corporation QAP conforms to Regulatory Guide 1.123 and ANSI N45.2.13-1976 with the following clarifications and exceptions: Section 3.2, “Content of the Procurement Documents,” Subsection 3.2.3, “QAP Requirement,” Duke Energy Carolinas takes the following exception: See standard exceptions in Table 17-1 for Regulatory Guide 1.123 for the procurement of Commercial Grade Items and services including, purchasing commercial-grade calibration services from calibration laboratories.

Regulatory Guide 1.144, Rev (1), Sept. 1980 - Auditing Of Quality Assurance Programs For Nuclear Power Plants
The Duke Energy Carolinas QAP conforms to Regulatory Guide 1.144, Rev 1 and ANSI N45.2.12-1977 with the following clarifications or exceptions: Section 4.4.6. In lieu of making recommendations for correcting program deficiencies we will identify the deficiencies to the audited organization. For external audits, the results of the audit will be provided to the audited organization in lieu of the audit report. Also, the re-evaluation may be extended to 15 months and the triennial period as specified in the Reg. Guide may be extended by 3 months as described in Section 17.3.2.4, "Procurement Control." Additionally, the Duke Energy Carolinas QAP meets regulatory position C.3.b of this regulatory guide, as clarified by NRC Information Notice 86-21, Supplement 2. Internal Technical Audits shall require a response describing corrective action and implementation schedule as requested by the audit report but not to exceed sixty days of receipt of the audit report. See standard exceptions in Table 17-1 for Regulatory Guide 1.123 for the procurement of Commercial Grade Items and services including, purchasing commercial-grade calibration services from calibration laboratories.

Regulatory Guide 1.146, Rev (0), Aug. 1980 – Qualification Of Quality Assurance Program Audit Personnel For Nuclear Power Plants
The Duke Energy Carolinas QAP conforms to Regulatory Guide 1.146 Rev 0 and ANSI N45.2.23-1978 with the following clarifications and Exceptions: In lieu of prospective lead auditors participating in a minimum of five QA audits within a period of three years prior to date of certification, prospective lead auditors shall demonstrate their ability to effectively lead an audit team and shall have participated in at least one nuclear QA audit within one year preceding the individual's effective date of qualification. Upon successful demonstration of the ability to lead audits, and having met the other provisions of ANSI N45.2.23-1978, the individual may be certified as being qualified to lead audits. This process is described in approved procedures which require documentation of the evaluation and demonstration of results.

Table D17-1. Conformance with QA Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.152 Criteria For Programmable Digital Computer System Software In Safety-Related Systems Of Nuclear Power Plants
Conformance to Regulatory Guide 1.152 was not addressed during the licensing of the operating Duke Energy Carolinas Nuclear plants.
Regulatory Guide 7.10, Establishing Quality Assurance Programs For Packaging Used In The Transport Of Radioactive Material
Duke Energy Carolinas does not conform to Regulatory Guide 7.10. This QAPD is used to satisfy applicable Quality Assurance requirements for packaging and transportation of radioactive material.
Generic Letter 89-02, Actions to Improve the Detection of Counterfeit and Fraudulently Marketed Products
Generic Letter 89-02 endorses EPRI NP-5652, *"Guideline for the Utilization of Commercial-Grade Items in Nuclear Safety-Related Applications (NCIG-07)"*, which is used by Duke Energy Carolinas. See Regulatory Guide 1.123 for additional information.

Table D17-2. Site Specific Response to Regulatory Guides and Industry Standards

Table D17-2 identifies additional Regulatory Guides addressing subjects related to implementation of the QAP but the implementation is site specific and controlled with each site's UFSAR in accordance with 10 CFR 50.59.

Regulatory Guide 1.8, Personnel Selection And Training
Personnel selection and training is site specific. Catawba addresses conformance with Regulatory Guide 1.8 in UFSAR Chapter 1 Section 7. McGuire addresses conformance with Regulatory Guide 1.8 in UFSAR Chapter 1 Table 1-4. Oconee does not address conformance with Regulatory Guide 1.8. Personnel selection and training is addressed in UFSAR Chapter 13.

Regulatory Guide 1.26, Quality Group Classifications And Standards For Water-, Steam-, And Radioactive-Waste-Containing Components Of Nuclear Power Plants
Quality group classifications and standards trace to the original design and construction of the nuclear power plant and therefore are site specific. Catawba addresses conformance with Regulatory Guide 1.26 in UFSAR Chapter 1 Section 7. McGuire addresses conformance with Regulatory Guide 1.26 in UFSAR Chapter 1 Table 1-4. Oconee does not address conformance with Regulatory Guide 1.26. Quality group classifications and standards are addressed in UFSAR Section 3.2.2.

Regulatory Guide 1.29, Seismic Design Classification
Seismic design classification trace to the original design and construction of the nuclear power plant and therefore is site specific. Catawba addresses conformance with Regulatory Guide 1.29 in UFSAR Chapter 1 Section 7. McGuire addresses conformance with Regulatory Guide 1.29 in UFSAR Chapter 1 Table 1-4. Oconee does not address conformance with Regulatory Guide 1.29. Seismic design classifications are addressed in UFSAR Section 3.2.1.

Table D17-2. Site Specific Response to Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.36, Nonmetallic Thermal Insulation For Austenitic Stainless Steel
Nonmetallic thermal insulation for austenitic stainless steel trace to the original design and construction of the nuclear power plant and therefore is site specific. Catawba addresses conformance with Regulatory Guide 1.36 in UFSAR Chapter 1 Section 7. McGuire addresses conformance with Regulatory Guide 1.36 in UFSAR Chapter 1 Table 1-4. Oconee does not address conformance with Regulatory Guide 1.36. Thermal insulation for austenitic stainless steel is addressed in UFSAR Section 5.4.

Regulatory Guide 1.54, Quality Assurance Requirements For Protective Coatings Applied To Water-Cooled Nuclear Power Plants
Quality assurance requirements for protective coatings applied to water-cooled nuclear power plants trace to the original design and construction of the nuclear power plant and therefore is site specific. Catawba addresses conformance with Regulatory Guide 1.54 in UFSAR Chapter 1 Section 7. McGuire addresses conformance with Regulatory Guide 1.54 in UFSAR Chapter 1 Table 1-4. Oconee does not address conformance with Regulatory Guide 1.54. Protective coatings are addressed in UFSAR Section 6.2.1.6.

Regulatory Guide 1.143, Design Guidance For Radioactive Waste Management Systems, Structures, And Components Installed In Light-Water-Cooled Nuclear Power Plants
Design guidance for radioactive waste management systems, structures, and components installed in light-water-cooled nuclear power plants trace to the original design and construction of the nuclear power plant and therefore is site specific. Catawba addresses conformance with Regulatory Guide 1.143 in UFSAR Chapter 1 Section 7. McGuire addresses conformance with Regulatory Guide 1.143 in UFSAR Chapter 1 Table 1-4. Oconee does not address conformance with Regulatory Guide1.143. Design guidance for radioactive waste management systems, structures, and components is addressed in UFSAR Chapter 11.

Table D17-2. Site Specific Response to Regulatory Guides and Industry Standards (Continued)

Regulatory Guide 1.155, Station Blackout
Addressing Station Blackout is site specific. Catawba addresses conformance with Regulatory Guide 1.155 in UFSAR Chapter 1 Section 7. McGuire addresses conformance with Regulatory Guide 1.155 in UFSAR Chapter 1 Table 1-4. Oconee address conformance with Regulatory Guide 1.155 in UFSAR Chapter 8.

Regulatory Guide 4.15, Quality Assurance For Radiological Monitoring Programs (Normal Operations) – Effluent Streams And The Environment
Quality assurance for radiological monitoring program (normal operations) – effluent streams and the environment is site specific. Catawba addresses conformance with Regulatory Guide 4.15 in UFSAR Chapter 1 Section 7. McGuire does not address conformance to Regulatory Guide 4.15 in UFSAR Chapter 1 Table 1-4. The radiological monitoring program is addressed in UFSAR Chapter 11. Oconee does not address conformance with Regulatory Guide 4.15. The radiological monitoring program is addressed in UFSAR Chapter 11.

Regulatory Positions 2 & 4 of Branch Technical Position CMEB 9.5-1
Quality assurance for Fire protection is site specific. Catawba addresses fire protection in UFSAR section 9.5.1. McGuire addresses fire protection in UFSAR section 9.5.1. Oconee addresses fire protection in UFSAR section 9.5.1.

D17.3.1 MANAGEMENT

D17.3.1.1 Methodology

There are no Duke Energy Carolinas specific amplifications for this section.

D17.3.1.2 Organization

There are no Duke Energy Carolinas specific amplifications for this section.

D17.3.1.3 Responsibility

There are no Duke Energy Carolinas specific amplifications for this section.

D17.3.1.4 Authority

There are no Duke Energy Carolinas specific amplifications for this section.

D17.3.1.5 Personnel Training and Qualification

The following provide Duke Energy Carolinas specific amplifications for this section.

A training program is established for each nuclear station and support organization to develop and maintain an organization qualified to be responsible for operation, engineering, testing, inspection, maintenance, engineering changes and other technical aspects of the nuclear station involved. The program is formulated to provide the required training based on individual employee experience and intended position. The program is in compliance with NRC licensing requirements, where applicable. The training program is such that trained and qualified operating, maintenance, work control, engineering, inspection, testing, technical support and supervisory personnel are available in necessary numbers at the times required. In all cases, the objectives of the training program shall be to assure safe and reliable operation of the station.

A continuing effort is used after a station goes into commercial operation for training of replacement personnel and for periodic retraining, reexamining, and/or recertifying as required to assure that personnel remain proficient. Personnel receive orientation training in basic QA policies and practices.

Personnel receive additional training, as appropriate, which addresses specific topics such as NRC regulations and guides, QA procedures, auditing and applicable codes and standards. Special training of personnel in QA related matters, particularly new or revised requirements, is conducted as necessary. Training and qualification records are maintained for each employee. Documentation of training includes the objectives, content of the program, attendees, and date of attendance.

D17.3.1.6 Corrective Action

There are no Duke Energy Carolinas specific amplifications for this section.

D17.3.1.7 Regulatory Commitments

There are no Duke Energy Carolinas specific amplifications for this section.

D17.3.2 Performance/Verification

D17.3.2.1 Methodology

The following provide Duke Energy Carolinas specific amplifications for this section.

The program receives on-going review and is revised as necessary to assure its continued effectiveness.

D17.3.2.2 Design Control

Each design document is checked by another individual qualified in the same discipline and is reviewed for concept and conformity with applicable codes, standards, and other design inputs (as specified within the design documentation package). The document is approved by the individual having overall responsibility for the design function. A review of each specification is made to assure incorporation of necessary QA information. The entire review process is documented.

Computer programs are controlled in accordance with appropriate department procedures, whereby programs are certified to demonstrate their applicability and validity.

D17.3.2.3 Design Verification

Analytical models, theories, examples, tables, codes, computer programs, etc., used as bases for design must be referenced in the design document and their application verified in the design verification. Model tests, when required, to prove the adequacy of concept or design are reviewed and approved by the responsible engineer. The tests used for design verification must meet all the requirements of the designing activity. Computer programs are controlled in accordance with the applicable software QA document whereby programs are certified to demonstrate their applicability and validity.

Following completion of design and evaluation of an engineering change, the responsible individual/organization summarizes the engineering change design and identifies the design documents and information required for engineering change implementation. This information is provided for design verification. This addresses such items as:

a) A description of the engineering change.

b) References utilized in the evaluation and design of the engineering change, and necessary for the implementation of the engineering change.

c) Special installation instructions.

d) Operational, test, maintenance and inspection requirements.

e) Materials, parts and components required in order to implement the engineering change.

f) Drawings revised and/or requiring revision.

g) UFSAR revision(s) and/or Technical Specifications amendment(s) necessary.

h) Whether or not the engineering change requires a license amendment.

D17.3.2.4 Procurement Control

Procedures identify the responsibility within Nuclear Generation for the technical qualification of suppliers and control of the initial procurement of nuclear safety related items and services. Procurement requirements/specifications are prepared, checked, and approved by appropriate personnel and forwarded to Nuclear Supply Chain for procurement actions from qualified suppliers.

Technical qualifications are determined by engineering personnel. Commercial qualification is determined by Supply Chain following evaluation of bids from qualified suppliers. Bid evaluation includes evaluation of the technical, quality and commercial qualifications of the prospective suppliers.

NOS performs qualification of supplier QA programs. NOS may place a supplier on the Qualified Suppliers List following review, approval and acceptance of an audit performed by another licensed nuclear utility or joint utility audit team. Review of such third party audits shall ensure that items to be procured are within the audit scope and any unique plant quality and technical requirements are adequately addressed by such audits. When basic components and services are procured from a supplier whose quality performance has not been verified by audit, additional assurance of product quality shall be obtained by supplier surveillance, inspection or test.

Materials, parts and components shall be procured to specified technical and quality requirements at least equivalent to those applicable to the original equipment or those specified by a properly reviewed and approved revision. As required by the applicable purchase documents, suppliers furnish documentation which identifies the material and equipment purchased and the specific procurement requirements met by the items. Also, as required by the applicable purchase documents, suppliers will provide documentation which identifies any procurement requirements which have not been complied with, together with a description of any deviations and repair records.

Procurement of materials, parts, components and services associated with nuclear safety related structures, systems, and components is controlled during the operational life of the station so as to assure the suitability for their intended service and that the safety and reliability of the station are not compromised.

Procurement information for nuclear safety related materials, parts and components is reviewed to assure that QA, technical and regulatory requirements including supplier documentation requirements are adequately incorporated into the purchase document(s). Significant changes to the content of such purchasing information are reviewed and approved in a manner consistent with the original.

Critical characteristics for the dedication of Commercial Grade Items are determined by Procurement Engineering or Supply Chain technical sponsors and approved by the responsible engineering personnel based on the manufacturer's published specifications and the intended safety function for the items. Critical characteristics used for acceptance and dedication of commercial grade items are selected to provide reasonable assurance that the items will meet their catalog or manufacturer specifications and will perform the necessary safety functions in the intended applications. Verification of critical characteristic acceptability will be by manufacturer/supplier survey, source verification, receipt tests or inspections, or post installation testing. Historical data, when documented, will represent industry wide experience.

If verification of a critical characteristic is to be by supplier survey, NOS is responsible for verifying the acceptability of the supplier control of the identified critical characteristic.

D17.3.2.5 Procurement Verification

NOS Vendor Quality performs a documented on-going evaluation of each qualified supplier in order to maintain the supplier on the qualified suppliers list. The evaluation is performed to a depth consistent with the item's or service's importance to safety, complexity, and the quantity and frequency of procurement. As applicable, this evaluation takes into account (1) review of supplier-furnished documents such as certificates of conformance, nonconformance notices, and corrective actions, (2) results of previous source verifications, audits, and receiving inspections, (3) operating experience of identical or similar products furnished by the same supplier, and (4) results of audits from other sources (e.g., customer, ASME, or NRC audits). The results of the evaluations are reviewed and appropriate corrective action initiated. Adverse findings resulting from these evaluations are periodically reviewed in order to determine if, as a whole, they result in a significant condition adverse to quality and to provide input to support supplier audit activities conducted by the licensee or a third party auditing entity.

Suppliers of nuclear safety related items or services are re-evaluated by means of an audit at least triennially, if initial qualification was by audit or pre-award survey. The triennial audit schedule may be extended as identified in Section 17.3.3.3.7, Audit Frequency Extensions.

NOS is responsible for oversight when procurement documents require characteristics or processes to be witnessed, inspected or verified at the supplier shop. NOS surveillance activities assure that the supplier complies with all quality requirements outlined in the procurement document(s). The surveillance representative has the authority and responsibility to stop work when the required quality standards are not met.

D17.3.2.6 Identification and Control of Items

Specific identification requirements are as follows:

a) Materials, parts, components, assemblies, and subassemblies shall be identified either on the item or records traceable to the item to show that only correct items are received, issued and installed.

b) Some components, such as pressure vessels are identifiable by nameplates as required by applicable codes, or Duke Energy Carolinas specifications. Materials, parts, and components are traceable from such identification to a specific purchase order to manufacturer's records and to QA records and documentation.

c) When required by procurement documents, materials are identified by heat, batch or lot numbers which are traceable to the original material at receipt. Upon receipt, a unique tracking number is assigned to provide traceability. When several parts are assembled, a list of parts and corresponding numbers is included in the documentation.

d) When required by specifications or codes and standards, identification of material or equipment with the corresponding mill test reports, certifications and other required documentation is maintained throughout the life of the material or equipment by a unique tracking number.

e) Sufficient precautions will be taken to preclude identifying materials in a manner that will affect the function or quality of the item being identified.

Control of material, parts and components is governed by approved procedures. Specific control requirements include:

a) Nonconforming or rejected materials, parts, or components are identified to assure that they will not be inadvertently used.

b) The verification of correct identification of material, parts, and components is required prior to release for assembling, shipping and installation.

c) Upon receipt, procedures require that materials, parts or components undergo a receipt inspection to assure they are properly identified and that the supporting documentation is available as required by the procurement requirements/specifications. Items having limited shelf or service life are identified and controlled.

d) Each organization which performs an operation that results in a change in the material, part or component is required to make corresponding revisions and/or additions to the documentation record as applicable.

When a designated item is subdivided, each subdivision is identified in accordance with the above requirements. Where physical identification of an item is impractical or insufficient, physical separation, administrative controls or other appropriate means are utilized.

D17.3.2.7 Handling, Storage, and Shipping

Conforming nuclear safety related materials, parts and components are stored in controlled, segregated areas designated for the storage of such items. Inspections and examinations are performed on a periodic basis to assure that recommended shelf life of chemicals, reagents, and other consumable materials is not exceeded. Hazardous items are stored in suitable environments with controls to prevent contamination of nuclear safety related structures, systems, or components.

D17.3.2.8 Test Control

Test controls include requirements on the review and approval of test procedures, and on the review and approval of changes to such procedures, as discussed in Section 17.3.2.14, "Document Control." Also, specific criteria are established with regard to procedure content. Examples of items which must be considered in the preparation and review of procedures include:

a) References to material necessary in the preparation and performance of the procedure, including applicable design documents.

b) Tests which are required to be completed prior to, or concurrently with, the specified testing.

c) Special test equipment required to perform the specified testing.

d) Limits and precautions associated with the testing.

e) Station, unit and/or system status or conditions necessary to perform the specified testing.

f) Criteria for evaluating the acceptability of the results of the specified testing, compatible with any applicable design specifications.

Test procedures contain the following information or require this information be documented:

a) Requirements and acceptance limits contained in applicable design and vendor documents.

b) Instructions for performing the test.

c) Test prerequisites such as calibrated instrumentation, adequate test equipment and instrumentation including their accuracy requirements, completeness of the item to be tested, suitable and controlled environmental conditions, and provisions for data collection and storage.

d) Mandatory inspection hold points.

e) Acceptance and rejection criteria.

f) Methods of documenting or recording test data and results.

g) Provisions to assure test prerequisites have been met.

Requirements are also established for verification of test completion and for determining acceptability of tests results. Test results are reviewed and accepted by the testing organization and the organization responsible for the item being tested. In the event that test results do not meet test acceptance criteria, a review of the test, test procedure and/or test results is conducted to determine the cause, required corrective action, and retest as necessary.

In addition to the above periodic testing, after maintenance to, or modification of, nuclear safety related structures, systems and components, other post maintenance testing, post modification testing, or functional verifications are performed and documented as required to verify satisfactory performance of the affected items. Post maintenance/modification functional verifications are not subject to the requirements of periodic testing described above because they are acceptable good industrial practices that are simple and straightforward. Included in these tests are such items as diesel generators, reactor control rod systems, and leak testing of appropriate pressure isolation valves.

D17.3.2.9 Measuring and Test Equipment Control

Site specific content is retained for item c) as follows:

c) The tag or records for devices that have been acceptably calibrated include the date of calibration, the date the next calibration is due, an indication that the device is within calibration specifications and the identification of the individual who was responsible for performing the calibration.

Installed instrumentation is subject to the requirements of the Technical Specification and is not subject to the tagging requirements discussed in 17.3.2.9 c) and d). The NOS-Audit section verifies implementation of the calibration program through periodic audits.

The basis for this exception on the installed Technical Specification required equipment is the Preventive Maintenance Periodic Testing (PMPT) program. This is a computerized scheduling program that automatically schedules PMPT using model work orders. When devices have been acceptably calibrated, the clock starts for the next calibration due date. The indication that the device is within calibration specifications and identification of the individual who was responsible for performing the calibration is documented within the calibration procedure for the device. If the device fails to meet calibration specifications, it will be repaired, replaced and/or engineering involvement will be requested to further evaluate. The PMPT program along with the calibration procedures address all the requirements in Section 17.3.2.9 items c and d. Therefore, there is no need to place tags on the devices to identify the calibration status.

D17.3.2.10 Inspection, Test, and Operating Status

Inspections and tests required by the written approved procedures which address work activities are infrequently temporarily deferred. When such a deferral does occur, a discrepancy is considered to exist and documentation of the acceptable completion of the affected work activity is not performed until the discrepancy is resolved.

Proposed tests and experiments which affect station nuclear safety and are not addressed in the Updated Final Safety Analysis Report or Technical Specifications shall be prepared and approved in a manner identical to that used for station procedures as described in Section 17.3.2.14, "Document Control." These proposed tests and experiments shall be reviewed by a knowledgeable individual/organization other than the individual/organization which prepared the proposed tests and experiments.

D17.3.2.11 Special Process Control

The QAP contains or references procedures for the control of special processes such as welding, heat treating, NDE, coatings, crimping, and cleaning. These procedures shall provide for documented evidence of acceptable accomplishment of special processes using qualified procedures, equipment, and personnel.

D17.3.2.12 Inspection

Independent inspections, examinations, measurements, observations, or tests of materials, products or activities are conducted, 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 is provided. Both inspection and process monitoring are provided when control is inadequate without both.

In addition to the content identified in 17.3.2.12, inspection procedures, instructions, and checklists contain the following information or require this information on inspection reports:

a) Measuring and test equipment information

b) Identification of required procedures, drawings, specifications, etc.

The personnel performing these inspections are examined and certified in their particular category. Current qualification and certification files are maintained for each inspector. NDE inspectors are certified in accordance with required codes and standards (See Table 17-1 Regulatory Guide 1.58). Written procedures require the test and certification of inspectors in other categories such as Mechanical, Electrical, and Structural as described in the appropriate QA manual. For cases where inspectors will perform limited functions within a category, they are tested and certified to those limitations. These inspectors are only allowed to perform inspections specifically defined in this limited certification.

For inspections of concrete containments, personnel fulfilling the role of Responsible Engineer, shall be a Registered Professional Engineer experienced in evaluating the in-service condition of structural concrete and knowledgeable of the design and construction codes and other criteria used in the design and construction of the concrete containment structure. The Responsible Engineer may also perform inspections as discussed in this section.

The inspection criteria for performing inspections are established from codes, specifications, and standards applicable to the activity. Examples of activities subject to inspection include:

a) Activities specified by the ASME Code Section XI

b) Special processes

c) Modifications

d) Maintenance

e) Material Receipt

After inspection data is collected and reviewed by the inspector, the reports are technically reviewed by personnel designated to perform that function.

D17.3.2.13 Corrective Action

Procedures require that conditions adverse to quality be corrected. In the case of significant conditions adverse to quality, the procedures assure that the cause of the condition is determined and action be taken to preclude repetition. Performance and verification personnel are to:

a) Identify conditions that are adverse to quality.

b) Suggest, recommend, or provide solutions to the problems as appropriate.

c) Verify resolution of the issue.

Additionally, performance and verification personnel are to ensure that reworked, repaired, and replacement items are to be inspected and tested in accordance with the original inspection and test requirements or specified alternatives.

Discrepancies revealed during the performance of station operation, maintenance, inspection and testing activities must be resolved prior to verification of the completion of the activity being performed. In the event of a significant malfunction of nuclear safety related structures, systems, and components, the cause of the failure is evaluated and appropriate corrective action taken. Items of the same type are evaluated to determine whether or not they can be expected to continue to function in an appropriate manner. This evaluation is documented in accordance with applicable procedures.

Nuclear safety related materials, parts and components which are determined to be nonconforming are identified, segregated or otherwise controlled (e.g. by a conditional release) in such a manner as to preclude their inadvertent substitution for and use as conforming materials, parts and components. The determination of an item's nonconformance is documented and is retained on file by Nuclear Generation and, as appropriate, by tags attached to the item. Nuclear Generation personnel are notified of any nonconformances identified in accordance with approved procedures.

Nuclear Generation maintains a listing of the status of all nonconformance documents. These reports, when complete, identify the nonconforming material, part or component; applicable inspection requirements; and the resolution, and approval thereof, of the nonconformance. Provisions are established for identifying those personnel with the responsibility and authority for approving the resolution of nonconformances. Until a determination of conformance is made, a nuclear safety related material, part or component cannot be placed in service. Tags which are placed on items to identify nonconformances are removed upon resolution.

Significant trends will be/are reported to appropriate levels of management.

D17.3.2.14 Document Control

Procedures provide appropriate administrative controls for the preparation and review of proposed changes to controlled documents. Those procedures assure that required approvals are obtained for proposed changes.

The procedure process includes controls to assure that procedures, tests, and experiments, and changes thereto, covering activities that affect nuclear safety are reviewed per applicable regulations to ensure that licensing documents are maintained current and that changes requiring prior NRC approval are submitted to and approved by the NRC prior to implementation.

Temporary changes to procedures, tests, or experiments may be made provided:

1. Such change does not change the intent of the original procedure, test, or experiment
2. The change is approved by two members of the plant management staff, at least one of whom holds a Senior Reactor Operator License on the unit affected.
3. The change is documented and approved as a permanent change or deleted within 14 days of implementation.

Duke Energy Corporation has programmatic controls in place to continually identify procedure revisions to routine procedures which may be needed to ensure that procedures are appropriate for the circumstance and are maintained current. These controls specify conditions when mandatory review of plant procedures apply, including a requirement to review applicable procedures following an accident or transient and following any modification to a system. The process includes pre job review process and a procedure adherence policy requiring that the job be stopped and the procedure be revised or the situation resolved prior to work continuing if procedures cannot be implemented as written.

Procedures are reviewed for adequacy based upon: lessons learned from normal use, audits, unusual incidents (such as an accident, unexpected transient, significant operator error, or equipment malfunction), station engineering changes, the operating experience program, root cause analysis, or the corrective action program. The procedure process includes a mechanism for procedure users to request changes to the procedures.

Maintenance, instrumentation, and modification procedures are reviewed by cognizant personnel to determine the need for quality control inspections.

The line organization performs a biennial assessment of the procedure process to assure the procedures are maintained current. This assessment includes a requirement to evaluate the procedure change process to ensure identified changes that are required to maintain the procedure current and technically accurate are being implemented in a timely manner.

D17.3.2.15 Records

To the maximum extent practicable, records are stored such that they are protected from possible destruction by causes such as fire, flooding, theft, insects and rodents and from possible deterioration due to a combination of extreme variations in temperature and humidity conditions.

Record storage areas shall be evaluated by a qualified Fire Protection Engineer to assure the records are adequately protected from damage. The evaluation shall include the following considerations as a minimum:

a) Structural collapse.

b) Unprotected steel (suspended floor slab or roof).

c) Fire frequency of similar occupancies.

d) Quantities of combustible materials.

e) Ceiling height/Room configuration which would contribute to heat dissipation.

f) Fire detection.

g) Fixed fire suppression systems.

h) On-site firefighting organizations including available equipment.

This evaluation shall be documented for each record storage area.

D17.3.3 SELF ASSESSMENT

D17.3.3.1 Methodology

There are no Duke Energy Carolinas specific amplifications for this section

D17.3.3.2 Independent Review Committee

The independent review function is provided through a combination of off-site and on-site standing committees. The off-site committee is appointed by the Chief Nuclear Officer and comprised of senior department and external leaders. The on-site committee is appointed by the Site Vice President and comprised of senior plant managers.

D17.3.3.2.1 Off-Site Independent Review Committee

The Chief Nuclear Officer appoints an independent committee to serve as a nuclear safety review of the normal operating organization.

This off-site committee functions to ensure independent review of designated activities and collectively includes experience and competence to review the following areas: nuclear power plant operations, nuclear engineering, chemistry and radiochemistry, metallurgy, instrumentation and control, radiological safety, mechanical and electrical engineering, and administrative control and QA practices.

The Chair, members, and alternate members are appointed in writing by the Chief Nuclear Officer. The off-site committee is composed of at least 5 members including the Chair. Alternates (including an alternate chair) may replace Regular Members as necessary. Members of the off-site committee may be from Nuclear Generation, from other departments within the Corporation, or from external to the Corporation. Consultants are utilized as determined by the Chair to provide expert advice to the off-site committee. Staff assistance may be provided to the off-site committee in order to promote the proper, timely, and expeditious performance of its functions.

The off-site committee meets at least twice per calendar year, evaluating each operating nuclear plant. The off-site committee ensures independent reviews of and provide oversight for the following items:

a) The evaluations for: (1) changes to procedures, equipment, or systems, and (2) tests or experiments completed under the provision of 10 CFR 50.59 to verify that such actions did not require a license amendment pursuant to 10 CFR 50.90;

b) On-site review committee performance of its independent review function.

c) Reports that describe violations of Codes, regulations, orders, Technical Specifications, license requirements, or of internal procedures or instructions having nuclear safety significance;

d) Reports that describe significant operating abnormalities or deviations from normal and expected performance of unit equipment that affect nuclear safety;

e) Reports that describe reportable events;

f) Reports that describe all recognized indications of an unanticipated deficiency in some aspect of design or operation of structures, systems or components that could affect nuclear safety; and

g) Reports of QAP audits relating to station operations and actions taken in response to these audits.

Reviews may be conducted by an organizational unit, subgroup, or member of the off-site committee. In either case the review body will collectively have requisite knowledge, experience, and competence to perform reviews in the above areas. Organizations, individuals, and or groups conducting these reviews will functionally report to the Chair of the off-site committee.

The off-site committee reports to and advises the Chief Nuclear Officer on those areas of responsibility specified in Items (a) through (g) above.

Minutes of each off-site committee meeting are prepared, approved, and forwarded to the Chief Nuclear Officer and to the Site Vice Presidents.

D17.3.3.2.2 On-Site Review Committee

Each Site Vice President ensures an on-site committee exists to review selected nuclear safety related issues. The on-site committee is composed of specified senior members of the site management team most responsible for the safe and reliable operation of the station.

The on-site committee reviews and recommends approval of items requiring NRC approval prior to station approval for implementation. The reviews include:

a) Proposed changes to procedures, equipment or systems which when evaluated under the provisions of 10 CFR 50.59 require a license amendment pursuant to 10 CFR 50.90;
b) Proposed tests or experiments which involve a license amendment pursuant to 10CFR50.90 as defined in 10 CFR 50.59; and
c) Proposed changes to the stations' Facility Operating Licenses, including Technical Specifications, prior to implementation except in those cases where the change is identical to a previously reviewed proposed change.

In discharging its independent review responsibilities, on-site committee keeps safety considerations paramount when opposed to cost or schedule considerations. Where a conflict of such considerations is likely or should a voting member have direct responsibility for the

preparation or technical review of the item requiring independent review, that member is replaced (to fill the quorum) by another voting member.

When discharging its independent review responsibilities, the on-site committee provides meeting minutes that include a detailed description of items reviewed, key discussion points with questions/responses, and recommendation, including the basis for the determination made. Copies of these meeting minutes addressing independent review requirements are forwarded to NOS for distribution to the off-site independent review committee.

See Section D17.3.4.6 for additional requirements applicable to the on-site review committee.

D17.3.3.3 Independent Assessment

There are no Duke Energy Carolinas specific amplifications for this section

D17.3.3.3.1 Organization

There are no Duke Energy Carolinas specific amplifications for this section

D17.3.3.3.2 Internal Assessment Process

There are no Duke Energy Carolinas specific amplifications for this section

D17.3.3.3.3 NOS Audit Program

The following audit topic is added to the list of audit topics in 17.3.3.3.3 for Catawba, McGuire, and Oconee:

- The performance of effluent and environmental monitoring activities.

D17.3.3.3.3.1 Other Audits Prescribed by the Code of Federal Regulations

The evaluation of Radiation Protection (per 10CFR 20.1101c) identified in 17.3.3.3.3.1 was not explicitly addressed in the QATR for Duke Energy Carolinas. This evaluation may be conducted by either the line organization management or by NOS for Catawba, McGuire, and Oconee.

D17.3.3.3.3.2 Independent Audit of Fire Protection Program

Audits of the following functions are completed within a period of two (2) years:

- The Facility Fire Protection programmatic controls including the implementing procedures.
- The fire protection equipment and program implementation utilizing either a qualified offsite license fire protection engineer or an outside independent fire protection consultant. An outside independent fire protection consultant shall be used at least every third year.

D17.3.3.3.4 Results

There are no Duke Energy Carolinas specific amplifications for this section

D17.3.3.3.5 Supplier Oversight

Supplier oversight assures that supplier QA programs provide for surveillance, evaluation, and approval of sub-supplier supplying items and services. This assurance is accomplished through

one or more of the following: 1) reviewing supplier audits of sub-supplier as part of the pre-bid audit, 2) making supplier control of sub-supplier work a criterion for supplier approval or disapproval, 3) making supplier surveillance of sub-supplier a requirement of the purchase requisition.

Supplier oversight performs source verification and audits on suppliers' QA programs including the activities of their suppliers and sub-suppliers, to assure that operations are in compliance with specified QA requirements. In the case of an audit of a supplier, any deficiencies noted by the auditor are clearly outlined in writing and given to the supplier's QA organization, which takes appropriate steps to resolve the deficiencies.

A re-audit is performed, if appropriate, to verify the implementation of the corrective action.

D17.3.3.3.6 Independent Audit of QA Functions

There are no Duke Energy Carolinas specific amplifications for this section

D17.3.3.3.7 Audit Frequency Extensions

Audit Schedules are based on the entrance of the audit as identified in exceptions for Regulatory Guide 1.33.

D17.3.4 ADMINISTRATIVE CONTROLS RELOCATED FROM TECHNICAL SPECIFICATIONS

Consistent with NRC Administrative Letter 95-06, certain administrative controls from the original station Technical Specifications have been relocated to the Quality Assurance Program. These relocated administrative controls include technical review, 10 CFR 50.59 review, record retention, and audit requirements. This section identifies those requirements or provides references to the sections of this document where the administrative controls have been integrated with QAP controls.

D17.3.4.1 Technical Reviews

This content provided requirements for technical reviews of station modifications, procedures, tests, and experiments to assure adequacy of nuclear safety related SSCs and associated activities. Those reviews are embedded in the QAP and its committed Standards.

D17.3.4.2 10 CFR 50.59 Reviews

The review of station modifications, procedures, tests, and experiments against the requirements of 10 CFR 50.59 is to ensure that licensing documents are maintained current and that changes requiring prior NRC approval are submitted to and by the NRC prior to implementation. Provisions are included in Sections 17.3.2.3 Design Verification and 17.3.2.14 Document Control to amplify the need to complete these reviews.

The program for 10 CFR 50.59 reviews is in accordance with NEI 96-07, Revision 1, “Guidelines for 10 CFR 50.59 Evaluations” as endorsed by Regulatory Guide 1.187, November 2000.

This program includes provisions to ensure that individuals have appropriate qualifications prior to completing these reviews.

D17.3.4.3 Record Retention

The list of typical operational phase records is in Section 17.3.2.15 Records.

D17.3.4.4 Audit Types and Frequencies

These are addressed in Section 17.3.3.3.3 NOS Audit and supplemented by D17.3.3.3.3.

D17.3.4.5 On-Site Review Committee

The On-Site review committee was not addressed in the Catawba, McGuire, and Oconee Technical Specifications.

In addition to the requirements in Section D17.3.3.2.2, On-Site Review Committee requirements are located in each station's UFSAR as follows:

Catawba On-Site Review Committee

The requirements for the on-site review committee for Catawba Nuclear Station are found in the CNS UFSAR in section 13.4.

McGuire On-Site Review Committee

The requirements for the on-site review committee for McGuire Nuclear Station are found in the MNS UFSAR in section 13.4.

Oconee On-Site Review Committee

The requirements for the on-site review committee for Oconee Nuclear Station are found in the ONS UFSAR in section 13.4.

D17.3.4.6 Reportable Event Action

Procedures are established to assure events are reviewed and notifications and reports are made as required by Regulations including, but not limited to, 10 CFR Part 21, 10 CFR 50.72, and 10 CFR 50.73.

The following considerations are transferred from section D17.3.2.13.

For significant incidents occurring during operation where a safety limit is exceeded, or which could otherwise be related to the nuclear safety of the station, the Site Vice President shall be notified and reports are generated. These reports:

a) Contain a summary description of the circumstances and information relating to the subject incident.

b) Contain an evaluation of the effects of the incident.

c) Describe corrective action taken or recommended as a result of the incident.

d) Describe, analyze and evaluate any significant nuclear safety related implications of the incident.

Such reports shall be reviewed by the Nuclear Station Manager (or for the Nuclear Station Manager by: 1) the Operations Superintendent, 2) the Maintenance Superintendent, 3) or the Work Control Superintendent, as previously designated by the Nuclear Station Manager) and approved by the Manager, Safety Assurance. Such reports shall be provided to the Site Vice President, the PORC, the NSRB, and the NRC as required by applicable regulations. Outstanding corrective action commitments made with regard to such incidents are identified

and periodically reviewed to assure that the identified corrective actions are properly completed and documented. An identified corrective action commitment is closed out upon written notification by a cognizant, responsible individual or other written documentation, of the satisfactory completion thereof. Closure of corrective action commitments which specifically involve other Department(s) require written notification by the other Department(s) of the satisfactory completion thereof.

All violations of Technical Specifications, safety limit violations, and all other reportable events shall be investigated and a report prepared which evaluates the occurrence and which provides recommendations to prevent recurrence. Such reports and other special reviews and investigations shall be reviewed by a knowledgeable individual/organization other than the individual/organization which prepared the report. Reports of safety limit violations shall be reviewed by the Nuclear Station Manager and the Operations Superintendent. A knowledgeable individual/organization shall review every unplanned onsite release of radioactive material to the environs and prepare reports covering evaluation, recommendations, and disposition of the corrective action to prevent recurrence. All special reviews and investigations, and the preparation of reports thereon, shall be performed by a knowledgeable individual/organization.

D17.3.4.7 Independent Safety Engineering Group Functions

Technical Specifications for Catawba and McGuire included requirements for Independent Safety Engineering Group functions of improving licensee safety performance and ability to respond to accidents by providing onsite technical support and continuous evaluation and feedback of lessons learned from operating experience. Those functions are performed by a combination of different groups through the performance of their normal activities.

The following provides a cross reference for key activities to the QAP controls and other programs for those activities:

Examination Of Unit Operating Characteristics:

- Section 17.3.2.13 Corrective Action addresses identification, classification, trending and correcting of conditions adverse to quality.
- Section 17.3.3.3 Independent Assessment addresses NOS responsibility for the independent monitoring and assessment of activities.
- The Maintenance Rule Program provides reasonable assurance that structures, systems, trains, and components are capable of fulfilling their intended safety significant functions.
- Engineering provides for the systematic trending of system and component performance to determine the effectiveness of system/component maintenance

Examination of NRC Issuances, Industry Advisories, and Licensee Event Reports and other Sources of Unit Design Information which May Indicate Areas of Improving Unit Safety:

- The Operating Experience Program that provides for the receipt. processing, status reporting, screening, reviewing, evaluating, and taking preventive/corrective actions in response to OE information, including implementation of INPO SOER recommendations.
- Per Section D17.3.3.2.2, the On-Site review committee reviews License Event Reports developed pursuant to 10 CFR 50.73 as part of the independent safety review.

Review of Plant Operations, Modifications, Maintenance, and Surveillances to Verify Independently that these Activities are Performed Safely, and Correctly and that Human Errors are Reduced as Much as Practical:

- The NOS functions described in Section 17.3.3.3 Independent Assessment and the independent review functions described in Section D17.3.3.2 Independent Review Committee accomplish this function.

Attachment 2

Quality Assurance Program Matrix of Changes

25 Pages Follow

Description of Change:

This change is to administratively consolidate the descriptions of the QA Program for Brunswick, Harris, Robinson, Catawba, McGuire, and Oconee (the operating fleet) into a single Topical Report (see Attachment 1 of this letter) that provides common terminology for the description following the format and content guidance in NUREG 0800, Standard Review Plan (SRP) Section 17.3. Specifically, this change merges the descriptions of the QA Program for the Duke Energy Progress (Brunswick, Harris, and Robinson) plants from the respective UFSAR Chapter 17.3 with the similar content for the Duke Energy Carolinas (Catawba, McGuire, and Oconee) plants from their Topical Report Quality Assurance Program. For Duke Energy Progress, this change also relocates the description of conformance for Regulatory Guides RG1.28, RG1.30, RG1.33, RG1.37, RG1.38, RG1.39, RG1.58, RG1.64, RG1.74, RG1.88, RG1.94, RG1.116, RG1.123, RG1.144, and RG1.146 from the respective UFSARs to the Topical Report.

The consolidated topical report is organized with a standard description of the QA Program including a generic organization description in the main body of the document and site specific details for the Quality Assurance Program Description along with conformance to the NRC QA Regulatory Guides included in separate attachments. Since each of the descriptions of the QA Program for the Operating Fleet were written in the same format, the development of standard description involved administrative improvements and clarifications, including editorial changes to blend the previous content into a standard text for each section of the main body of the Quality Assurance Program description. The level of detail in the standard description was selected to align with the format and content guidance in NUREG 0800, Standard Review Plan (SRP) Section 17.3. Where a source description contained additional detail, that content was reviewed for retention as site specific amplification of the standard description. This attachment contains tables describing what content from the source descriptions is addressed by the standard description and what content has been retained as site specific content.

The site specific attachments include the administrative controls that had been transferred to the QA program descriptions from the respective site Technical Specifications consistent with NRC Administrative Letter 95-06. Those attachments also contain the conformance to Regulatory Guides RG1.28, RG1.30, RG1.33, RG1.37, RG1.38, RG1.39, RG1.58, RG1.64, RG1.74, RG1.88, RG1.94, RG1.116, RG1.123, RG1.144, and RG1.146 in table 17-1 of the attachment. Clarifications and editorial changes were made to the conformance for context in the new document.

The following changes describe changes to the conformance for Regulatory Guides to incorporate two standard exceptions:

> A Standard exception is identified for Regulatory Guide 1.88 and ANSI Standard N45.2.9-1974 addressing management of electronic records is applied across the fleet. The wording of the standard exception is the wording approved for the Duke Energy Carolinas Topical Report Quality Assurance Program in NRC SER dated May 26, 2015, ADAMS Accession No. ML15138A347.
>
> A standard exception for Regulatory Guide 1.123 allowing the use of commercial grade calibration laboratories accredited by a recognized signatory to the ILAC MRA is applied across the fleet. Each of the descriptions of the QA Program contained exceptions following the September 28, 2005 NRC SER to Arizona Public Service Company (ADAMS Accession No. ML052710224). The standard exception includes clarification contained in NRC letter January 13, 2010 to Perry Johnson Laboratory Accreditation, Inc., Adams Accession No.: ML100130016, identifying that the approval was understood by the NRC staff to include other U.S.-based accreditation bodies (ABs) accepted as signatories (full members) to the to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA).

Except for the two standard exceptions above, conformance to the Regulatory Guides remains site specific.

Editorial corrections were made throughout the document to:

- replace the use of Duke Energy Progress, DEP, and other prior company names (e.g. CP&L, Carolina Power & Light, Progress Energy) with Duke Energy Corporation or specific site name as appropriate to the usage.
- Correct cross-references to reference Attachment Section number, table number, or Updated Final Safety Analysis Report (UFSAR) sections.
- Added standard Header and Footers throughout the attachment.

The following tables for each attachment to the Consolidated QA Program description topical Report identify the changes other than formatting to the content from each of the source documents.

Table 1 - Changes from Brunswick UFSAR Chapter 17.3 and UFSAR Table 1-6 (UFSAR Revision 24)	
Section Number	**Changes Applied**
A17.3.1.1 There are no Brunswick specific amplifications for this section.	Content from the UFSAR is replaced by Standard text in 17.3.1.1. The Second paragraph from the UFSAR is covered generically in Second paragraph of 17.3.1.1. The standard documentation does not spell out the QA Program Manual, instead using generic term of "implementing procedures." Approval level for procedures is addressed in 17.3.1.3 consistent with SRP content. Content of the fifth UFSAR paragraph is not carried forward. The deleted paragraph stated "Deviations from the QA Program shall be permitted only upon written authority from the Executive Vice President - Nuclear Generation Group/CNO." Compliance with the QA Program is mandatory. Intentional deviations are not permitted under normal operating conditions.
A17.3.1.2 There are no Brunswick specific amplifications for this section.	The reference to the organization description from UFSAR Section 13.1 is replaced with a generic organization description in the QAPD Section 17.3.1.2. UFSAR Section 13.1 is NOT affected by this change.
A17.3.1.3 There are no Brunswick specific amplifications for this section.	The content from the first four UFSAR paragraphs of this section are addressed with the first four paragraphs in 17.3.1.3. The content of the 5th UFSAR paragraph is covered in second paragraph of 17.3.1.3 as supplemented by 17.3.3.3.6, Independent audit of QA Functions. The first sentence of the 6th UFSAR paragraph is covered in the fourth paragraph of 17.3.1.3, except "On an approximately quarterly basis, a ..." is omitted. Communication of results with the completion of audits coupled with the identification of the NOS executive as a direct report to the CNO in the organization description (17.3.1.2) is sufficient to remove the "approximately quarterly" frequency for the periodic briefing. The access identified in the balance of 6th paragraph of UFSAR 17.3.1.3 is addressed in section 17.3.1.2.2, Nuclear Generation under B, Nuclear Oversight.
A17.3.1.4	The content of UFSAR section 17.3.1.4, which is also reflected in the organization description (17.3.1.2) for Nuclear Oversight, is retained as site specific amplification of 17.3.1.4.
A17.3.1.5 There are no Brunswick specific amplifications for this section.	The UFSAR content is addressed with the 1st, 2nd, and 4th paragraphs of 17.3.1.5.

Table 1 - Changes from Brunswick UFSAR Chapter 17.3 and UFSAR Table 1-6 (UFSAR Revision 24)	
Section Number	**Changes Applied**
A17.3.1.6	The first three UFSAR paragraphs are addressed with the content of 17.3.1.6. The remaining paragraph from the UFSAR are retained as site specific amplifications; however, they are also addressed in 17.3.2.13, Corrective Action.
A17.3.1.7	The 3rd paragraph from the UFSAR discussing the Process Control Program, is retained as site specific amplification. This is also reflected in 17.3.2.14, Document Control. The remaining paragraphs are addressed with the content of 17.3.1.7.
A17.3.2.1 There are no Brunswick specific amplifications for this section.	The UFSAR Content is addressed by Section 17.3.2.1.
A17.3.2.2 There are no Brunswick specific amplifications for this section.	The 1st UFSAR paragraph is addressed in 3rd paragraph of 17.3.2.2. The 2nd UFSAR paragraph is addressed in 1st paragraph of 17.3.2.2. The 3rd UFSAR paragraph is addressed in 5th paragraph of 17.3.2.2. The 4th UFSAR paragraph is addressed in 5th paragraph of 17.3.2.2. The 5th UFSAR paragraph is addressed in 5th paragraph of 17.3.2.2. The 6th UFSAR paragraph is addressed in 7th paragraph of 17.3.2.2. The 7th UFSAR paragraph is addressed in 8th paragraph of 17.3.2.2.
A17.3.2.3 There are no Brunswick specific amplifications for this section.	The UFSAR content is addressed in the first paragraph of Section 17.3.2.3
A17.3.2.4	The 1st and 2nd UFSAR paragraphs are addressed in the first two paragraphs of 17.3.2.4. The 3rd and 4th UFSAR paragraphs, which essentially duplicate portions of ANSI N45.2.13, are retained as site specific amplifications. The 5th UFSAR paragraph is located in the third paragraph of Section 17.3.2.5. The 6th UFSAR paragraph is addressed in more detail in the 5th and 6th paragraphs of 17.3.2.4. The final UFSAR paragraph, which reflects content of ANSI N45.2.13, is retained as site specific amplification.
A17.3.2.5 There are no Brunswick specific amplifications for this section.	The UFSAR paragraph in this section is addressed with the 1st paragraph of 17.3.2.5.
A17.3.2.6	The 1st and 2nd UFSAR paragraphs are addressed in the 1st paragraph of 17.3.2.6. The 3rd and 4th UFSAR paragraphs are retained as site specific amplifications of ANSI N45.2.2 content. The final UFSAR Paragraph is addressed in the final paragraph of 17.3.2.6.
A17.3.2.7	The 1st UFSAR paragraph is addressed in the 1st paragraph of 17.3.2.7. The 2nd UFSAR paragraph is retained as site specific amplification of ANSI N45.2.2 content.
A17.3.2.8	The 1st and 2nd UFSAR paragraphs are addressed in the 1st and 2nd paragraphs of 17.3.2.8. The 3rd, 4th, and 5th paragraphs are retained as site specific amplification of ANSI N18.7 content.

Table 1 - Changes from Brunswick UFSAR Chapter 17.3 and UFSAR Table 1-6 (UFSAR Revision 24)	
Section Number	**Changes Applied**
A17.3.2.9	The 1st and 2nd UFSAR Paragraphs are addressed in the 2nd and 3rd paragraphs of 17.3.2.9. The remaining UFSAR content is addressed in items a through j of 17.3.2.9. UFSAR Paragraphs 6 through 8 are retained as site specific requirements on the accuracy of calibration standards.
A17.3.2.10	The 1st UFSAR paragraph is addressed in 1st paragraph of 17.3.2.10. The 2nd and 5th UFSAR paragraphs are retained as site specific. The 3rd UFSAR paragraph is addressed in the 1st and 2nd paragraphs of 17.3.2.10. The 4th UFSAR paragraph is addressed in the 4th paragraph of 17.3.2.10.
A17.3.2.11 There are no Brunswick specific amplifications for this section.	The UFSAR content is essentially duplicated by the content of 17.3.2.11.
A17.3.2.12 There are no Brunswick specific amplifications for this section.	The UFSAR content is essentially duplicated by the content of 17.3.2.12.
A17.3.2.13	The UFSAR content is retained as site specific amplifications.
A17.3.2.14	The 1st and 2nd UFSAR paragraphs are addressed by the 1st and 2nd paragraphs of 17.3.2.14. The 3rd UFSAR paragraph is retained as site specific amplification of ANSI N18.7. The 4th UFSAR paragraph is addressed in the 3rd paragraph of 17.3.2.14. The final 2 UFSAR paragraphs are addressed in the 2nd paragraph of 17.3.2.14.
A17.3.2.15	The 1st UFSAR paragraph is addressed in the 1st paragraph of 17.3.2.15. The 2nd UFSAR paragraph is addressed in the 2nd paragraph of 17.3.2.15. The 3rd UFSAR paragraph is addressed in the 7th paragraph of 17.3.2.15. The 1st sentence of the 4th UFSAR paragraph is addressed in the 8th paragraph of 17.3.2.15. The reminder of this UFSAR paragraph is retained as site specific amplification of ANSI N45.2.9. The 5th UFSAR paragraph is replaced with the handling of electronic documents in the 3rd through 6th paragraphs of 17.3.2.15.
A17.3.2.16	This UFSAR content is replaced with a listing of typical operational phase QA Records in 17.3.2.15. Retention of records is established in retention policy as identified in the 9th paragraph of 17.3.2.15, which includes ANSI N45.2.9 with other inputs on retention of records.
A17.3.3.1	The 4th UFSAR paragraph is retained as site specific amplification. The line organization responsibilities for self-assessment in the 1st, 2nd, 3rd, 5th, and 6th UFSAR paragraphs are addressed in the 1st, 2nd, and 3rd paragraphs of 17.3.3.1. The Independent Review functions (e.g. safety committee, 50.59 verifications) from the 3rd UFSAR paragraph are replaced with the 4th paragraphs simple reference to 17.3.3.2, Independent review.
A17.3.3.2	Section has been retitled Independent Review and the content from

Table 1 - Changes from Brunswick UFSAR Chapter 17.3 and UFSAR Table 1-6 (UFSAR Revision 24)	
Section Number	**Changes Applied**
	UFSAR section 17.3.3.3.7, Nuclear Oversight Independent Review Program was moved to this section. Position titles were replaced with the generic titles used in 17.3.1.2. Previous UFSAR content from 17.3.3.2, 17.3.3.2.1, and 17.3.3.2.2 is integrated in the new section 17.3.3.3, Independent Assessment.
A17.3.3.3 There are no Brunswick specific amplifications for this section.	Section integrates content from UFSAR 17.3.3.2 and 17.3.3.3 with similar content from other sites.
A17.3.3.3.1 There are no Brunswick specific amplifications for this section.	Section integrates content from UFSAR 17.3.3.3.1 with similar content from other sites.
A17.3.3.3.2 There are no Brunswick specific amplifications for this section.	Section integrates content from UFSAR 17.3.3.3.2 with similar content from other sites.
A17.3.3.3.3 There are no Brunswick specific amplifications for this section.	Section integrates content from UFSAR 17.3.3.3.3 with similar content from other sites. The list of periodic audits of activities or records of processes to verify compliance and effectiveness of the implementation of the QAP has been combined with listing from other sites to create a single list of audit topics.
A17.3.3.3.3.1	New section integrates content from UFSAR 17.3.3.3.3 for other regulatory required audits with similar content from other sites. Brunswick UFSAR Section 17.3.3.3.3, Nuclear Oversight Audit Program, addressed the periodic review of the radiation protection program content and implementation required by 10 CFR 20.1101c. Site specific content is retained to reflect this periodic review is performed by NOS.
A17.3.3.3.3.2	The wording from UFSAR 17.3.3.3.5 for audits of fire-protection is retained here as site specific content.
A17.3.3.3.4 There are no Brunswick specific amplifications for this section.	Section reflects content from UFSAR section 17.3.3.3.6.
A17.3.3.3.5 There are no Brunswick specific amplifications for this section.	Section content was not explicitly addressed in Brunswick UFSAR section 17.3.
A17.3.3.3.6 There are no Brunswick specific amplifications for this section.	Section content was not explicitly addressed in Brunswick UFSAR section 17.3. Section does address Brunswick content from the 5th paragraph of UFSAR section 17.3.1.3.
A17.3.3.3.7	Section content was not explicitly addressed in Brunswick UFSAR section 17.3. Section reflects the extension policy from UFSAR Table 1-6 for Regulatory Guide 1.33 with the following added information. BNP Audit Schedules are based on the exit date of the audit as identified in exceptions for Regulatory Guide 1.33.
A17.3.4	Content from UFSAR 17.3.4 is retained as site specific content transferred from Tech Specs.
A17.3.4.1	Content from UFSAR 17.3.4.1 is retained as site specific content transferred from Tech Specs. The phrase "by the General Manager - Brunswick Plant or his previously designated alternate" was dropped from items 2.c. and 4. In this section. As identified in Section 17.3.1.3, Responsibility, procedures are approved by the responsible implementing manager.
A17.3.4.2	Content from UFSAR 17.3.4.2 is retained as site specific content transferred from Tech Specs.

Table 1 - Changes from Brunswick UFSAR Chapter 17.3 and UFSAR Table 1-6 (UFSAR Revision 24)	
Section Number	**Changes Applied**
A17.3.4.3	Content from UFSAR 17.3.4.3 is retained as site specific content transferred from Tech Specs.
A17.3.4.4	Content from UFSAR 17.3.4.4 is retained as site specific content transferred from Tech Specs.
A17.3.4.5	Content from UFSAR 17.3.4.5 is retained as site specific content transferred from Tech Specs.
A17.3.4.6	Content from UFSAR 17.3.4.6 is retained as site specific content transferred from Tech Specs.
The following changes were applied to the Conformance with regulatory Guides transferred from Brunswick UFSAR Table 1-6, Conformance To NRC Regulatory Guides:	
• Exception 7 from Table 1-6 for Regulatory Guide 1.88 and ANSI Standard N45.2.9-1974, was replaced with standard exception in Table 17-1 for Regulatory Guide 1.88 adding provisions for management of electronic records using NRC SER for Duke Energy Carolinas. Clarifications are included in standard QAPD Section 17.3.2.15.	
• Exceptions from Table 1-6 for Regulatory Guide 1.123/ANSI N45.2.13 and Regulatory Guide 1.144/ANSI N45.2.12 for use of commercial grade calibration laboratories are replaced with standard exception in Table 17-1 for Regulatory Guide 1.123 that allows the use of any laboratory accredited by an NRC recognized signatory to the ILAC MRA (CR 748715).	
Specifically for electronic records, Exception 7 in the Conformance Statement for RG 1.88 in Table A17-1 is replaced with; "7. See standard exception in Table 17-1 for Regulatory Guide 1.88 for the appropriate controls on quality in the management of electronic records."	
The standard exception for RG 1.88 is:	
The Duke Energy program for storage of records on microfilm, dual storage or in electronic format meets the preservation requirement for the retention of QA Records.	
For management of electronic records, the appropriate controls on quality are summarized as follows:	
a) The Electronic Records Management (eRM) system does not allow deletion or modification of records. (NOTE: Authorized deletion of records per the record retention rules is controlled.)	
b) The eRM system provides redundancy (i.e., system backup, dual storage, etc.).	
c) The legibility of each record is verified prior to acceptance into the eRM system.	
d) The media used by the eRM system is maintained to ensure the records are acceptably copied onto a new media before the manufacturer's certified useful life of the media is exceeded. This includes verification of the records so copied.	
e) Periodic random inspections of records are performed to verify that there has been no degradation of record quality.	
f) If the eRM system in use is to be replaced by new system, the records stored on the old system are acceptably converted into the new system before the old system is taken out of service. This includes verification of the records so copied.	
To implement those controls, Duke Energy uses the following:	
– NIRMA TG 11-2011 “Authentication of Records and Media”	
– NIRMA TG 15-2011, “Management of Electronic Records,”	
– NIRMA TG 16-2011, “Software Quality Assurance Documentation and Records”	
– NIRMA TG 21-2011, “Required Records Protection, Disaster Recovery and Business Continuation”	
For commercial grade calibration laboratories, the exception in Table A17-1 for Regulatory Guide 1.123/ANSI N45.2.13, addressing commercial grade calibration laboratories is replaced with; "See standard exceptions in Table 17-1 for Regulatory Guide 1.123 for the procurement of Commercial Grade Items and services including, purchasing commercial-grade calibration services from calibration laboratories.'	
The standard exceptions for RG 1.123 are:	
Duke Energy Corporation follows Generic Letter 89-02 and EPRI NP-5652 for procurement of Commercial Grade Items and services.	
When purchasing commercial-grade calibration services from calibration laboratories that have been accredited by an NRC recognized signatory to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA) (e.g. National Voluntary Laboratory Accreditation Program (NVLAP), American Association for Laboratory Accreditation (A2LA)), the procurement documents are not required to impose a quality assurance program	

Table 1 - Changes from Brunswick UFSAR Chapter 17.3 and UFSAR Table 1-6 (UFSAR Revision 24)	
Section Number	**Changes Applied**
consistent with ANSI N45.2 or 10 CFR Part 50 Appendix B. In such cases, accreditation may be accepted in lieu of the purchaser imposing a quality assurance program consistent with ANSI N45.2, provided the following are met.	
1. The accreditation is to ANSI/ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories."	
2. The accrediting body is an NRC recognized signatory to the ILAC MRA.	
3. The published scope of accreditation for the calibration laboratory covers the needed measurement parameters, ranges, and uncertainties.	
4. The purchase documents impose additional technical and administrative requirements, as necessary, to satisfy Duke Energy Corporation's Quality Assurance Program and technical requirements, including the requirement for the calibration certificate/report to include identification of the laboratory equipment/standards used.	
5. The purchase documents require reporting as-found calibration data when calibrated items are found out-of-tolerance.	
When purchasing commercial-grade calibration services from an accredited calibration laboratory, verification that the supplier's accreditation meets the following shall be performed and documented:	
1. The accreditation is to ANSI/ISO/IEC 17025.	
2. The accrediting body is an NRC recognized signatory to the ILAC MRA.	
3. The published scope of accreditation for the calibration laboratory covers the needed measurement parameters, ranges, and uncertainties.	
Note: Well defined and documented measurement assurance techniques or uncertainty analysis may be used to verify the adequacy of the measurement process. If such techniques are not used, the collective uncertainty of the measurement standards shall not exceed 25% of the acceptable tolerance for each characteristic being calibrated. (This is typically referred to as the four-to-one ratio.)	
For Regulatory Guide 1.144/ANSI N45.2.12, clarify exception 1 to read as follows:	
1. BNP will follow the requirements and recommendations of Regulatory Guide 1.144, paragraphs C.1, C.2, C.3.a.2, C.3.b, and C.4. BNP's position on paragraph C.3.a.1 is as follows:	
Audits of operational phase activities, as outlined in Section 17.3.3.3 shall be performed at the frequencies stated in exception 5 for RG 1.33 in Table A17-1.	
See standard exceptions in Table 17-1 for Regulatory Guide 1.123 for the procurement of Commercial Grade Items and services including, purchasing commercial-grade calibration services from calibration laboratories.	

This concludes addressing content transferred from the Brunswick UFSAR. See Letter Attachment 3 for complete markup of the Brunswick UFSAR Content.

Table 2 - Changes from Harris UFSAR Chapter 17.3 and Chapter 1.8 (UFSAR Revision 60)	
Section Number	**Changes Applied**
B17.3.1.1 There are no Harris specific amplifications for this section.	Content from the UFSAR is replaced by Standard text in 17.3.1.1. The Second paragraph from the UFSAR is covered generically in Second paragraph of 17.3.1.1. The standard documentation does not spell out the QA Program Manual, instead using generic term of "implementing procedures." Approval level for procedures is addressed in 17.3.1.3 consistent with SRP content. Content of the fifth UFSAR paragraph is not carried forward. The deleted paragraph stated "Deviations from the QA Program shall be permitted only upon written authority from the Executive Vice President - Nuclear Generation Group/CNO." Compliance with the QA Program is mandatory. Intentional deviations are not permitted under normal operating conditions.
B17.3.1.2 There are no Harris specific	The reference to the organization description from UFSAR Section

Table 2 - Changes from Harris UFSAR Chapter 17.3 and Chapter 1.8 (UFSAR Revision 60)	
Section Number	**Changes Applied**
amplifications for this section.	13.1 is replaced with a generic organization description in the QAPD Section 17.3.1.2. UFSAR Section 13.1 is NOT affected by this change.
B17.3.1.3 There are no Harris specific amplifications for this section.	The content from the first four UFSAR paragraphs of this section are addressed with the first four paragraphs in 17.3.1.3. The content of the 5th UFSAR paragraph is covered in second paragraph of 17.3.1.3 as supplemented by 17.3.3.3.6, Independent audit of QA Functions. The first sentence of the 6th UFSAR paragraph is covered in the fourth paragraph of 17.3.1.3, except "On an approximately quarterly basis, a ..." is omitted. Communication of results with the completion of audits coupled with the identification of the NOS executive as a direct report to the CNO in the organization description (17.3.1.2) is sufficient to remove the "approximately quarterly" frequency for the periodic briefing. The access identified in the balance of 6th paragraph of UFSAR 17.3.1.3 is addressed in section 17.3.1.2.2, Nuclear Generation under B, Nuclear Oversight.
B17.3.1.4	The content of UFSAR Section 17.3.1.4, which is also reflected in the organization description (17.3.1.2) for Nuclear Oversight, is retained as site specific amplification of 17.3.1.4.
B17.3.1.5 There are no Harris specific amplifications for this section.	The UFSAR content are addressed with the 1st, 2nd, and 4th paragraphs of 17.3.1.5.
B17.3.1.6	The first three UFSAR paragraphs are addressed with the content of 17.3.1.6. The remaining paragraph from the UFSAR are retained as site specific amplifications; however, they are also addressed in 17.3.2.13, Corrective Action
B17.3.1.7 There are no Harris specific amplifications for this section.	The UFSAR paragraphs are addressed with the content of 17.3.1.7.
B17.3.2.1 There are no Harris specific amplifications for this section.	The UFSAR Content is addressed by Section 17.3.2.1.
B17.3.2.2	The 1st UFSAR paragraph is addressed in 3rd paragraph of 17.3.2.2. The 2nd UFSAR paragraph is addressed in 1st paragraph of 17.3.2.2. The 3rd UFSAR paragraph is addressed in 1st paragraph of 17.3.2.2. The 4th UFSAR paragraph is addressed in 5th paragraph of 17.3.2.2. The 5th UFSAR paragraph is addressed in 5th paragraph of 17.3.2.2. The 6th UFSAR paragraph is addressed in 5th paragraph of 17.3.2.2. The 7th UFSAR paragraph is addressed in 7th paragraph of 17.3.2.2. The 8th UFSAR paragraph is addressed in 8th paragraph of 17.3.2.2. The 9th UFSAR paragraph is retained as site specific content.
B17.3.2.3 There are no Harris specific amplifications for this section.	The UFSAR content is addressed in the first paragraph of 17.3.2.3
B17.3.2.4	The 1st and 2nd UFSAR paragraphs are addressed in the first two paragraphs of 17.3.2.4. The 3rd and 4th UFSAR paragraphs, which essentially duplicate portions of ANSI N45.2.13, are retained as site specific amplifications. The 5th UFSAR paragraph is located in the third paragraph of Section 17.3.2.5.

Table 2 - Changes from Harris UFSAR Chapter 17.3 and Chapter 1.8 (UFSAR Revision 60)	
Section Number	**Changes Applied**
	The 6th UFSAR paragraph is addressed in more detail in the 5th and 6th paragraphs of 17.3.2.4. The final UFSAR paragraph, which reflects content of ANSI N45.2.13, is retained.
B17.3.2.5 There are no Harris specific amplifications for this section.	The UFSAR paragraph in this section is addressed with the 1st paragraph of 17.3.2.5.
B17.3.2.6	The 1st and 2nd UFSAR paragraphs are addressed in the 1st paragraph of 17.3.2.6. The 3rd and 4th UFSAR paragraphs are retained as site specific amplifications. The final UFSAR Paragraph is addressed in the final paragraph of 17.3.2.6.
B17.3.2.7	The 1st UFSAR paragraph is addressed in the 1st paragraph of 17.3.2.7. The 2nd UFSAR paragraph is retained as site specific amplification.
B17.3.2.8	The 1st and 2nd UFSAR paragraphs are addressed in the 1st and 2nd paragraphs of 17.3.2.8. The 3rd, 4th, and 5th paragraphs are retained as site specific amplification of ANSI N45.2.2 content.
B17.3.2.9	The 1st and 2nd UFSAR Paragraphs are addressed in the 2nd and 3rd paragraphs of 17.3.2.9. The remaining UFSAR content is addressed in items a through j of 17.3.2.9. UFSAR Paragraphs 6 through 8 are retained as site specific requirements on the accuracy of calibration standards.
B17.3.2.10	The 1st sentence of the 1st UFSAR paragraph is addressed in 1st paragraph of 17.3.2.10. The remainder of the 1st and the 4th UFSAR paragraphs are retained as site specific. The 2rd UFSAR paragraph is addressed in the 1st and 2nd paragraphs of 17.3.2.10. The 3rd UFSAR paragraph is addressed in the 4th paragraph of 17.3.2.10.
B17.3.2.11 There are no Harris specific amplifications for this section.	The UFSAR content is essentially duplicated by the content of 17.3.2.11.
B17.3.2.12 There are no Harris specific amplifications for this section.	The UFSAR content is essentially duplicated by the content of 17.3.2.12.
B17.3.2.13	The UFSAR content is retained as site specific amplifications.
B17.3.2.14	The 1st and 2nd UFSAR paragraphs are addressed by the 1st and 2nd paragraphs of 17.3.2.14. The 3rd UFSAR paragraph is retained as site specific amplification of ANSI N18.7. The 4th UFSAR paragraph is addressed in the 3rd paragraph of 17.3.2.14. The final 2 UFSAR paragraphs are addressed in the 2nd paragraph of 17.3.2.14.
B17.3.2.15	The 1st UFSAR paragraph is addressed in the 1st paragraph of 17.3.2.15.

Table 2 - Changes from Harris UFSAR Chapter 17.3 and Chapter 1.8 (UFSAR Revision 60)	
Section Number	**Changes Applied**
	The 2nd UFSAR paragraph is addressed in the 2nd paragraph of 17.3.2.15. The 3rd UFSAR paragraph is addressed in the 7th paragraph of 17.3.2.15. The 4th UFSAR paragraph is addressed in the 8th paragraph of 17.3.2.15. The 5th UFSAR paragraph is retained as site specific amplification of ANSI N45.2.9. The 6th UFSAR paragraph is replaced with the handling of electronic documents in the 3rd through 6th paragraphs of 17.3.2.15.
B17.3.3.1	The 4th UFSAR paragraph is retained as site specific amplification. The line organization responsibilities for self-assessment in the 1st, 2nd, 3rd, 5th, and 6th UFSAR paragraphs are addressed in the 1st, 2nd, and 3rd paragraphs of 17.3.3.1. The Independent Review functions (e.g. safety committee, 50.59 verifications) from the 3rd UFSAR paragraph are replaced with the 4th paragraphs simple reference to 17.3.3.2, Independent review.
B17.3.3.2	Section has been retitled Independent Review and the content from UFSAR section 17.3.4.1.3, Nuclear Oversight Independent Review Program was moved to this section. Position titles were replaced with the generic titles used in 17.3.1.2. Previous UFSAR content from 17.3.3.2, 17.3.3.2.1, and 17.3.3.2.2 is integrated in the new section 17.3.3.3, Independent Assessment.
B17.3.3.3 There are no Harris specific amplifications for this section.	Section integrates content from UFSAR 17.3.3.2 and 17.3.3.3 with similar content from other sites.
B17.3.3.3.1 There are no Harris specific amplifications for this section.	Section integrates content from UFSAR 17.3.3.3.1 with similar content from other sites.
B17.3.3.3.2 There are no Harris specific amplifications for this section.	Section integrates content from UFSAR 17.3.3.3.2 with similar content from other sites.
B17.3.3.3.3 There are no Harris specific amplifications for this section.	Section integrates content from UFSAR 17.3.3.3.3 with similar content from other sites. The list of periodic audits of activities or records of processes to verify compliance and effectiveness of the implementation of the QAP has been combined with listing from other sites to create a single list of audit topics.
B17.3.3.3.3.1	New section integrates content from UFSAR 17.3.3.3.3 for other regulatory required audits with similar content from other sites. Harris UFSAR Section 17.3.3.3.3, Nuclear Oversight Audit Program, addressed the periodic review of the radiation protection program content and implementation required by 10 CFR 20.1101c. Site specific content is retained to reflect this periodic review is performed by NOS.
B17.3.3.3.3.2	The wording from UFSAR 17.3.4.1.5 for audits of fire-protection is retained here as site specific content.
B17.3.3.3.4 There are no Harris specific amplifications for this section.	Section reflects content from UFSAR section 17.3.3.3.5.

Table 2 - Changes from Harris UFSAR Chapter 17.3 and Chapter 1.8 (UFSAR Revision 60)	
Section Number	**Changes Applied**
B17.3.3.3.5 There are no Harris specific amplifications for this section.	Section content was not explicitly addressed in Harris UFSAR section 17.3.
B17.3.3.3.6 There are no Harris specific amplifications for this section.	Section content was not explicitly addressed in Harris UFSAR section 17.3. Section does address Harris content from the 5th paragraph of UFSAR section 17.3.1.3.
B17.3.3.3.7	Section content was not explicitly addressed in Harris UFSAR section 17.3. Section reflects the extension policy from UFSAR Section 1.8 for Regulatory Guide 1.33 with the following added information. HNP Audit Schedules are based on the exit date of the audit as identified in exceptions for Regulatory Guide 1.33.
B17.3.4	Content from UFSAR 17.3.4 is retained as site specific content transferred from Tech Specs.
B17.3.4.1	Content from UFSAR 17.3.4.1 is retained as site specific content transferred from Tech Specs.
B17.3.4.1.1 10CFR50.59 and technical reviews	Content from UFSAR 17.3.4.1.1 is retained as site specific content transferred from Tech Specs.
B17.3.4.1.2 Plant Nuclear Safety Committee (PNSC)	Content from UFSAR 17.3.4.1.2 is retained as site specific content transferred from Tech Specs.
B17.3.4.1.3 HNP Nuclear Oversight Section Independent Review Program	This section content moved to B17.3.3.2 where it is retained as site specific content transferred from Tech Specs.
B17.3.4.1.4 Independent Safety Engineering Group	Content from UFSAR 17.3.4.1.4 is retained as site specific content transferred from Tech Specs.
B17.3.4.1.5 Outside agency inspection and audit program	This UFSAR content is addressed in Section 17.3.3.3.3.2, Independent Audit of Fire Protection Program, which reflects requirements from other sites and in B17.3.3.3.3.2 where it is retained as site specific content transferred from Tech Specs.
B17.3.4.2, Procedure Review Requirements	Content from UFSAR 17.3.4.2 is retained as site specific content transferred from Tech Specs.
B17.3.4.3 Record Retention	This UFSAR content is replaced with a listing of typical operational phase QA Records in 17.3.2.15. Retention of records is established in retention policy as identified in the 9th paragraph of 17.3.2.15.
The following changes were applied to the Conformance with regulatory Guides transferred from UFSAR Section 1.8, Conformance To NRC Regulatory Guides:	
• Exception 12 and 13 from Section 1.8 for Regulatory Guide 1.88 and ANSI Standard N45.2.9-1974, were replaced with standard exception in Table 17-1 for Regulatory Guide 1.88 adding provisions for management of electronic records using NRC SER for Duke Energy Carolinas. Clarifications are included in standard QAPD Section 17.3.2.15.	
• Exceptions from Section 1.8 for Regulatory Guide 1.123/ANSI N45.2.13 and Regulatory Guide 1.144/ANSI N45.2.12 for use of commercial grade calibration laboratories are replaced with standard exception in Table 17-1 for Regulatory Guide 1.123 that allows the use of any laboratory accredited by an NRC recognized signatory to the ILAC MRA (CR 748715).	
Specifically for electronic records, Exceptions 12 and 13 in the Conformance Statement for RG 1.88 in Table B17-1 are replaced with; "See standard exception in Table 17-1 for Regulatory Guide 1.88 for the appropriate controls on quality in the management of electronic records."	
The standard exception for RG 1.88 is:	
The Duke Energy program for storage of records on microfilm, dual storage or in electronic format meets the preservation requirement for the retention of QA Records.	
For management of electronic records, the appropriate controls on quality are summarized as follows:	
a) The Electronic Records Management (eRM) system does not allow deletion or modification of records. (NOTE:	

Table 2 - Changes from Harris UFSAR Chapter 17.3 and Chapter 1.8 (UFSAR Revision 60)	
Section Number	**Changes Applied**
Authorized deletion of records per the record retention rules is controlled.	
b) The eRM system provides redundancy (i.e., system backup, dual storage, etc.).	
c) The legibility of each record is verified prior to acceptance into the eRM system.	
d) The media used by the eRM system is maintained to ensure the records are acceptably copied onto a new media before the manufacturer's certified useful life of the media is exceeded. This includes verification of the records so copied.	
e) Periodic random inspections of records are performed to verify that there has been no degradation of record quality.	
f) If the eRM system in use is to be replaced by new system, the records stored on the old system are acceptably converted into the new system before the old system is taken out of service. This includes verification of the records so copied.	
To implement those controls, Duke Energy uses the following:	
– NIRMA TG 11-2011 “Authentication of Records and Media”	
– NIRMA TG 15-2011, “Management of Electronic Records,”	
– NIRMA TG 16-2011, “Software Quality Assurance Documentation and Records”	
– NIRMA TG 21-2011, “Required Records Protection, Disaster Recovery and Business Continuation”	
For commercial grade calibration laboratories, the portions of exceptions 3 and 6 in Table B17-1 for Regulatory Guide 1.123/ANSI N45.2.13, addressing commercial grade calibration laboratories are replaced with; "See standard exceptions in Table 17-1 for Regulatory Guide 1.123 for the procurement of Commercial Grade Items and services including, purchasing commercial-grade calibration services from calibration laboratories.'	
The standard exceptions for RG 1.123 are:	
Duke Energy Corporation follows Generic Letter 89-02 and EPRI NP-5652 for procurement of Commercial Grade Items and services.	
When purchasing commercial-grade calibration services from calibration laboratories that have been accredited by an NRC recognized signatory to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA) (e.g. National Voluntary Laboratory Accreditation Program (NVLAP), American Association for Laboratory Accreditation (A2LA)), the procurement documents are not required to impose a quality assurance program consistent with ANSI N45.2 or 10 CFR Part 50 Appendix B. In such cases, accreditation may be accepted in lieu of the purchaser imposing a quality assurance program consistent with ANSI N45.2, provided the following are met.	
1. The accreditation is to ANSI/ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories."	
2. The accrediting body is an NRC recognized signatory to the ILAC MRA.	
3. The published scope of accreditation for the calibration laboratory covers the needed measurement parameters, ranges, and uncertainties.	
4. The purchase documents impose additional technical and administrative requirements, as necessary, to satisfy Duke Energy Corporation's Quality Assurance Program and technical requirements, including the requirement for the calibration certificate/report to include identification of the laboratory equipment/standards used.	
5. The purchase documents require reporting as-found calibration data when calibrated items are found out-of-tolerance.	
When purchasing commercial-grade calibration services from an accredited calibration laboratory, verification that the supplier's accreditation meets the following shall be performed and documented:	
1. The accreditation is to ANSI/ISO/IEC 17025.	
2. The accrediting body is an NRC recognized signatory to the ILAC MRA.	
3. The published scope of accreditation for the calibration laboratory covers the needed measurement parameters, ranges, and uncertainties.	
Note: Well defined and documented measurement assurance techniques or uncertainty analysis may be used to verify the adequacy of the measurement process. If such techniques are not used, the collective uncertainty of the measurement standards shall not exceed 25% of the acceptable tolerance for each characteristic being calibrated. (This is typically referred to as the four-to-one ratio.)	
For Regulatory Guide 1.144/ANSI N45.2.12, the portion of exception 1 addressing purchase of commercial grade calibration services is replaced with; "See standard exceptions in Table 17-1 for Regulatory Guide 1.123 for the procurement of Commercial Grade Items and services including, purchasing commercial-grade calibration services from calibration laboratories.'	

This concludes addressing content transferred from the Harris UFSAR. See Letter Attachment 4 for complete markup of the Harris UFSAR Content.

Table 3 - Changes from Robinson UFSAR Chapter 17.3 and Chapter 1.8 (UFSAR Revision 26)	
Section Number	**Changes Applied**
C17.3.1.1 There are no Robinson specific amplifications for this section.	Content from the UFSAR is replaced by Standard text in 17.3.1.1. The Second paragraph from the UFSAR is covered generically in Second paragraph of 17.3.1.1. The standard documentation does not spell out the QA Program Manual, instead using generic term of "implementing procedures." Approval level for procedures is addressed in 17.3.1.3 as indicated in SRP. Content of the fifth UFSAR paragraph is not carried forward. The deleted paragraph stated "Deviations from the QA Program shall be permitted only upon written authority from the Executive Vice President - Nuclear Generation Group/CNO." Compliance with the QA Program is mandatory. Intentional deviations are not permitted under normal operating conditions.
C17.3.1.2 There are no Robinson specific amplifications for this section.	The reference to the organization description from UFSAR Section 13.1 is replaced with a generic organization description in the QAPD Section 17.3.1.2. UFSAR Section 13.1 is NOT affected by this change.
C17.3.1.3 There are no Robinson specific amplifications for this section.	The content from the first four UFSAR paragraphs of this section are addressed with the first four paragraphs in 17.3.1.3. The content of the 5th UFSAR paragraph is covered in second paragraph of 17.3.1.3 as supplemented by 17.3.3.3.6, Independent audit of QA Functions. The first sentence of the 6th UFSAR paragraph is covered in the fourth paragraph of 17.3.1.3, except "On an approximately quarterly basis, a ..." is omitted. Communication of results with the completion of audits coupled with the identification of the NOS executive as a direct report to the CNO in the organization description (17.3.1.2) is sufficient to remove the "approximately quarterly" frequency for the periodic briefing. The access identified in the balance of 6th paragraph of UFSAR 17.3.1.3 is addressed in section 17.3.1.2.2, Nuclear Generation under B, Nuclear Oversight.
C17.3.1.4	The content of UFSAR section 17.3.1.4, which is also reflected in the organization description (17.3.1.2) for Nuclear Oversight, is retained as site specific amplification of 17.3.1.4.
C17.3.1.5 There are no Robinson specific amplifications for this section.	The UFSAR content is addressed with the 1st, 2nd, and 4th paragraphs of 17.3.1.5.
C17.3.1.6	The first three UFSAR paragraphs are addressed with the content of 17.3.1.6. The remaining paragraph from the UFSAR are retained as site specific amplifications; however, they are also addressed in 17.3.2.13, Corrective Action.
C17.3.1.7 There are no Robinson specific amplifications for this	The UFSAR content is addressed with the content of 17.3.1.7.

Table 3 - Changes from Robinson UFSAR Chapter 17.3 and Chapter 1.8 (UFSAR Revision 26)	
Section Number	**Changes Applied**
section.	
C17.3.2.1 There are no Robinson specific amplifications for this section.	The UFSAR Content is addressed with Section 17.3.2.1.
C17.3.2.2 There are no Robinson specific amplifications for this section.	The 1st UFSAR paragraph is addressed in 3rd paragraph of 17.3.2.2. The 2nd UFSAR paragraph is addressed in 1st paragraph of 17.3.2.2. The 3rd UFSAR paragraph is addressed in 5th paragraph of 17.3.2.2. The 4th UFSAR paragraph is addressed in 5th paragraph of 17.3.2.2. The 5th UFSAR paragraph is addressed in 5th paragraph of 17.3.2.2. The 6th UFSAR paragraph is addressed in 7th paragraph of 17.3.2.2. The 7th UFSAR paragraph is addressed in 8th paragraph of 17.3.2.2.
C17.3.2.3 There are no Robinson specific amplifications for this section.	The UFSAR content is addressed in the first paragraph of 17.3.2.3
C17.3.2.4	The 1st and 2nd UFSAR paragraphs are addressed in the first two paragraphs of 17.3.2.4. The 3rd and 4th UFSAR paragraphs, which essentially duplicate portions of ANSI N45.2.13, are retained as site specific amplifications. The 5th UFSAR paragraph is now located in the third paragraph of Section 17.3.2.5. The 6th UFSAR paragraph is addressed in more detail in the 5th and 6th paragraphs of 17.3.2.4. The final UFSAR paragraph, which reflects content of ANSI N45.2.13, is retained.
C17.3.2.5 There are no Robinson specific amplifications for this section.	The UFSAR paragraph in this section is addressed with the 1st paragraph of 17.3.2.5.
C17.3.2.6	The 1st and 2nd UFSAR paragraphs are addressed in the 1st paragraph of 17.3.2.6. The 3rd and 4th UFSAR paragraphs are retained as site specific amplifications. The final UFSAR Paragraph is addressed in the final paragraph of 17.3.2.6.
C17.3.2.7	The 1st UFSAR paragraph is addressed in the 1st paragraph of 17.3.2.7. The 2nd UFSAR paragraph is retained as site specific amplification.
C17.3.2.8	The 1st and 2nd UFSAR paragraphs are addressed in the 1st and 2nd paragraphs of 17.3.2.8. The 3rd, 4th, and 5th paragraphs are retained as site specific amplification of ANSI N45.2.2 content.
C17.3.2.9	The 1st and 2nd UFSAR Paragraphs are addressed in the 2nd and 3rd paragraphs of 17.3.2.9. The remaining UFSAR content is addressed in items a through j of 17.3.2.9. UFSAR Paragraphs 6 through 8 are retained as site specific requirements on the accuracy of calibration standards.
C17.3.2.10	The 1st UFSAR paragraph is addressed in 1st paragraph of 17.3.2.10. The 2nd and 5th UFSAR paragraphs are retained as site specific. The 3rd UFSAR paragraph is addressed in the 1st and 2nd paragraphs of

Table 3 - Changes from Robinson UFSAR Chapter 17.3 and Chapter 1.8 (UFSAR Revision 26)	
Section Number	**Changes Applied**
	17.3.2.10. The 4th UFSAR paragraph is addressed in the 4th paragraph of 17.3.2.10.
C17.3.2.11 There are no Robinson specific amplifications for this section.	The UFSAR content is essentially duplicated by the content of 17.3.2.11.
C17.3.2.12 There are no Robinson specific amplifications for this section.	The UFSAR content is essentially duplicated by the content of 17.3.2.12.
C17.3.2.13	The UFSAR content is retained as site specific amplifications.
C17.3.2.14	The 1st and 2nd UFSAR paragraphs are addressed by the 1st and 2nd paragraphs of 17.3.2.14. The 3rd UFSAR paragraph is retained as site specific amplification of ANSI N18.7. The 4th UFSAR paragraph is addressed in the 3rd paragraph of 17.3.2.14. The final 2 UFSAR paragraphs are addressed in the 2nd paragraph of 17.3.2.14.
C17.3.2.15	The 1st UFSAR paragraph is addressed in the 1st paragraph of 17.3.2.15. The 2nd UFSAR paragraph is addressed in the 2nd paragraph of 17.3.2.15. The 3rd UFSAR paragraph is addressed in the 7th paragraph of 17.3.2.15. The 4th UFSAR paragraph is addressed in the 8th paragraph of 17.3.2.15. The 5th UFSAR paragraph is retained as site specific amplification of ANSI N45.2.9.
C17.3.3.1	The 4th UFSAR paragraph is retained as site specific amplification. The line organization responsibilities for self-assessment in the 1st, 2nd, 3rd, 5th, and 6th UFSAR paragraphs are addressed in the 1st, 2nd, and 3rd paragraphs of 17.3.3.1. The Independent Review functions (e.g. safety committee, 50.59 verifications) from the 3rd UFSAR paragraph are replaced with the 4th paragraphs simple reference to 17.3.3.2, Independent review.
C17.3.3.2	Section has been retitled Independent Review and the content from UFSAR 17 Appendix A, 1.7, Nuclear Oversight Independent Review Program was moved to this section. Position titles within this content were replaced with the generic titles used in 17.3.1.2. Previous UFSAR content from 17.3.3.2, 17.3.3.2.1, and 17.3.3.2.2 is integrated in the new section 17.3.3.3, Independent Assessment.
C17.3.3.3 There are no Robinson specific amplifications for this section.	Section integrates content from UFSAR 17.3.3.2 and 17.3.3.3 with similar content from other sites.
C17.3.3.3.1 There are no Robinson specific amplifications for this section.	Section integrates content from UFSAR 17.3.3.3.1 with similar content from other sites.
C17.3.3.3.2 There are no Robinson	Section integrates content from UFSAR 17.3.3.3.2 with similar

Table 3 - Changes from Robinson UFSAR Chapter 17.3 and Chapter 1.8 (UFSAR Revision 26)	
Section Number	**Changes Applied**
specific amplifications for this section.	content from other sites.
C17.3.3.3.3 There are no Robinson specific amplifications for this section.	Section integrates content from UFSAR 17.3.3.3.3 with similar content from other sites. The list of periodic audits of activities or records of processes to verify compliance and effectiveness of the implementation of the QAP has been combined with listing from other sites to create a single list of audit topics.
C17.3.3.3.3.1	New section integrates content from UFSAR 17.3.3.3.3 for other regulatory required audits with similar content from other sites. Robinson UFSAR Section 17.3.3.3.3, Nuclear Oversight Audit Program, addressed the periodic review of the radiation protection program content and implementation required by 10 CFR 20.1101c. Site specific content is retained to reflect this periodic review is performed by NOS.
C17.3.3.3.3.2	The wording from UFSAR 17.3.3.3.5 for audits of fire-protection is retained here as site specific content.
C17.3.3.3.4 There are no Robinson specific amplifications for this section.	Section reflects content from UFSAR section 17.3.3.3.5.
C17.3.3.3.5 There are no Robinson specific amplifications for this section.	Section content was not explicitly addressed in Robinson UFSAR section 17.3.
C17.3.3.3.6 There are no Robinson specific amplifications for this section.	Section content was not explicitly addressed in Robinson UFSAR section 17.3. Section does address Robinson content from the 5th paragraph of UFSAR section 17.3.1.3.
C17.3.3.3.7	Section content was not explicitly addressed in Robinson UFSAR section 17.3. Section reflects the extension policy from UFSAR section 1.8 for Regulatory Guide 1.33 with the following added information. RNP Audit Schedules are based on the exit date of the audit as identified in exceptions for Regulatory Guide 1.33.
C17.3.4	Content from Robinson UFSAR Section 17.3 Appendix A, QA Program Relocated Technical Specifications Requirements is retained as site specific content.
C17.3.4.1	Content from Robinson UFSAR Section 17.3 Appendix A, QA Program Relocated Technical Specifications Requirements, Section 1.1 is retained as site specific content.
C17.3.4.2	Content from Robinson UFSAR Section 17.3 Appendix A, QA Program Relocated Technical Specifications Requirements, Section 1.2 is retained as site specific content.
C17.3.4.3	Content from Robinson UFSAR Section 17.3 Appendix A, QA Program Relocated Technical Specifications Requirements, Section 1.3 is retained as site specific content.
C17.3.4.4	Content from Robinson UFSAR Section 17.3 Appendix A, QA Program Relocated Technical Specifications Requirements, Section 1.4 is retained as site specific content.
C17.3.4.5	Content from Robinson UFSAR Section 17.3 Appendix A, QA Program Relocated Technical Specifications Requirements, Section 1.5 is

Table 3 - Changes from Robinson UFSAR Chapter 17.3 and Chapter 1.8 (UFSAR Revision 26)	
Section Number	**Changes Applied**
	retained as site specific content.
C17.3.4.6	Content from Robinson UFSAR Section 17.3 Appendix A, QA Program Relocated Technical Specifications Requirements, Section 1.6 is retained as site specific content.
C17.3.4.7	Robinson UFSAR Section 17.3 Appendix A, QA Program Relocated Technical Specifications Requirements, Section 1.7, Nuclear Oversight Section Independent Review Program, is contained in Section C17.3.3.2 as site specific content.
C17.3.4.8	There was no content in Robinson UFSAR Section 17.3 Appendix A, QA Program Relocated Technical Specifications Requirements, Section 1.8.
C17.3.4.9	Content from Robinson UFSAR Section 17.3 Appendix A, QA Program Relocated Technical Specifications Requirements, Section 1.9 is reflected in Section 17.3.3.3.3.2, Independent Audit of Fire Protection Program and C17.3.3.3.3.2 as site specific content.
C17.3.4.10	Content from Robinson UFSAR Section 17.3 Appendix A, QA Program Relocated Technical Specifications Requirements, Section 2.0 is retained as site specific content.
C17.3.4.11	Content from Robinson UFSAR Section 17.3 Appendix A, QA Program Relocated Technical Specifications Requirements, Section 3.0 is retained as site specific content.
C17.3.4.12	The Robinson UFSAR Section 17.3 Appendix A, QA Program Relocated Technical Specifications Requirements, Section 4. content is replaced with a listing of typical operational phase QA Records in 17.3.2.15. Retention of records is established in retention policy as identified in the 9th paragraph of 17.3.2.15.
The following changes were applied to the Conformance with Regulatory Guides transferred from UFSAR Section 1.8, Conformance To NRC Regulatory Guides:	
• New exception is added to content from Section 1.8 for Regulatory Guide 1.88 and ANSI Standard N45.2.9-1974. Exception states, " See standard exception in Table 17-1 Regulatory Guide 1.88 for the appropriate controls on quality in the management of electronic records."	
• Exceptions from Section 1.8 for Regulatory Guide 1.123/ANSI N45.2.13 and Regulatory Guide 1.144/ANSI N45.2.12 for use of commercial grade calibration laboratories are replaced with standard exception in Table 17-1 for Regulatory Guide 1.123 that allows the use of any laboratory accredited by an NRC recognized signatory to the ILAC MRA (CR 748715).	
Specifically for electronic records, new exception in the Conformance Statement for RG 1.88 in Table C17-1 states; "See standard exception in Table 17-1 for Regulatory Guide 1.88 for the appropriate controls on quality in the management of electronic records."	
The standard exception for RG 1.88 is:	
The Duke Energy program for storage of records on microfilm, dual storage or in electronic format meets the preservation requirement for the retention of QA Records.	
For management of electronic records, the appropriate controls on quality are summarized as follows:	
a) The Electronic Records Management (eRM) system does not allow deletion or modification of records. (NOTE: Authorized deletion of records per the record retention rules is controlled.)	
b) The eRM system provides redundancy (i.e., system backup, dual storage, etc.).	
c) The legibility of each record is verified prior to acceptance into the eRM system.	
d) The media used by the eRM system is maintained to ensure the records are acceptably copied onto a new media before the manufacturer's certified useful life of the media is exceeded. This includes verification of the records so copied.	
e) Periodic random inspections of records are performed to verify that there has been no degradation of record quality.	

Table 3 - Changes from Robinson UFSAR Chapter 17.3 and Chapter 1.8 (UFSAR Revision 26)	
Section Number	**Changes Applied**
f) If the eRM system in use is to be replaced by new system, the records stored on the old system are acceptably converted into the new system before the old system is taken out of service. This includes verification of the records so copied.	
To implement those controls, Duke Energy uses the following:	
– NIRMA TG 11-2011 “Authentication of Records and Media”	
– NIRMA TG 15-2011, “Management of Electronic Records,”	
– NIRMA TG 16-2011, “Software Quality Assurance Documentation and Records”	
– NIRMA TG 21-2011, “Required Records Protection, Disaster Recovery and Business Continuation”	
For commercial grade calibration laboratories, the exception in Table C17-1 for Regulatory Guide 1.123/ANSI N45.2.13, addressing commercial grade calibration laboratories is replaced with; "See standard exceptions in Table 17-1 for Regulatory Guide 1.123 for the procurement of Commercial Grade Items and services including, purchasing commercial-grade calibration services from calibration laboratories.'	
The standard exceptions for RG 1.123 are:	
Duke Energy Corporation follows Generic Letter 89-02 and EPRI NP-5652 for procurement of Commercial Grade Items and services.	
When purchasing commercial-grade calibration services from calibration laboratories that have been accredited by an NRC recognized signatory to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA) (e.g. National Voluntary Laboratory Accreditation Program (NVLAP), American Association for Laboratory Accreditation (A2LA)), the procurement documents are not required to impose a quality assurance program consistent with ANSI N45.2 or 10 CFR Part 50 Appendix B. In such cases, accreditation may be accepted in lieu of the purchaser imposing a quality assurance program consistent with ANSI N45.2, provided the following are met.	
1. The accreditation is to ANSI/ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories."	
2. The accrediting body is an NRC recognized signatory to the ILAC MRA.	
3. The published scope of accreditation for the calibration laboratory covers the needed measurement parameters, ranges, and uncertainties.	
4. The purchase documents impose additional technical and administrative requirements, as necessary, to satisfy Duke Energy Corporation's Quality Assurance Program and technical requirements, including the requirement for the calibration certificate/report to include identification of the laboratory equipment/standards used.	
5. The purchase documents require reporting as-found calibration data when calibrated items are found out-of-tolerance.	
When purchasing commercial-grade calibration services from an accredited calibration laboratory, verification that the supplier's accreditation meets the following shall be performed and documented:	
1. The accreditation is to ANSI/ISO/IEC 17025.	
2. The accrediting body is an NRC recognized signatory to the ILAC MRA.	
3. The published scope of accreditation for the calibration laboratory covers the needed measurement parameters, ranges, and uncertainties.	
Note: Well defined and documented measurement assurance techniques or uncertainty analysis may be used to verify the adequacy of the measurement process. If such techniques are not used, the collective uncertainty of the measurement standards shall not exceed 25% of the acceptable tolerance for each characteristic being calibrated. (This is typically referred to as the four-to-one ratio.)	
For Regulatory Guide 1.144/ANSI N45.2.12, the portion of exception 1 addressing purchase of commercial grade calibration services is replaced with; "See standard exceptions in Table 17-1 for Regulatory Guide 1.123 for the procurement of Commercial Grade Items and services including, purchasing commercial-grade calibration services from calibration laboratories.'	

This concludes addressing content transferred from the Robinson UFSAR.

Table 4 - Changes from Duke Energy Carolinas Topical Report Quality Assurance Program Amendment 40	
Section Number	**Changes Applied**
Introduction	Discussion of QA Conditions revised to remove specificity. "QA Condition 1" replaced throughout the attachment with "nuclear safety related" Each site is required to maintain a system to identify the applicability of the QA Program. The use of the "QA Condition" labelling is an acceptable means of doing this. Implementing procedures control how the identification is accomplished for each site.
DEFINITIONS	Definitions are included in the main document. There are no Duke Energy Carolinas specific definitions.
EXPLANATION OF "QUALITY ASSURANCE"	Section is in the main document with editorial revisions to reflect some Duke Energy Progress content. There is no Duke Energy Carolinas specific content.
QA STANDARDS AND GUIDES	Table D17-1 and D17-2 address Catawba, McGuire, and Oconee conformance to the referenced regulatory and program guidance contained in NUREG-0800 Section 17.3. These were previously addressed in Table 17-1.
D17.3.1.1 There are no Duke Energy Carolinas specific amplifications for this section.	Content from the 1st QATR paragraph is addressed in Standard text in 1st and 2nd paragraphs of 17.3.1.1. The 2nd paragraph from the QATR is covered in the 3rd paragraph of 17.3.1.1. The 3rd QATR paragraph addressed in the 4th paragraph of 17.3.1.1
D17.3.1.2 There are no Duke Energy Carolinas specific amplifications for this section.	The Organization Description from the QATR was updated in 17.3.1.2. Changes are consistent with 50.54(a)(3)iii. The following describe the changes to the organization: The first change (reviewed July 2014) to the organization occurs in 17.3.1.2.1, Corporate Organization. This change expanded the responsibilities for the group executive responsible for the nuclear organization, adding accountabilities for Fossil/Hydro Generation; the Ash Basin Strategic Action Team; Environmental, Health and Safety; and Fuels and System Optimization. This organizational change did not alter the responsibilities or reporting relation for the Chief Nuclear Officer, responsible for Nuclear Generation, or for the executive responsible for Nuclear Oversight. The second change (reviewed August 2014) occurred within the Chief Nuclear Officer's organization. This change occurs in 17.3.1.2.2, Nuclear Generation and consolidated thee three Nuclear Operations divisions into a single nuclear operations division comprised of the six operating Nuclear Sites. A Nuclear Corporate division is established with the executives responsible for Corporate Nuclear Engineering, Nuclear Major Projects, Corporate Governance and Operations Support, and Organizational Effectiveness reporting to the CNO through the executive responsible for this new division. This change does not alter the reporting relationship or responsibilities for the executive responsible for nuclear oversight. The third change, (reviewed February 2015) also within the Chief Nuclear Officer's organization, inserted the following clarifications in 17.3.1.2.2: The CNO has the organizational flexibility to reassign responsibilities,

Table 4 - Changes from Duke Energy Carolinas Topical Report Quality Assurance Program Amendment 40	
Section Number	**Changes Applied**
	within the limits specified in the following section, between the standard divisions to provide added focus on areas determined to need increased management attention. This flexibility includes both the ability to consolidate divisions or to identify new divisions. The actual organization in-place is defined in a controlled document containing the fleet operating model. a) NUCLEAR CORPORATE The senior executive(s) reports to the CNO and is responsible for Corporate Governance and support functions to the Nuclear Sites in the following areas: Nuclear Engineering; Nuclear Major Projects; Nuclear Regulatory Affairs; Nuclear Support Services; Nuclear Protective Services; Nuclear Operations; Nuclear Corporate Organizational Effectiveness; Nuclear Training; and Emergency Preparedness. The organizational structure for these functions may vary based on near-term activities and the strategic importance of our fleet initiatives, in our continuing efforts to set and achieve industry-leading operational and outage performance. These functions are primarily off-site located in the Nuclear General Office (NGO). The final organization changes (reviewed February 2015) occur in 17.3.1.2.3, Department Interfaces, where the Human Resources Department has been removed because Nuclear Protective Services in the Nuclear General Office organization has fully assumed the responsibilities for services previously provided by Human Resources. None of these organizational changes impact on the roles and responsibilities for Nuclear Oversight. The persons and organizations performing quality assurance functions continue to have the requisite authority and organizational freedom, including sufficient independence from cost and schedule when opposed to safety considerations. The changes are consistent with provisions iii and vi of 10CFR50.54(a)(3).
D17.3.1.3 There are no Duke Energy Carolinas specific amplifications for this section.	The content from the 1st QATR paragraph is addressed in 1st paragraph of 17.3.1.3. The content from the 2nd QATR paragraph is addressed in last paragraph of 17.3.1.3. The content from the 3rd QATR paragraph is addressed in 2nd paragraph of 17.3.1.3.
D17.3.1.4 There are no Duke Energy Carolinas specific amplifications for this section.	The stop work authority is addressed in 17.3.1.4. The right to escalate a disagreement up to the CEO is established in the QA Policy Statement.
D17.3.1.5	The QATR content is retained as site specific amplifications for section 17.3.1.5.
D17.3.1.6 There are no Duke Energy Carolinas specific amplifications for this section.	The QATR paragraph is addressed in the content of 17.3.1.6.
D17.3.1.7 There are no Duke Energy Carolinas specific amplifications for this section.	The QATR paragraph is addressed in the content of 17.3.1.7.

Table 4 - Changes from Duke Energy Carolinas Topical Report Quality Assurance Program Amendment 40	
Section Number	**Changes Applied**
D17.3.2.1	The 1st QATR paragraph aligns with content of Section 17.3.2.1 Section 17.3.1.3 2nd paragraph identifies that the responsible implementing managers approve procedures for use. The 2nd QATR Paragraph is retained as site specific amplification.
D17.3.2.2	The 1st QATR paragraph is addressed in 1st paragraph of 17.3.2.2. The 2nd QATR paragraph is addressed in 3rd paragraph of 17.3.2.2. The 3rd QATR paragraph is addressed in 2nd paragraph of 17.3.2.2. The 4th QATR paragraph is Addressed in simplified 4th paragraph of 17.3.2.2. However, the 4th paragraph beginning with the 3rd sentence is retained as site specific. The 5th QATR paragraph is addressed in simplified 4th paragraph of 17.3.2.2. The 6th QATR paragraph is addressed in 5th paragraph of 17.3.2.2. The 7th QATR paragraph is addressed in 5th paragraph of 17.3.2.2. The 8th QATR paragraph is addressed in 6th paragraph of 17.3.2.2. The 9th QATR paragraph is addressed in 7th paragraph of 17.3.2.2 The 10th QATR paragraph is addressed in 8th paragraph of 17.3.2.2 The 11th QATR paragraph is addressed in 9th paragraph of 17.3.2.2 The 12th QATR paragraph is retained as site specific amplification
D17.3.2.3	The 1st four sentences of the 1st QATR paragraph along with the 2nd paragraph are addressed the content of 17.3.2.3. The remaining content of the 1st paragraph is retained as site specific amplification. The 4th QATR paragraph is retained as site specific content. The 3rd paragraph and the final QATR paragraph with editorial revisions were combined and transferred to become the final paragraph of section 17.3.2.2.
D17.3.2.4	The QATR section was revised to present the description for procurement of nuclear safety related items prior to the description of procurement of commercial grade items and services. Content was edited to remove duplication. The 1st and 2nd sentences of the 1st QATR paragraph are addressed in the 3rd paragraph of 17.3.2.4. The remainder of the 1st QATR paragraph is addressed in the 6th paragraph of 17.3.2.4. The 2nd QATR paragraph is deleted, it reiterated the applicability of Table 17-1 and was considered a duplication. The 3rd QATR paragraph is addressed in the 2nd paragraph 2nd sentence of 17.3.2.4. The 4th QATR paragraph is retained as site specific and addressed in D17.3.2.4 1p. The 1st sentence of the 5th QATR paragraph is addressed in the 3rd paragraph of 17.3.2.4. The remainder of the paragraph is addressed by site specific information in D17.3.2.4 2nd and 3rd paragraphs. The 6th and 7th QATR paragraphs are site specific addressed in D17.3.2.4 3rd paragraph. The on-going evaluation of suppliers in the 8th QATR paragraph has been moved to and retained in D17.3.2.5 as site specific. The portion of the paragraph addressing supplier audits is addressed in 17.3.3.3.5 and D17.3.3.3.5.

Table 4 - Changes from Duke Energy Carolinas Topical Report Quality Assurance Program Amendment 40	
Section Number	**Changes Applied**
	The 9th QATR paragraph is addressed by site specific D17.3.2.4 4th paragraph. The 10th QATR paragraph is addressed by the 5th paragraph of 17.3.2.4. The 11th QATR paragraph is addressed by site specific D17.3.2.4 7th paragraph. The 12th QATR paragraph is addressed by site specific D17.3.2.4 8th paragraph. The 13th QATR paragraph is addressed in 17.3.2.4 2nd paragraph. The 14th QATR paragraph is addressed in 17.3.2.4 1st paragraph and 17.3.2.5 1st paragraph. The 15th QATR paragraph is addressed by site specific D17.3.2.4 6th paragraph. The 16th QATR paragraph is addressed by the 2nd paragraph of 17.3.2.4. The 17th and 18th QATR paragraphs are addressed by the final paragraph of 17.3.2.5.
D17.3.2.5	The 1st QATR paragraph is addressed in the 1st paragraph of 17.3.2.5. The 2nd QATR paragraph is addressed in the 2nd paragraph of 17.3.2.5. The 3rd QATR paragraph is addressed in the 2nd paragraph of 17.3.2.4. The 4th QATR paragraph is addressed site specific content in D17.3.2.5. The 5th QATR paragraph is addressed in the 3rd paragraph of 17.3.2.5. Content transferred from 17.3.2.4 describing alternative to ANSI N45.2.13 requirements for monitoring supplier performance are retained as site specific amplifications.
D17.3.2.6	The 1st QATR paragraph is deleted. The content is addressed in 17.3.1.2.3 Departmental Interfaces. The 1st sentence of the 2nd QATR paragraph is addressed in the second paragraph of 17.3.2.6. The 1st two sentences of the final QATR Paragraph are addressed in the 4th paragraph of 17.3.2.6. the remaining QATR content is retained as site specific amplifications.
D17.3.2.7	The 1st and 3rd QATR paragraphs are addressed in the paragraphs of 17.3.2.7. The 2nd QATR paragraph is retained as site specific amplification.
D17.3.2.8	The 1st QATR paragraph is addressed in the 1st and 2nd paragraphs of 17.3.2.8. The remaining QATR paragraphs are retained as site specific amplification.
D17.3.2.9	The QATR content is addressed in 17.3.2.9 except for a portion of item c) and the final two QATR paragraphs discussing tagging requirements, which are retained as site specific in D17.3.2.9.
D17.3.2.10	The 1st and last QATR paragraphs are addressed in 17.3.2.10. The remainder of the QATR paragraphs are retained as site specific.
D17.3.2.11	The QATR content essentially duplicated the content of 17.3.2.11. The 1st and last sentences of the 3rd paragraph are retained in D17.3.2.11 as site specific amplifications.

Table 4 - Changes from Duke Energy Carolinas Topical Report Quality Assurance Program Amendment 40	
Section Number	**Changes Applied**
D17.3.2.12	The 1st, 3rd, 5th, 6th, and 7th paragraphs align with the content of 17.3.2.12. The remaining QATR content essentially repeats requirements from ANSI N18.7 but is retained as site specific amplification. Items c) and f) following the 3rd QATR paragraph are retained as site specific.
D17.3.2.13	The 1st, 7th, and 11th QATR paragraphs are addressed in 17.3.2.13. The 4th 5th, and 6th paragraphs were moved to D17.3.4.7, Reportable Event Actions. The remaining QATR content is retained as site specific amplifications.
D17.3.2.14	The Document control section was revised to adopt the exception for ANSI N18.7 section 5.2.14 (see related discussion for Regulatory Guide 1.33 below) approved by the approved by the NRC (Albert F. Gibson, Director Division of Reactor Safety) in a January 31, 1995 letter to Carolina Power and Light Company, for the H. B. Robinson Steam Electric Plant, Unit 2. The changes are consistent with provisions ii of 10CFR50.54(a)(3). per change approves Jun 17, 2015. Conforming changes were made to QATR section 17.3.2.14 as follows: The 1st QATR paragraph was deleted, it was repetitive with standard content in sections 17.3.1.1, 17.3.1.3 and 17.3.2.1, which establish that the QA Program is implemented through controlled documents approved by responsible management. The 2nd QATR paragraph is addressed by the 4th and 5th paragraphs of 17.3.2.14. The 3rd QATR paragraph is addressed by the 5th paragraph of 17.3.2.14. The 4th QATR paragraph is addressed by the 4th paragraph in 17.3.2.14. The 5th, 6th, and 7th QATR paragraphs were deleted as they address procedures that are subsets of the controlled policies and procedures discussed in the 4th paragraph of 17.3.2.14. The final sentence in the 7th QATR paragraph and the listing are addressed in the final paragraph of 17.3.2.14. The 8th paragraph reflected the administrative controls for the prior DEC exception to ANSI N18.7 section 5.2.14 and has been replaced with new site specific content reflected in the 4th, 5th, and 7th paragraphs of D17.3.2.14. The 9th QATR paragraph is addressed by the 5th paragraph of 17.3.2.14. The 10th QATR paragraph is addressed by the 2nd paragraph of 17.3.2.14. The 11th QATR paragraph repeats basic review and approval requirements for additional procedures. Except for the requirements for temporary changes that are contained in the 3rd paragraph of D17.3.2.14, this content is deleted as repetitive of 17.3.2.14.
D17.3.2.15	The final two QATR paragraphs of 17.5.2.15 are retained as site specific amplifications. The remaining content is addressed by the updated content of

Table 4 - Changes from Duke Energy Carolinas Topical Report Quality Assurance Program Amendment 40	
Section Number	**Changes Applied**
	17.3.2.15. The extensive listing of typical records in the QATR has been reviewed to remove repeated records separated by organizations. Revised content reflects improvements based on implementation of electronic records as approved by NRC in SER issued to DEC in May of 2015.
D17.3.3.1	The QATR paragraph addressed in the expanded methodology section.
D17.3.3.2	Section has been retitled Independent Review Committee. The content from QATR section 17.3.3.2.1, Nuclear Safety review Board and 17.3.3.2.2 , Plant Operations Review Committee are retained in the section. Committee names are replaced with generic off-site and on-site review committee.
D17.3.3.3 There are no Duke Energy Carolinas specific amplifications for this section.	Section integrates content from Duke Energy Progress QAPDs 17.3.3.2 and 17.3.3.3 with similar content from QATR sections 17.3.2.3 Independent Nuclear Oversight.
D17.3.3.3.1 There are no Duke Energy Carolinas specific amplifications for this section.	Section integrates content from Duke Energy Progress QAPDs 17.3.3.2 and 17.3.3.3 with similar content from QATR sections 17.3.2.3 Independent Nuclear Oversight.
D17.3.3.3.2 There are no Duke Energy Carolinas specific amplifications for this section.	Section integrates content from Duke Energy Progress QAPDs 17.3.3.2 and 17.3.3.3 with similar content from QATR sections 17.3.2.3 Independent Nuclear Oversight.
D17.3.3.3.3	Section integrates content from Duke Energy Progress QAPDs 17.3.3.2 and 17.3.3.3 with similar content from QATR sections 17.3.2.3 Independent Nuclear Oversight. The list of audit topics from QATR 17.3.3.2.3.1 has been combined with listing from other sites to create a single list of audit topics. Duke Energy Carolinas audit topic l) is retained as site specific.
D17.3.3.3.3.1	New section integrates other regulatory required audits identified in QATR 17.3.3.2.3.1 listing with similar content from other sites. DEC did not address the periodic review of the radiation protection program content and implementation required by 10 CFR 20.1101c; therefore consistent with the regulation, this is performed by management of the line organization.
D17.3.3.3.3.2 There are no Duke Energy Carolinas specific amplifications for this section.	Duke Energy Carolinas specific wording for fire protection audits is retained as site specific in D17.3.3.3.3.2.
D17.3.3.3.4 There are no Duke Energy Carolinas specific amplifications for this section.	Section content was not explicitly addressed in Duke Energy Carolinas QATR
D17.3.3.3.5 There are no Duke Energy Carolinas specific amplifications for this section.	Section reflects content from QATR section 17.3.3.2.3.2.
D17.3.3.3.6 There are no Duke Energy Carolinas specific amplifications for this section.	Section content is from Duke Energy Carolinas QATR section 17.3.3.2.4, Corporate Audit.
D17.3.3.3.7	Section content reflects scheduling addressed in Duke Energy Carolinas QATR section 17.3.3.2.3.1 The following added information.

Table 4 - Changes from Duke Energy Carolinas Topical Report Quality Assurance Program Amendment 40	
Section Number	**Changes Applied**
	DUKE ENERGY CAROLINAS Audit Schedules are based on the month in which the audit starts.
D17.3.4	Section was not contained in the QATR. This section addresses information transferred to the QATR that was integrated into the QAT sections.
The following changes were applied to the Conformance with Regulatory Guides from QATR Table 17-1, Conformance of DEC's Program to Quality Assurance Standards, Requirements and Guides:	
In Table D17-1 for Regulatory Guide 1.33, replaced the prior QATR exception for ANSI N18.7 Section 5.2.15 requirement for two year review of procedures with the HB Robinson approved exception. Specifically, this is implemented by replacing: RG 1.33 Rev (2) incorporates ANSI N18.7-1976/ANS-3.2. The DEC QAP conforms to ANSI N18.7-1976 except … the frequency for procedure review, as described in Section 17.3.2.14, "Document Control," is based on ANSI/ANS-3.2 (1994) with appropriate reviews performed when the need is identified by normal use, unusual incidents, engineering changes, or established quality programs. Review frequencies for Abnormal Procedures, Emergency Procedures, and Emergency Response Procedures shall not exceed six years. Procedures that have not been used for six years shall be reviewed prior to reuse. With: Exception to ANSI N18.7-1976, Section 5.2.15, Review, Approval and Control of Procedures, which states in part that, "Plant procedures shall be reviewed by an individual knowledgeable in the area affected by the procedure no less frequently than every two years to determine if changes are necessary. A revision to a procedure constitutes a procedure review." In lieu of this paragraph, DEC has programmatic controls in place to continually identify procedure revisions which may be needed to ensure that procedures are appropriate for the circumstance and are maintained current. Basis: The HB Robinson exception was approved by the NRC (Albert F. Gibson, Director Division of Reactor Safety) in a January 31, 1995 letter to Carolina Power and Light Company, (Mr. C. S. Hinnant, Vice President) H. B. Robinson Steam Electric Plant, Unit 2. The changes are consistent with provisions ii of 10CFR50.54(a)(3). Review of the Administrative Controls identified in the HB Robinson request documentation found that a biennial self-assessment of the procedure process and a pre-job brief process needed to be explicitly addressed in the QATR to assure Duke Energy Carolinas has equivalent programmatic controls for those identified by reference in the January 31, 1995 NRC letter to Carolina Power and Light Company. This content is added to D.17.3.2.14 as identified above.	

This concludes addressing content transferred from the Duke Energy Carolinas QATR.

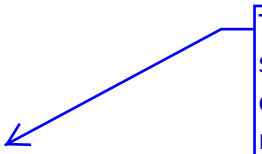
Attachment 3

Markup of the Brunswick Steam Electric Plant Updated Final Safety Analysis Report (UFSAR)
Table 1-6, and Sections 1.9 and 17.3

47 Pages Follow

This markup package includes UFSAR pages affected by the transfer of information to the Topical Report providing the Quality Assurance Program Description.

Red colored Information identifies Changes within the UFSAR.



Text callout within Blue Text box with arrows identifies content in standard text of the Body of the Topical Report in Attachment 1 of this Letter. This text generally is in the form of a section number followed by indication of which paragraph addresses the content. for example "17.3.2.1 2p" indicates the content is reflected in the second paragraph of Section 17.3.2.1

Blue Text within Blue Text box without arrow identifies content retained as site specific in Attachment A to the Topical Report in Attachment 1 of this Letter. This text is generally is in the form of a Site Specific Attachment section number followed by indication of which paragraph addresses the content. For example "A17.3.2.1 2p" indicates the content is reflected in Attachment A in the second paragraph of Section A17.3.2.1. In certain cases, this type box contains the justification for deleted content.

b. Testing a valve essentially identical in design to those to be used in this plant, simulating as closely as feasible the accident conditions

c. Testing the main steam line isolation valves of this plant during the preoperational test phase to verify that the valves as installed will meet functional requirements

A detailed description of the program was presented in a
the AEC in April 1968. The testing programs have been s
Topical Report (Reference 1-18) submitted to the AEC in
discussed in a GE Topical Report (Reference 1-19) subm

Insert the following paragraph in UFSAR Section 1.6:
The description of the Quality Assurance Program is contained in the Duke Energy Corporation Topical Report Quality Assurance Program Description Operating Fleet (Reference 1-x), DUKE-QAPD-001. Topical Report DUKE-QAPD-001 is incorporated by reference into the UFSAR.

1.5.15 HIGH PRESSURE COOLANT INJECTIO CAPABILITY

Resolution of this concern was described in a GE Topical
program that proves the effectiveness of the depressuriza
contained in a second GE Topical Report (Reference 1-2

1.6 MATERIAL INCORPORATED BY REFERENCE

The Topical Reports submitted in support of the BSEP 1 & 2 design are listed in Table 1-4. BSEP Design Reports are listed in Table 1-5.

On June 5, 1998, the NRC issued Amendments 203 and 233 to the Technical Specifications for BSEP, Unit Nos. 1 and 2, respectively. These amendments approved the conversion to the Improved Technical Specifications (ITSs), as contained in Revision 1 of NUREG-1433, "Standard Technical Specifications General Electric Plants, BWR/4." As a result of the conversion to the ITSs, requirements supporting various plant conditions, actions, and testing which support operation of the plant were relocated from the Technical Specifications to the Technical Requirements Manual (TRM). The TRM is under the control of Duke Energy Progress, Inc. and changes are to be reviewed in accordance with 10 CFR 50.59. The TRM (Reference 1-25) is incorporated by reference into the UFSAR.

The Fire Protection Program is based on Nuclear Regulatory Commission (NRC) criteria, National Fire Protection Association (NFPA) standards, Institute of Electrical and Electronic Engineers (IEEE) standards, and other industry codes. The program complies with the intent of Appendix A of Branch Technical Position (BTP) APCSB 9.5-1, dated April 23, 1976. The effects of fire on safe shutdown systems have been evaluated in the "Safe Shutdown Analysis Report." The Safe Shutdown Analysis Report (Reference 1-26) is incorporated by reference into the UFSAR.

The BSEP Fire Protection Program is characterized by a series of submittals to, and responses from, the NRC. These documents, including the review of the plant to BTP 9.5.1 Appendix A, administrative guidelines, and other clarification letters, have been compiled into a "Commitment Document." The Fire Protection Program Commitment Document (Reference 1-27) is incorporated into to the UFSAR by reference.

Table 1-7 identifies the plant drawings that are incorporated by reference into the Updated FSAR. The current version of the official plant drawing is located in PassPort.

1.7 DRAWINGS AND OTHER DETAILED INFORMATION [HISTORICAL]

The "drawing package" is not part of the original FSAR. This section is not applicable to the Updated FSAR (Reference 1-21).

1.8 CONFORMANCE TO NRC REGULATORY GUIDES

Regulatory Guides (originally known as Safety Guides) have been published to describe acceptable means of complying with specific general design criteria. In most instances for the Brunswick Plant, the design of the respective system or equipment predated the publication of the Guide. Compliance with the appropriate general design criterion could then be obtained by a method other than the one developed in the Guide. Where this was the case at the time of plant licensing, it was believed that the Brunswick design provided at least as high a level of safety as the Guides then available.

Those Regulatory Guides which have be
in Table 1-6.

Add the following reference in UFSAR Section 1.9:
1-x Duke Energy Corporation Topical Report Quality Assurance Program Description Operating Fleet, DUKE-QAPD-001, latest revision.

1.9 REFERENCES

1-1 U. S. Nuclear Regulatory Commission, Office of Standards Development, "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants," Regulatory Guide 1.70, Revision 3, November 1978.

1-2 "Tornado Protection for the Spent Fuel Storage Pool," General Electric Company, APED-5696, November 1968.

1-3 "Stability and Dynamic Performance of the General Electric Boiling Water Reactor," General Electric Company, APED-5652, April 1969.

1-4 "Xenon Considerations in Design of Large Boiling Water Reactors," General Electric Company, APED-5640, June 1968.

1-5 "Technology of BWR Stability Analysis," GE Memorandum SCER-60, July 1967.

1-6 "Design and Analysis of Control Rod Drive Reactor Vessel Penetrations," General Electric Company, APED-5703, November 1968.

1-7 "General Electric Company Analytical and Experimental Programs for Resolution of ACRS Safety Concerns," General Electric Company, APED-5608, April 1968.

1-8 "Current State of Knowledge of High Performance BWR Zircaloy-Clad UO_2 Fuel," General Electric Company, NEDO-10173, May 1970.

1-9 "An Analytical Study on Brittle Fracture of GE-BWR Vessel Subject to the Design Basis Accident," General Electric Company, NEDO-10029, July 1969.

1-10 "An Analysis of Functional Common-Mode Failures in GE BWR Protection and Control Instrumentation," General Electric Company, NEDO-10189, July 1970.

1-11 "Analytical Methods for Evaluating the Radiological Aspects of the General Electric Boiling Water Reactor," General Electric Company, APED-5756, March 1969.

1-12 "Metal-Water Reactions--Effects on Core Cooling and Containment," General Electric Company, APED-5454, March 1968.

1-13 "Considerations Pertaining to Containment Inerting," General Electric Company, APED-5654, August 1968.

1-14 "Effects of Cladding Temperature and Material on ECCS Performance," General Electric Company, NEDO-10179, June 1970.

1-15 "Effects of Fuel Rod Failure on ECCS Performance, General Electric Company, NEDO-10208, August 1970.

1-16 "Consequences of a Postulated Flow Blockage Incident in a Boiling Water Reactor," General Electric Company, NEDO-10174, May 1970.

1-17 "Effectiveness of Core Standby Cooling Systems for General Electric Boiling Water Reactors, General Electric Company, APED-5458, March 1969.

1-18 "Design and Performance of General Electric Boiling Water Reactor Main Steam Line Isolation Valves," General Electric Company, APED-5750, March 1969.

1-19 "Consequences of a Steam Line Break in a General Electric Boiling Water Reactor," General Electric Company, NEDO-10045, July 1969.

1-20 "Depressurization Performance of the General Electric Boiling Water Reactor High Pressure Coolant Injection System," General Electric Company, APED-5447, June 1969.

1-21 Letter to all operating reactor licensees from Darrell G. Eisenhut regarding Periodic Updating of Final Safety Analysis Reports (FSAR's), December 15, 1980.

1-22 Reactor Building Environmental Report, Calculation No. BNP-MECH-RBER-001.

1-23 IEEE Standard 279 (ANSI N42.7-1972), "Criteria for Protection Systems for Nuclear Generating Stations," Institute of Electrical and Electronic Engineers.

1-24 IEEE Standard 308, "Criteria for Class 1E Systems for Nuclear Power Generating Stations," Institute of Electrical and Electronics Engineers.

1-25 Brunswick Steam Electric Plant, Units 1 and 2, Technical Requirements Manual, latest approved revision.

1-26 BNP Calculation BNP-E-9.004, "Safe Shutdown Analysis Report," latest approved revision.

1-27 Plant Procedure 0PLP-01.1, "Fire Protection Commitment Document," latest approved revision.

1-28 NEDC-31624P, "Brunswick Steam Electric Plant, Units 1 and 2 SAFER/GESTR-LOCA Loss-of-Coolant Accident Analysis," Revision 2, GE Nuclear Energy, July 1990.

1-29 Updated Final Safety Analysis Report for the Standardized NUHOMS® Horizontal Modular Storage System for Irradiated Fuel, NUH-003 Revision 10, NRC Docket No. 72-1004, dated November 2006.

END-OF-CHAPTER

TABLE 1-6 CONFORMANCE TO NRC REGULATORY GUIDES

In the UFSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.28 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the UFSAR (see UFSAR Sections 1.6 and 17.3).

TABLE 1-6 CONFORMANCE

REGULATORY GUIDE **1.28**, "QUALITY ASSURANCE PROGRAM REQUIREMENTS (DESIGN AND CONSTRUCTION)" (SAFETY GUIDE 28, JUNE 1972) (REV. 0) - ANSI STANDARD N45.2-1971, "QUALITY ASSURANCE REQUIREMENTS FOR NUCLEAR POWER PLANTS"

~~This guide, and the standard it endorses, have been superseded for operations activities by Regulatory Guide 1.33 and ANSI N18.7-1976, which it endorses. The Operational Quality Assurance Program complies with Regulatory Guide 1.33 and ANSI N18.7-1976 as stipulated in Appendix A to that Program; therefore, Regulatory Guide 1.28 (Safety Guide 28) and ANSI N45.2-1971, which it endorses, are not considered necessary and are not included as part of the program.~~

Conformance with Regulatory Guide 1.28 is addressed in Site Specific Attachment A, Table A17-1.

In the UFSAR, Replace Strikethrough text with: Conformance with Regulatory Guide 1.30 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the UFSAR (see UFSAR Sections 1.6 and 17.3).

TABLE 1-6 CONFORMANCE TO

REGULATORY GUIDE **1.30**, "QUALITY ASSURANCE REQUIREMENTS FOR THE INSTALLATION, INSPECTION, AND TESTING OF INSTRUMENTATION AND ELECTRICAL EQUIPMENT" (SAFETY GUIDE 30, REVISION 0, AUGUST 1972) - ANSI STANDARD N45.2.4-1972 (IEEE-336-1971), "INSTALLATION, INSPECTION, AND TESTING REQUIREMENTS FOR INSTRUMENTATION AND ELECTRICAL EQUIPMENT DURING THE CONSTRUCTION OF NUCLEAR POWER GENERATING STATIONS"

Conformance with Regulatory Guide 1.30 is addressed in Site Specific Attachment A, Table A17-1.

BSEP 1 and 2 shall comply with t
below:

The installation, inspection, and testing of nuclear power plant instrumentation and electrical equipment at BSEP will be in accordance with the applicable requirements of ANSI N45.2.4-1972 with the following exceptions:

1. Section 1.4 titled Definitions: Definitions in this standard which are not included in ANSI N45.2.10 will be used; definitions which are included in ANSI N45.2.10 will be used as clarified in Duke Energy Progress, Inc. commitment to Regulatory Guide 1.74.
2. Section 1.5 titled Reference Documents: Duke Energy Progress, Inc.'s commitment to other documents referenced in this standard shall be as stated in our commitment to that document.
3. Section 2.5 titled Measuring and Test Equipment: Duke Energy Progress ,Inc. will implement the applicable portions of this Section as follows:

   The status of portable items of measuring and test equipment and reference standards shall be identified by use of status cards, computer schedules, or tags for the date recalibration is due. These items are in a calibration program which requires recalibration on a specified frequency or, in certain cases, prior to use.

   Instrumentation and electrical equipment in the categories listed below shall be in a calibration program. This program provides, by the use of status cards, computer schedules, or tags, for the date that recalibration is due and indicates the status of calibration. The identity of person(s) performing the calibration is provided on the calibration documents.

   a. Instruments installed as listed in the Technical Specifications
   b. Installed instrumentation used to verify Technical Specification parameters
   c. Installed safety-related instruments and electrical equipment that provide an active function during operation or during shutdown; i.e., not a device being designated safety-related solely because the instrument is an integral part of a pressure retaining boundary.
4. Section 7 titled Data Analysis and Evaluation states in part, "Procedures shall be established for processing inspection and test data and their analysis and evaluation." At BSEP 1 and 2, (data processing procedures per se have not been developed; instead, test data are recorded, processed, and analyzed in accordance with procedures and instructions in appropriate functional areas; e.g., maintenance, startup.

In the UFSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.33 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the UFSAR (see UFSAR Sections 1.6 and 17.3).

TABLE 1-6 CONFORMANCE T

REGULATORY GUIDE **1.33**, "QUALITY ASSURANCE PROGRAM REQUIREMENTS (OPERATION)" (SAFETY GUIDE 33, NOVEMBER 1972) - ANSI STANDARD N18.7-1976, "ADMINISTRATIVE CONTROLS AND QUALITY ASSURANCE FOR THE OPERATIONAL PHASE OF NUCLEAR POWER PLANTS"

Conformance with Regulatory Guide 1.33 is addressed in Site Specific Attachment A, Table A17-1.

~~Comply with the provisions of Regulator~~
recommendations for administrative con

1. Paragraph 4.3.4(1) – The independent review body shall review written evaluations of changes in the facility as described in the Final Safety Analysis Report (as updated), changes in procedures as described in the Final Safety Analysis Report (as updated) and tests or experiments not described in the Final Safety Analysis Report (as updated) which are completed without prior NRC approval under the provisions of 10 CFR 50.59. This review is to verify that such changes, tests or experiments did not involve a change in the technical specifications or require NRC approval pursuant to 10 CFR 50.59.
2. Paragraph 4.3.4(2) – The independent review body shall review proposed changes in procedures, proposed changes in the facility, or proposed tests or experiments, any of which involves a change in the technical specifications or requires NRC approval pursuant to 10 CFR 50.59.
3. Paragraph 4.5 - Written audit reports are not formally reviewed as part of the Independent Review function.
4. Paragraph 4.5 - The Executive Vice President – Nuclear Generation Group and Chief Nuclear Officer will assure that an independent assessment of the overall Nuclear Oversight Program is conducted at least once every 24 months. Results of the independent assessment will be reported directly to the Executive Vice President – Nuclear Generation and Chief Nuclear Officer and entered into the Corrective Action Program for resolution. For scheduling consistency, the exceptions included in paragraph 5 of this section will be used as clarification for scheduling this independent assessment.
5. Paragraph 4.5, Audit Program-Regulatory Guide 1.33 (Safety Guide 33, November 1972) endorses ANSI N18.7-1976/ANS-3.2, Section 4.5 which states that audits of selected aspects of the operational phase activities, including safety-related functions, are completed within a period of two years, with the following clarification.
   a. Audits shall be performed at the intervals designated herein for each audit area. Schedules shall be based on the exit date of the audit.
   b. A maximum extension not to exceed 25 percent of the audit interval shall be allowed. That is to say that, for audits on a 24-month frequency, the maximum time between specific audits shall not exceed 30 months. Likewise, audits on an annual (12-month) frequency shall not be extended beyond 15 months.
   c. When an audit interval extension is used, the next audit for that particular audit area will be scheduled from the original anniversary exit date rather than from the exit date of the extended audit.
   d. Item 5.b above shall also apply to supplier audits and evaluations except that a total combined time interval for any three consecutive inspection or audit intervals should not exceed 3.25 times the specified inspection or audit interval.

   NOTE: This grace period will not be applied to audits of the Nuclear Emergency Response Plan to satisfy the requirements of 10 CFR 50.54(t), Security Plan to satisfy the requirements of 10 CFR 50.54(p), Radiation Protection to satisfy 10 CFR 20.1101c, and Fire Protection to satisfy NRC Generic Letter 82-21, "Technical Specifications for Fire Protection

~~TABLE 1-6~~ ~~CONFORMANCE TO NRC REGULATORY GUIDES~~

Conformance with Regulatory Guide 1.33 is addressed in Site Specific Attachment A, Table A17-1.

e exit date and not

6. Section 5.2.2 titled Procedure Adherence: Temporary changes to approved procedures shall be approved by persons specified in UFSAR Chapter 17.
7. The applicable procedures recommended in Appendix "A" of Regulatory Guide 1.33, November 1972, shall be established, implemented, and maintained as specified in the BSEP 1 and 2 Technical Specifications.
8. Paragraph 5.2.7 - Duke Energy Progress, Inc. will comply with requirements of the first sentence of the second paragraph and provides the following clarification:
   a. "Documented Instructions" is defined as any credible information (e.g., vendor manuals, vendor recommendations, engineering direction, etc.) Used for work planning/execution which is reviewed and approved prior to use in accordance with approved procedures.
9. Paragraph 5.2.1.3, titled Procurement Document Control: When purchasing commercial-grade calibration services from certain accredited calibration laboratories, the procurement documents are not required to impose a quality assurance program consistent with ANSI N45.2-1971. Alternate requirements described in Section 1.8 for Regulatory Guide 1.123 may be implemented in lieu of imposing a quality assurance program consistent with ANSI N45.2-1971.
10. 5.2.15 states, in part: "Plant procedures shall be reviewed by an individual knowledgeable in the area affected by the procedure no less frequently than every two years to determine if changes are necessary or desirable."

    BSEP implements administrative and programmatic controls that ensure procedures are maintained current in accordance with 10 CFR 50, Appendix B, thus meeting the intent of the biennial review.

    BSEP implements administrative controls to perform biennial reviews of non-routine procedures such as Emergency Operating Procedures, Abnormal Operating Procedures, Emergency Plan, Security, and other procedures that may be dictated by an event.

    Programmatic controls specify conditions when mandatory review of plant procedures apply, and include a requirement to review applicable procedures following and accident or transient and following any modification to a system.

    BSEP utilizes a pre-job briefing practice to ensure that personnel are aware of what is to be accomplished and what procedures will be used prior to beginning a job. In addition, the Procedure Adherence Policy requires that the job be stopped and the procedure be revised or the situation resolved prior to work continuing if procedures cannot be implemented as written.

    Additionally, the Nuclear Oversight audit program requires the review of a representative sample of plant procedures, as part of routine audits, to ensure that existing administrative controls for procedure verification, review, and revision are effective in maintaining the quality of plant procedures. Significant QA Program deficiencies are identified in the audit reports. These deficiencies are investigated in accordance with the Corrective Action Program. The plant Self-Assessment Program also periodically reviews selected procedures and identified deficiencies and improvements through the Corrective Action Program.
11. Section 5.2.17, second to the last sentence in the last paragraph, "Deviations, their cause, and any…," to be consistent with Paragraph 5.2.11 and 10 CFR 50, Appendix B, the cause of the deviation will be determined for only significant conditions adverse to safety.

TABLE 1-6 CONFORMANCE TO NRC REGULATORY GUIDES

12. Conformance with Regulatory Guide 1.33 is addressed in Site Specific Attachment A, Table A17-1.

he review requirements for
n a procedure, be

13. Section 5.3.9.1, titled Emergency Procedure Format and Content: Emergency procedures shall be in the format as committed to in NUREG-0737, TMI Action Plan.

14. ANSI N18.7-1976, Section 5.2.16. See UFSAR Section 17.3.2.9 for clarification.

15. Section 5.3.10, first paragraph - The requirement "Test and inspection results shall be documented...," will be implemented as follows:

    As an alternative to the records required for inspections outlined in paragraph 5.3.10, BSEP shall provide the following as the method to document results of inspections.

    The results of inspections will be documented in appropriate records and those records shall, as a minimum, identify (a) through (f) below:

    (a) Item inspected

    (b) Date of inspection

    (c) Inspector

    (d) Type of observation

    (e) Results or acceptability

    (f) Reference to information on action taken in connection with non-conformances.

In the UFSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.37 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the UFSAR (see UFSAR Sections 1.6 and 17.3).

TABLE 1-6 CONFORMANCE

REGULATORY GUIDE **1.37**, "QUALITY ASSURANCE REQUIREMENTS FOR CLEANING OF FLUID SYSTEMS AND ASSOCIATED COMPONENTS OF WATER-COOLED NUCLEAR POWER PLANTS" (MARCH 1973) - ANSI STANDARD N45.2.1-1973, "CLEANING OF FLUID SYSTEMS AND ASSOCIATED COMPONENTS DURING CONSTRUCTION PHASE OF NUCLEAR POWER PLANTS"

~~Those areas of the QA Program applicable to onsite cleaning of materials and components, cleanliness~~ control, and pre-operation cleaning and layup of BSEP 1 and 2 fluid systems, will be in accordance ~~with~~ ANSI N45.2.1-1973, with the following exceptions:

1. At BSEP 1 and 2, a classification system similar to ANSI N45.2.1-~~1973~~ has been developed and is fully implemented for cleaning of fluid systems.
2. Section 1.4 titled Definitions: Definitions ~~in this standard~~ which are not included in ANSI N45.2.10 will be used; definitions which are ~~included~~ in ANSI N45.2.10 will be used as clarified in Duke Energy Progress, Inc.'s commitment to Regulatory Guide 1.74.
3. Section 1.5 titled Referenced Documents: Duke Energy Progress, Inc.'s commitment to other ~~documents referenced in this standard shall be as stated in our commitment to that document.~~

Conformance with Regulatory Guide 1.37 is addressed in Site Specific Attachment A, Table A17-1.

In the UFSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.38 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the UFSAR (see UFSAR Sections 1.6 and 17.3).

TABLE 1-6 CONFORMAN

REGULATORY GUIDE **1.38**, "QUALITY ASSURANCE REQUIREMENTS FOR PACKAGING, SHIPPING, RECEIVING, STORAGE, AND HANDLING OF ITEMS FOR WATER-COOLED NUCLEAR POWER PLANTS" (MARCH 1973) - ANSI STANDARD N45.2.2-1972, "PACKING, SHIPPING, RECEIVING, STORAGE, AND HANDLING OF ITEMS FOR NUCLEAR POWER PLANTS"

~~Packaging, shipping, receiving, storage, and handling of BSEP items are in accordance with applicable~~ requirements of ANSI N45.2.2-1972 with the following specific exceptions:

1. Section 1.4 titled Definitions: Definitions in this standard which are not included in ANSI N45.2.10 will be used; definitions which are included in ANSI N45.2.10 will be used as clarified in Duke Energy Progress, Inc.'s commitment to Regulatory Guide 1.74.
2. Section 1.5 titled Referenced Documents: Duke Energy Progress, Inc.'s commitment to other documents referenced in this standard shall be as stated in our commitment to that document.
3. Section 2.7 titled Classification of Items and Section 6.1.2 titled Levels of Storage:
   a. Special electronic equipment and instrumentation received as assembled panels will be stored as recommended by the manufacturer and/or based on engineering evaluation to prevent damage, deterioration, or contamination, but not necessarily in a Level A storage area.
   b. Chemicals used at BSEP 1 and 2 are stored at the point of use and/or in warehouse areas that satisfy the requirement of Level B storage. These storage areas have been evaluated and determined to be adequate for the limitations established by the manufacturer.
   c. Special nuclear materials are stored in areas specifically designed for such storage.
4. Paragraph 6.4.2, Care of Items: The following alternates are provided for indicated subparts:
   a. Space heaters in electrical equipment shall be energized unless a documented engineering evaluation determines that such space heaters are not required.
   b. Rotating electrical equipment, commensurate to safety or reliability, shall be given insulation resistance tests on a schedule basis, unless a documented evaluation determines that such tests are not required.
   c. Rotating equipment, commensurate to safety or reliability, shall be evaluated for shaft rotation requirements. The degree of turn shall be established so that the parts receive a coating of lubrication where applicable, and so that the shaft does not come to rest in a previous position. (90 deg. and 450 deg. rotations are examples.)
   d. Other maintenance requirements specified by the manufacturer's instructions shall be evaluated to determine applicability during storage of the item.
5. Section 7.3.4 - Duke Energy Progress, Inc. intends to comply with the requirements of this Section with the following clarification: Test loads equal to or greater than the original crane rating shall not pass over locations where special nuclear material is stored or where reactor system components or high cost equipment are located.

Conformance with Regulatory Guide 1.38 is addressed in Site Specific Attachment A, Table A17-1.

TABLE 1-6 CONFORMANCE TO NRC REGULATORY GUIDES

REGULATORY GUIDE **1.39**, "HOUSEKEEPING REQUIREMENTS FOR WATER-COOLED NUCLEAR POWER PLANTS" (MARCH 1973) - ANSI STANDARD N45.2.3-1973, "HOUSEKEEPING, DURING THE CONSTRUCTION PHASE OF NUCLEAR POWER PLANTS"

~~The applicable operational phase requirements of N45.2.3-1973 are followed at BSEP within the context~~ of the established QA Program with the following specific exception -- the zone designations of Section 2.1 of N45.2.3 and the requirements associated with each ~~zone~~ are considered impractical for implementation, as stated, at BSEP during the operations phase. Instead, procedures or instruction for housekeeping activities, ~~which include~~ the applicable requirements outlined in Section 2.1 of N45.2.3, and which take into account radiation control considerations, security considerations, and cleanliness ~~requirements, are developed on a case by case basis for work to be performed.~~

In the UFSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.39 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the UFSAR (see UFSAR Sections 1.6 and 17.3).

Conformance with Regulatory Guide 1.39 is addressed in Site Specific Attachment A, Table A17-1.

In the UFSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.58 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the UFSAR (see UFSAR Sections 1.6 and 17.3).

TABLE 1-6 CONFORMANCE T

REGULATORY GUIDE **1.58**, "QUALIFICATION OF NUCLEAR POWER PLANT INSPECTION, EXAMINATION, AND TESTING PERSONNEL" (SEPTEMBER 1980) - ANSI STANDARD N45.2.6-1978, "QUALIFICATION OF INSPECTION, EXAMINATION, AND TESTING PERSONNEL FOR NUCLEAR POWER PLANTS"

~~BSEP 1 and 2 shall comply with NRC Regulatory Guide 1.58, September 1980, which endorses ANSI~~ N45.2.6-1978, with the following exceptions:

Conformance with Regulatory Guide 1.58 is addressed in Site Specific Attachment A, Table A17-1.

1. Section 1.2 titled Applicability: Duke Energy Progress, Inc. elects not to apply the requirements of this guide to those personnel who are involved in the daily operations of surveillance, maintenance, and certain technical and support services whose qualifications are controlled by the Technical Specificatio y personnel in the followin nts:

   a. Nondes

   b. QC inspection personnel

   c. Receipt Inspection personnel

2. The fourth paragraph of Section 1.2 requires that the Standard be imposed on personnel other than Duke Energy Progress, Inc. employees. The applicability of the Standard to suppliers and contractors will be documented and applied, as appropriate, in the procurement documents for such suppliers and contractors.

3. Section 1.4 titled Definitions: Definitions in this Standard which are not included in ANSI N45.2.10 will be used; definitions which are included in ANSI N45.2.10 will be used as clarified in Duke Energy Progress, Inc.'s commitment to Regulatory Guide 1.74.

4. Section 2.5 titled Physical: Duke Energy Progress, Inc. will implement the requirements of this Section with the stipulation that, where no special physical characteristics are required, none will be specified. The converse is also true: if no special physical requirements are stipulated by Duke Energy Progress, Inc., none are considered necessary. Duke Energy Progress, Inc. employees receive an initial physical examination to assure satisfactory physical condition; however, only the following listed personnel will receive an annual examination:

   a. NDE personnel

   b. QC inspection personnel

   c. Receipt inspection personnel

   This annual examination shall consist of the near visual acuity using the standard Jaeger's type chart or equivalent test.

5. Section 3 titled Qualifications: Only personnel performing NDE (such as LP, MT, UT, and RT) will be grouped in levels of capability and certified as such. QC inspection personnel will be certified for inspection, review, and evaluation of inspection data, and reporting of inspection and test results.

6. Section 3.5 titled Education & Experience Recommendations: Duke Energy Progress, Inc. will certify individual inspectors through training and experience to requirements appropriate to the specific assignment; however, except for NDE, personnel will not be classified by levels of capability. The training and experience requirements will be directed toward qualifying personnel for specific inspection and testing operations.

In the UFSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.64 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the UFSAR (see UFSAR Sections 1.6 and 17.3).

TABLE 1-6 CONFORMANCE T

REGULATORY GUIDE **1.64**, "QUALITY ASSURANCE REQUIREMENTS FOR THE DESIGN OF NUCLEAR POWER PLANTS" (OCTOBER 1973) - ANSI STANDARD N45.2.11-1974, "QUALITY ASSURANCE REQUIREMENTS FOR THE DESIGN OF NUCLEAR POWER PLANTS"

~~Those areas of the QA Program for BSEP 1 and 2 applicable to design or modification of the plant are in~~ accordance with the applicable guidance of ANSI N45.2.11-1974, with the ~~following exception~~:

1. Section 1.4 titled Definitions: ~~Definitions in this~~ standard which are not included in ANSI N45.2.10 will be used; ~~definitions which~~ are included in ANSI N45.2.10 will be used as clarified in the Duke Energy Progress, Inc. ~~commitment to Regulatory Guide 1.74.~~

Conformance with Regulatory Guide 1.64 is addressed in Site Specific Attachment A, Table A17-1.

In the UFSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.74 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the UFSAR (see UFSAR Sections 1.6 and 17.3).

TABLE 1-6 CONFORMANC

REGULATORY GUIDE **1.74**, "QUALITY ASSURANCE TERMS AND DEFINITIONS" (FEBRUARY 1974) - ANSI STANDARD N45.2.10-1973, "QUALITY ASSURANCE TERMS AND DEFINITIONS"

~~Comply with the provisions of Regulatory Guide 1.74, February, 1974.~~

Conformance with Regulatory Guide 1.74 is addressed in Site Specific Attachment A, Table A17-1.

In the UFSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.88 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the UFSAR (see UFSAR Sections 1.6 and 17.3).

TABLE 1-6 CONFORMANCE

REGULATORY GUIDE **1.88**, "COLLECTION, STORAGE, AND MAINTENANCE OF NUCLEAR POWER PLANT QUALITY ASSURANCE RECORDS" (AUGUST 1974) - ANSI STANDARD N45.2.9-1974, "COLLECTION, STORAGE, AND MAINTENANCE OF QA RECORDS"

~~The requirements for collection, storage, and maintenance of QA records at BSEP will be in accordance~~ with ANSI N45.2.9-1974 and UFSAR Section 17.3, with the following specific exceptions:

Conformance with Regulatory Guide 1.88 is addressed in Site Specific Attachment A, Table A17-1.

1. The document control ~~facility at the BSEP shall comply with the requirement of Regulatory~~ Guide 1.88, October, 1 ~~gned~~ to protect the contents exceptions/alternatives

   a. Records are classified as Class 1 - Vital Records in accordance with NFPA 232-1975, Chapter 5, Section 5222; however, the records that meet this classification include those determined to be QA records as defined in ANSI N45.2.9-1974, paragraph 1.4.

   b. The facility is constructed in accordance with NFPA 232-1975 requirements for a fire-resistive file room as defined in NFPA 232-1975, Chapter 3. The walls were designed and constructed equivalent to a four-hour barrier. The doors are four-hour rated vault doors. Penetrations for electrical service and ventilation are sealed to a rating of 3 hours to protect the vault from a fire originating outside the vault.

   c. Due to the construction of the facility and other safety measures described herein, the statement in NFPA 232-1975, Chapter 3, Section 3022(d), "Class 1. . . records should not be subjected to these possibilities of destruction by fire" is deemed to be inappropriate.

   d. The facility is protected by a Halon fire extinguishing system, automatic door closures, and fire detection system.

   e. The floor of the file room is six inches higher than the floor areas outside the file room.

   f. The walls are reinforced concrete, ten inches thick.

   g. The exterior walls are totally enclosed and insulated from the outside environment and elements.

   h. The facility is constructed independently from the building.

   i. NFPA 232-1975, Chapter 3, Sections 332 and 333 describe methods for heating and ventilation. The facility will have penetrations in the wall for the purposes of heating and ventilation. The facility is equipped with a Heating, Ventilating and Air Conditioning system external to the file room with automatic closing dampers. "The temperature and humidity should be controlled between 65 and 75 degrees and 20 and 40 percent, respectively. Temporary operation outside this range is acceptable during extreme low outside relative humidity conditions which have shown to drop the vault humidity below 20 percent. Humidity above the upper 40 percent range is acceptable during maintenance. The above times are short in duration and the humidity change is gradual. Evaluation for out of tolerance conditions will be performed. Corrective actions or compensatory measures will be taken if required, to ensure there is no adverse impact on storage of records and to restore the vault to prescribed conditions."

   j. 120 VAC wall outlets are provided in the file room for emergency lighting and janitorial needs. These outlets may be de-energized from a disconnect box installed on the outer wall of the records storage facility. The lighting may be disconnected outside the room and is equipped with a red pilot light.

Conformance with Regulatory Guide 1.88 is addressed in Site Specific Attachment A, Table A17-1.

TABLE 1-6 CONFORMANCE

k. BSEP QA records not stored in the facility described above may be retained at off-site locations which meet the requirements (with approved exceptions as necessary) of Section 5.6, ANSI 45.2.9-1974.

2. Paragraph 1.4, Definitions: The phrase "when the document has been completed" is clarified to mean when the document has received the final review performed by the organizational element responsible for generating or collecting the records. In the case of a record package made up of several individual documents, the package will be considered to be the document for the purpose of determining when the record is complete.

3. Paragraph 3.2.1, Generation of Quality Assurance Records: The phrase "completely filled out" is clarified to mean that sufficient information is recorded to fulfill the intended purpose of the record.

4. Paragraph 4.2, Timeliness: Duke Energy Progress, Inc.'s contractual agreement with its contractors and suppliers will constitute fulfillment of the requirements of this paragraph.

5. Paragraph 5.4, Preservation: The following clarification is substituted for the current subparagraph 5.4.2: "Records shall not be stored loosely. They shall be secured for storage in file cabinets or on shelving in containers." The following clarification is substituted for the current subparagraph 5.4.3: "Appropriate provisions shall be made for special processed records (such as radiographs, photographs, negatives, microfilm and magnetic media) to prevent or minimize damage for excessive light, stacking, electromagnetic fields, temperature and humidity, etc. Manufacturer's recommendations will be considered as appropriate."

6. Paragraph 5.6, Facility: This paragraph provides no distinction between temporary and permanent facilities. To cover temporary storage, the following clarification is added: "Complete records may be stored in one-hour fire rated file cabinets until transmitted for permanent storage. In general, records shall not be maintained in temporary storage by the generating organization for more than 90 days after completion. Any exceptions to this requirement must be justified, evaluated and approved by the Document Management Supervisor and documented. A list of exceptions shall be maintained and available for NRC review. Exceptions may include records needed on a continuing basis for an extended period of time at the location of the work group responsible for generating the records and records which are cumulative in nature and could best be turned over for storage for a designated period of time. In addition, Document Management & Information Services will store records in one-hour rated file cabinets while the records are being processed for permanent storage.

7. Records may be stored on optical disk i
the recommendations of Generic Letter

Records may be stored on other electro
following requirements:

a. The electronic process used does n

b. The data for each record is stored i
to two separate backup media.

c. The legibility of the data for each re
computer system and on the backup

d. The computer system retains the w
in separate remote locations which
storage.

Conformance with Regulatory Guide 1.88 is addressed in Site Specific Attachment A, Table A17-1.
Exception 7 is replaced with standard exception for handling of Electronic Records in Table 17-1 at Regulatory Guide 1.88. The standard exception was approved by NRC safety evaluation dated May 26, 2015 to Duke Energy Carolinas, ADAMS Accession No. ML15138A347

TABLE 1-6 CONFORMANCE TO NRC REGULATORY GUIDES

e. To ensure permanent retention of records, the records stored on electronic media are acceptably copied onto new electronic media before the manufacturer's certified useful life of the original electronic media is exceeded. This includes verification of the record so copied.

f. If the electronic computer system in use is to be replaced by an incompatible new system, the records stored on the old system's media are acceptably converted into the new system before the old system is taken out of service. This includes verification of the records so copied.

Conformance with Regulatory Guide 1.88 is addressed in Site Specific Attachment A, Table A17-1.
Exception 7 is replaced with standard exception for handling of Electronic Records in Table 17-1 at Regulatory Guide 1.88. The standard exception was approved by NRC safety evaluation dated May 26, 2015 to Duke Energy Carolinas, ADAMS Accession No. ML15138A347

In the UFSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.94 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the UFSAR (see UFSAR Sections 1.6 and 17.3).

TABLE 1-6 CONFORMANC

REGULATORY GUIDE **1.94**, "QUALITY ASSURANCE REQUIREMENTS FOR INSTALLATION, INSPECTION, AND TESTING OF STRUCTURAL CONCRETE AND STRUCTURAL STEEL DURING THE CONSTRUCTION PHASE OF NUCLEAR POWER PLANTS" (REV. 1, APRIL 1976) - ANSI STANDARD N45.2.5-1974, "SUPPLEMENTARY QUALITY ASSURANCE REQUIREMENTS FOR INSTALLATION, INSPECTIONS, AND TESTING, OF STRUCTURAL STEEL DURING THE CONTRACT PHASE OF NUCLEAR POWER PLANTS"

~~Regulatory Guide 1.94, Revision 1, April 1976 endorses ANSI N45.2.5-1974. BSEP 1 and 2 do not~~ commit to Regulatory Guide 1.94 but do endorse parts of ANSI N45.2.5-1974 ~~as described~~ below.

The original specification requirements, ~~applicable~~ guidance contained in ANSI N45.2.5-1974, or acceptable ~~alternatives~~ based on an engineering evaluation will be utilized in the event future structural ~~work is to be performed which falls under the established requirements of the BSEP QA Program.~~

Conformance with Regulatory Guide 1.94 is addressed in Site Specific Attachment A, Table A17-1.

In the UFSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.116 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the UFSAR (see UFSAR Sections 1.6 and 17.3).

TABLE 1-6 CONFORMANCE TO

REGULATORY GUIDE **1.116**, "QA REQUIREMENTS FOR INSTALLATION, INSPECTION, AND TESTING OF MECHANICAL EQUIPMENT AND SYSTEMS" (JUNE 1976) - ANSI STANDARD 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"

~~Regulatory Guide 1.116, June 1976, endorses ANSI N45.2.8-1975. BSEP 1 and 2 does not commit to~~ Regulatory Guide 1.116 but does endorse parts of ANSI N45.2.8-1975 as described below.

Within the context of the established QA Program, the applicable guidance contained in ANSI N45.2.8-1975 will be utilized in relation to mechanical maintenance or modification with the following exceptions:

1. Section 1.4 titled Definitions: Definitions in this standard which are not included in ANSI N45.2.10 will be used; definitions which are included in ANSI N45.2.10 will be used as clarified in Duke Energy Progress, Inc.'s commitment to Regulatory Guide 1.74.
2. Section 1.5 titled Referenced Documents: Duke Energy Progress, Inc.'s commitment to other documents referenced in this standard shall be as stated in our commitment to that document.
3. Section 2.8 titled Measuring and Test Equipment: Duke Energy Progress, Inc. will implement the applicable portions of this Section as follows:
   a. The status of portable items of measuring and test equipment and reference standards shall be identified by use of status cards, computer schedules, or tags for the date recalibration is due. These items are in a calibration program which requires recalibration on a specified frequency or, in certain cases, prior to use.
   b. Instrumentation and electrical equipment in the categories listed below shall be in a calibration program. This program provides, by the use of status cards, computer schedules, or tags, for the date that recalibration is due and indicates the status of calibration. The identity of person(s) performing the calibration is provided on the calibration documents.
      1) Instruments installed as listed in the Technical Specifications
      2) Installed instrumentation used to verify Technical Specification parameters
      3) Installed safety-related instruments and electrical equipment that provide an active function during operation or during shutdown; i.e., instead of being designated safety-related solely because the instrument is an integral part of a pressure retaining boundary,
4. Section 6 titled Data Analysis and Evaluation states in part, "Procedures shall be established for processing inspection and test data and their analysis and evaluation." At BSEP 1 and 2, data processing procedures per se have not been developed; instead, test data are recorded, processed, and analyzed in accordance with procedures and instructions in appropriate functional areas; e.g., maintenance, startup.

Conformance with Regulatory Guide 1.116 is addressed in Site Specific Attachment A, Table A17-1.

In the UFSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.123 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the UFSAR (see UFSAR Sections 1.6 and 17.3).

TABLE 1-6 CONFORMANCE T

REGULATORY GUIDE **1.123**, "QUALITY ASSURANCE REQUIREMENTS FOR CONTROL OR PROCUREMENT OF ITEMS AND SERVICES FOR NUCLEAR POWER PLANTS" - ANSI STANDARD N45.2.13, "QUALITY ASSURANCE REQUIREMENTS FOR CONTROL OR PROCUREMENT OF ITEMS AND SERVICES FOR NUCLEAR POWER PLANTS" (DRAFT 2, REV. 4, APRIL 1974)

~~BSEP does not commit to Regulatory Guide 1.123; however, the applicable guidance contained in~~ ANSI N45.2.13 (Draft 2, Revision 4, April 1974) and ANSI N18.7-1976, will be utilized in relation to procurement of items and services performed under the established requirements of the BSEP QA Program.

When purchasing commercial-grade calibration services from calibration laboratories that have been accredited by National Voluntary Laboratory Accreditation Program (NVLAP) or American Association for Laboratory Accreditation (A2LA), the procurement documents are not required to impose a quality assurance program consistent with ANSI N45.2-1971. In such cases, accreditation may be accepted in lieu of the purchaser imposing a quality assurance program consistent with ANSI N45.2-1971, provided the following are met.

1. The accreditation is to ANSI/ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories."
2. The accrediting body is either NVLAP or A2LA.
3. The published scope of accreditation for the calibration laboratory covers the needed measurement parameters, ranges, and uncertainties.
4. The purchase documents impose additional technical and administrative requirements, as necessary, to satisfy Duke Energy Progress, Inc.'s Quality Assurance Program and technical requirements, including the requirement for the calibration certificate/report to include identification of the laboratory equipment/standards used.
5. The purchase documents require reporting as-found calibration data when calibrated items are found out-of-tolerance.

When purchasing commercial-grade calibration services from an NVLAP or A2LA accredited calibration laboratory, verification that the supplier's accreditation meets the following shall be performed and documented:

1. The accreditation is to ANSI/ISO/IEC 17025.
2. The accrediting body is either NVLAP or A2LA.
3. The published scope of accreditation for the calibration laboratory covers the needed measurement parameters, ranges, and uncertainties.

Conformance with Regulatory Guide 1.123 is addressed in Site Specific Attachment A, Table A17-1.

The exception for purchase of Commercial Grade Calibration services is replaced with standard Exception in Table 17-1 at Regulatory Guide 1.123. The standard exception continues to use the SE to Arizona Public Services Company dated Sept 28, 2005, but is updated to reflect NRC clarification in Letter ML100130016.

In the UFSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.144 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the UFSAR (see UFSAR Sections 1.6 and 17.3).

TABLE 1-6 CONFORMANCE

REGULATORY GUIDE **1.144**, "AUDITING OF QUALITY ASSURANCE PROGRAMS FOR NUCLEAR POWER PLANTS" (JANUARY 1979) - ANSI STANDARD N45.2.12-1977, "REQUIREMENTS FOR AUDITING OF QUALITY ASSURANCE PROGRAMS FOR NUCLEAR POWER PLANTS"

~~Duke Energy Progress, Inc. will follow the requirements and recommendations of Regulatory Guide 1.144~~ and ANSI Standard N45,2.12, with the following clarifications:

1. Duke Energy Progress, Inc. will follow the requirements and recommendations of Regulatory Guide 1.144, paragraphs C.1, C.2, C.3.a.2, C.3.b, and C.4. Duke Energy Progress, Inc.'s position on paragraph C.3.a.1 is as follows:

   Audits of operational phase activities, as outlined in UFSAR Chapter 17.0 shall be performed at the frequencies stated in the Brunswick Quality Assurance Program Description.

   When purchasing commercial-grade calibration services from an NVLAP or A2LA accredited ss and accrediting body may be credited with s of verifying acceptability and effective plier's quality assurance program. In lieu of other licensee, or performing a commercial-grade supplier's accreditation shall be performed by the imum, verification of the following:

   025.

   A2LA.

   the calibration laboratory covers the needed ncertainties.

Conformance with Regulatory Guide 1.144 is addressed in Site Specific Attachment A, Table A17-1.

The portion of exception 1 addressing purchase of Commercial Grade Calibration services is replaced with standard Exception in Table 17-1 at Regulatory Guide 1.123. The standard exception continues to use the SE to Arizona Public Services Company dated Sept 28, 2005, but is updated to reflect NRC clarification in Letter ML100130016.

3. ~~Duke Energy Progress, Inc. will comply with~~ the last paragraph of Section 4.4 of ANSI N45.2.12 concerning issuing audit reports, with the following clarification: "Audit reports shall be issued within thirty working days after the last day of the audit. The last day of the audit shall be considered to be the day of the post-audit conference. If a post-audit conference is not held because it was deemed unnecessary, the last day of the audit shall be considered to be the date the post-audit conference was deemed unnecessary as documented in the audit report."

4. ANSI N45.2.12 Paragraph 4.3.1, Preaudit Conference: Duke Energy Progress, Inc. will comply with the requirement of this paragraph by inserting the word "Normally" at the beginning of the first sentence. This clarification is required because, in the case of certain unannounced audits or audits of a particular operation or work activity, a preaudit conference might interfere with the spontaneity of the operation or activity being audited. In other cases, persons who should be present at a preaudit conference may not always be available. Such lack of availability should not be an impediment to beginning an audit. Even in the above examples, which are not intended to be all inclusive, the material set forth in paragraph 4.3.1 will normally be covered during the course of the audit.

5. ANSI N45.2.12 Paragraph 4.3.3, Post Audit Conference: Duke Energy Progress, Inc. will substitute and comply with the following paragraphs:

   For all external audits, a post audit conference shall be held with management of the audited organization to present audit findings and clarify misunderstandings. Where no adverse findings exist, this conference may be waived by management of the audited organization. Such waiver shall be documented in the audit report. For all internal audits, unless unusual operating or maintenance conditions preclude attendance by appropriate

TABLE 1-6 CONFORMANCE TO NRC REGULATORY GUIDES

~~managers/supervisors, an audit exit shall be held with managers/supervisors. If there are no~~ adverse findings, management of the audited organization may waive the audit exit. Such waiver shall be documented in the audit report.

6. ANSI N45.2.12 Paragraph 4.4, Reporting:

   a. This paragraph requires that the audit report be signed by the audit team leader which is not always the most expeditious route for the audit report to be issued as soon as possible. Duke Energy Progress, Inc. will comply with Paragraph 4.4 as clarified to read:

      An audit report shall be signed by the audit team leader or the leader's supervisor in the absence of the audit team leader. In cases where the audit report is not signed by the audit team leader due to the leader's absence, the record copy of the report must be signed by the audit team leader upon return. The report shall not require the audit team leader's review/concurrence/signature if the audit team leader is no longer employed by Duke Energy Progress, Inc. at the time audit report is issued. The audit report shall provide:

   b. Duke Energy Progress, Inc. will comply with subparagraph 4.4.3 clarified to read: "Supervisory level personnel with whom significant discussions were held during the course of preaudit (where conducted), audit, and post audit (where conducted) activities.

   c. Subparagraph 4.4.6 requires audit reports to include recommendations for corrective actions. Duke Energy Progress, Inc. may choose not to comply with this requirement. Instead, Duke Energy Progress, Inc. audit reports are required to document findings.

Conformance with Regulatory Guide 1.144 is addressed in Site Specific Attachment A, Table A17-1.

In the UFSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.146 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the UFSAR (see UFSAR Sections 1.6 and 17.3).

TABLE 1-6 CONFORMANCE

REGULATORY GUIDE **1.146**, "QUALIFICATION OF QUALITY ASSURANCE PROGRAM AUDIT PERSONNEL FOR NUCLEAR POWER PLANTS" (REV. 0, AUGUST 1980) - ANSI STANDARD N45.2.23-1978, "QUALIFICATION OF QUALITY ASSURANCE PROGRAM AUDIT PERSONNEL FOR NUCLEAR POWER PLANTS"

~~BSEP 1 and 2 shall comply with NRC Regulatory Guide 1.146, Revision 0, which endorses~~ ANSI N45.2.23-1978, with the following exceptions:

Conformance with Regulatory Guide 1.146 is addressed in Site Specific Attachment A, Table A17-1.

1. Section 1.4 titled Definitions: Definitions in this Standard which are not included in ANSI N45.2.10 will be used; "AUDIT" which is included in ANSI N45.2.10 will be used as clarified in Duke Energy Progress, Inc

2. Section 2.2 t NSI B45.2 which will be assumed to l ate subsection 2.2.1 which reads:

   Orientation to provide a working knowledge and understanding of the Duke Energy Progress, Inc. Quality Assurance Program, including the Regulatory Guides and ANSI standards included in the Program, and Duke Energy Progress, Inc. procedures for performing audits and reporting results.

3. (Deleted)

4. Section 4.1 titled Organizational Responsibility: Duke Energy Progress, Inc. will comply with this Section with the substitution of the following sentence in place of the last sentence in the Section:

   Management or the Audit/NOS Team Leader shall, prior to commencing the audit, assign personnel who collectively have experience or training commensurate with the scope, complexity, or special nature of the activities to be audited.

5. Section 5.3 titled Updating of Lead Auditors' Records: Duke Energy Progress, Inc. will substitute the following sentence for this Section:

   Records for each Lead Auditor shall be maintained and updated during the annual management assessment as defined in Section 3.2 (as clarified).

6. Section 5.4 titled Record Retention: Duke Energy Progress, Inc. will substitute the following sentence for this Section:

   Qualification records shall be retained as required by the Duke Energy Progress, Inc. Quality Assurance Program.

7. ANSI N45.2.23-1978, Section 2.3.4 titled Audit Participation: Duke Energy Progress, Inc. will substitute the following for this Section:

   Prospective Lead Auditors shall demonstrate the ability to effectively implement the audit process and effectively lead an audit team. This process is described in written procedures which provide for evaluation and documentation of the results of this demonstration. In addition, the prospective Lead Auditor shall have participated in at least two Nuclear Oversight audits within the year preceding the individual's effective date of qualification. Upon successful demonstration of the ability to effectively implement the audit process and effectively lead audits, and having met the other provisions of Section 2.3 of ANSI/ASME N45.2.23-1978, the individual may be certified as being qualified to lead audits.

TABLE OF CONTENTS

In the UFSAR, Section 17.1 and its subsections are identified as "Historical"

In the UFSAR, Delete subheadings for 17.3 as content is moved to a Topical Report

TABLE OF CONTENTS

In the UFSAR, Delete subheadings for 17.3 as content is moved to a Topical Report

17.1.18 AUDITS

UFSAR 17.1 content is "Historical" remaining in the UFSAR

Criterion

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

Implementation

This criterion is met as described in
17A.3.3.6, 17A.3.4.2, and 17A.3.4.4

In the UFSAR, Replace the content of 17.3 BNP Quality Assurance Program Description with:

The description of the Quality Assurance Program is contained in the Duke Energy Corporation Topical Report Quality Assurance Program Description Operating Fleet, DUKE-QAPD-001 -A-. That Topical Report follows the format and content guidance of NUREG-0800 Section 17.3 except it is based on ANSI N18.7-1976 in lieu of ANSI/ASME NQA-1 and NQA-2.

Topical Report DUKE-QAPD-001 -A- is incorporated by reference into the UFSAR.

17.2 DELETED

Section 17.2 was deleted by Amend

17.3 BNP QUALITY ASS

17.3.1 MANAGEMENT

17.3.1.1 Methodology

It is the policy of Duke Energy Progress, Inc. to operate and maintain nuclear power plants without jeopardy to its employees or to the public.

17.3.1.1 Except as noted

The Quality Assurance (QA) Program Ma he 10 CFR 50 Appendix B QA Program. This manual and its revisions are approved by the Executive Vice President - Nuclear Generation/Chief Nuclear Officer (CNO).

The Second paragraph from the UFSAR is covered generically in Second paragraph of 17.3.1.1. The standard documentation does not spell out the QA Program Manual, instead using generic term of "implementing procedures." Approval level for procedures is addressed in 17.3.1.3 as indicated in Standard Review Plan.

The QA Program Manual and implementing operation, maintenance, modification, and organizations responsible for operating and define responsibilities and authorities, pres activities for the operation of safety related, components and requires appropriate verifi system identifying items and activities to which this program applies is maintained at each nuclear plant or work location. Controls and responsibilities for maintaining this list or system are prescribed in procedures.

The QA Program Manual and implementing procedures shall be used and updated as necessary to assure that the Company's nuclear generating units are managed such that they will be operated and maintained in a safe manner.

Deviations fro President - Nu

Content of the fifth UFSAR paragraph is not carried forward. The deleted paragraph stated "Deviations from the QA Program shall be permitted only upon written authority from the Executive Vice President - Nuclear Generation Group/ CNO." Compliance with the QA Program is mandatory. Intentional deviations are not permitted under normal operating conditions.

The QA Progr quality and sa are achieved a ensure the pla

evaluates the performance and effectiveness of plant programs, processes, personnel, and the line organization's self-assessment. The activities of the Nuclear Oversight Department are intended to detect deficiencies in the desired levels of performance and quality, communicating these conditions to the Executive Vice President, Nuclear Generation and Chief Nuclear Officer and other appropriate Vice Presidents responsible for the assessed organizations, ensuring adequate action is taken to correct and eliminate these conditions.

17.3.1.2 Organization

17.3.1.2 The reference to the organization description from UFSAR Section 13.1 is replaced with a generic organization description in the QAPD Section 17.3.1.2.
UFSAR Section 13.1 is NOT affected by this change.

The Duke Energy Progress, Inc. or
Section 13.1 of the UFSAR and in
program refers to the production or
Generation/CNO.

17.3.1.3 Responsibility

17.3.1.3 1p

The primary responsibility for quality performance, including the identification and effective correction of problems potentially affecting the safe and reliable operation of the Company's nuclear facilities, resides with the line organization.

17.3.1.3 2p

The managers of functions involving nuclear fuel, engineering, and operations shall assure that their personnel are adequately trained for their jobs and they have the experience and education required to carry out their assigned responsibilities. These managers shall ensure that adequate resources and procedures are available for correctly implementing the w his program.

17.3.1.3 3p

Independent inspections are conducted to verify specific critical quality attributes. Individuals performing these inspections have access to necessary information to ensure that activities and equipment meet established acceptance criteria.

17.3.1.3 4p

The Nuclear Oversight Department is responsible for monitoring and assessing activities that are performed by the line organization for, or in support of, the Brunswick Nuclear Plant and Nuclear Generation. These activities include those performed at the individual plant sites, corporate offices, and other Duke Energy Nuclear locations. The Nuclear Oversight Department independently monitors and assesses the Company's nuclear programs on a continuing basis. As part of this continuing assessment process, the Nuclear Oversight Department performs audits to verify that applicable elements of the quality assurance and other regulatory required programs have been developed, documented, and effectively implemented in accordance with specified requirements. These evaluations are performance based with emphasis on the quality of the end product.

17.3.1.3 2p supplemented by 17.3.3.3.6, Independent Audit of QA Functions.

The Executive Vice President - Nuclear Generation and Chi onsible for ensuring that the results and effectiveness of the Nuclear Oversight D sses in accomplishing its assigned objectives will be regularly evalu o exceed 24 months, with exceptions as allowed in Table 1-6. This will be accom endent assessment of the Nuclear Oversight Department with the results reporte e Vice President - Nuclear Generation and Chief Nuclear Officer. This assess ults and effectiveness of the Nuclear Oversight Department performing activities described in Section 17.3.3.3.3, including the Brunswick Nuclear Plant Nuclear Oversight Section and will include an evaluation to assure that the Nuclear Oversight Department is functioning as an independent organization. It will also determine the effectiveness and independence of Nuclear Oversight Department personnel in rotational assignments into and out of the Nuclear Oversight Department.

On an approximately quarterly basis, a periodic briefing of Nuclear O ities, along with any potential findings and recommendations, shall be presented sident - Nuclear Generation/CNO. The Vice President – Nuclear Oversight D ess to the corporate management up to and including the Executive Vice Presid /CNO to

17.3.1.3 4p, except the frequency is omitted, updates are provided at a minimum with the completion of audits

17.3.1.2.2

resolve any quality or nuclear safety related concerns if the concerns cannot be resolved satisfactorily at a lower management level.

17.3.1.4 Authority

The program and procedures require that the authority and duties of persons performing activities affecting quality functions be clearly established, and that these individuals and organizations have sufficient authority and organizational freedom to:

1. Identify quality, nuclear safety, and performance problems.
2. Order unsatisfactory work to be stopped and control further processing, delivery, or installation of nonconforming material.
3. Initiate, recommend, or provide solutions for conditions adverse to quality.
4. Verify implementation of solutions.

Content retained in A17.3.1.4 as site specific amplification of 17.3.1.4 generic text.

17.3.1.5 Personnel Training and Qualification

17.3.1.5 1p

Both on-site and off-site personnel within the Duke Energy Progress, Inc. organization and contract personnel, who perform activities affecting quality (implement elements of the QA Program) shall be indoctrinated and trained such that they are knowledgeable and capable of performing their assigned tasks.

17.3.1.5 2p

Training programs and reviews ensure that proficiency of personnel performing activities affecting quality is achieved and maintained by training (formal & on-the-job training), examining, and/or certifying, as appropriate.

17.3.1.5 4p

Personnel training and qualification records are to be maintained in accordance with plant procedures.

Personnel within the Operating organization performing duties of a licensed operator are indoctrinated, trained, and qualified as required by 10 CFR 55.

17.3.1.5 5p

17.3.1.6 Corrective Action

17.3.1.6 1p

The primary goal of the Duke Energy Progress, Inc. corrective action program is to improve overall plant operations and performance by identifying and correcting root causes of equipment and human performance problems. Part of this effort is directed toward encouraging individuals to voluntarily report events, near misses, and potential problems. It is the policy of Duke Energy Progress, Inc. to seek improvement in each nuclear plant's performance as well as in the performance of supporting Departments.

17.3.1.6 2p

Management will emphasize to all levels in the organization the importance of identifying and effectively correcting situations that can adversely affect human and equipment performance. An important aspect of this program is the assignment of qualified personnel to accurately evaluate equipment/human performance problems, implement appropriate corrective actions, and verify corrective action adequacy.

17.3.1.6 3p

Management is responsible for fostering a positive environment that encourages the self-identification of adverse conditions and trends.

The program requires that an evaluation of adverse conditions such as conditions adverse to quality, nonconformances, failures, malfunctions, deficiencies, deviations, and [illegible]ment is conducted to determine need for corrective action.

Content retained in A17.3.1.6 as site specific amplification of 17.3.1.6.

Conditions adverse to quality are identified through inspections, asses[illegible]view of documents.

The program requires corrective action to be initiated to preclude recu[illegible]s adverse to quality.

Procedures require follow-up reviews, verifications, inspections, etc., to be conducted to verify proper implementation of corrective action and to close out the corrective action d

The program outlines the methodology for resolution of disputes involving c issues arising from a difference of opinion between identifying personnel a

Significant conditions adverse to quality are reported to appropriate manag evaluation.

Periodic review and evaluation of adverse trends are performed by manag

Content retained in A17.3.1.6 as site specific amplification of 17.3.1.6.

17.3.1.7 Regulatory Commitments

17.3.1.7 1p

The operation of nuclear plants shall be accomplished in accordance with the U.S. Nuclear Regulatory Commission (NRC) regulations specified in Title 10 of the U.S. Code of Federal Regulations.

17.3.1.7 2p

The operation of the Company's nuclear power plants shall be in accordance with the terms and conditions of the facility operating license issued by the NRC.

Written procedures shall be established, implemented, and maintained to ens Process Control Program.

A17.3.1.7 as site specific but content is also addressed in 17.3.2.14

17.3.1.7 3p

The program and procedures are designed to ensure compliance with the NRC Regulatory Guides and ANSI Standards applicable to the operations phase and to which BSEP is committed. The commitment to comply or exceptions for Duke Energy Progress, Inc. to follow are presented in Section 1.8 in this UFSAR. The requirements of this section (17.3) may provide additional exceptions to these regulatory guides and codes and standards.

17.3.1.7 3p

Table 17-1 contains an informational cross-reference between Regulatory Guides and Standards included in the BSEP QA Program. Refer to Table 1-6 of this UFSAR for details on commitments and exceptions to Regulatory Guides and Standards.

The NRC shall be notified of changes to the QA Program description in accordance with 10 CFR 50.54(a)(3).

17.3.1.7 4p

17.3.2 PERFORMANCE/VERIFICATION

17.3.2.1 Methodology

17.3.2.1 1p thru 4p

Personnel performing work activities are responsible for achieving the acceptable level of quality.

Personnel performing verification activities are responsible for verifying the achievement of acceptable quality.

Work is accomplished and verified using instructions, procedures, or appropriate means that are of a detail commensurate with the activity's complexity and importance to safety.

Criteria that define acceptable quality are specified in procedures and/or other documents, and verification, when required is performed against these criteria.

17.3.2.2 Design Control

17.3.2.2 3p

Procedures define requirements for the control of design activities associated with modifications of items that are safety-related.

17.3.2.2 1p

Design changes are subject to appropriate controls which were applicable to the original design. Duke Energy Progress, Inc. may designate an organization to make design changes other than the organization which prepared the original design. In any case, Duke Energy Progress, Inc. will assure that the organization has access to pertinent background information, including an adequate understanding of

the requirements and intent of the original design, and that the organization has demonstrated competence in applicable design areas.

17.3.2.2 5p

Measures shall be taken to assure that the design selected to accomplish a necessary or desirable change does not create "new" problems in off-normal modes of operation or in adjacent inter-tied systems.

17.3.2.2 5p

Design changes made to the plant are accomplished in a planned and controlled manner in accordance with written, approved procedures. These procedures include provisions, as necessary, to ensure that:

1. Design documents (such as specifications, drawings, procedures and instructions) reflect applicable regulatory, performance, quality, and quality verification requirements and design bases. These documents are checked for accuracy and completeness by qualified individuals and reviewed to assure that documents are prepared in accordance with procedures.
2. There is adequate review of the suitability of materials, parts, equipment, and processes which are essential to the safety-related functions of structures, systems, and components.
3. Materials, parts, and equipment which are commercial grade items or which have been previously approved for a different application are evaluated for suitability prior to selection.
4. Design documents and procedures are controlled to reflect design modifications and "as-built" conditions.
5. Internal and external design interfaces between organizations participating in modification activities are adequately defined and controlled, including the review, approval, release, and distribution of design documents and revisions.

17.3.2.2 5p

The above controls are applied as necessary to such aspects of design as reactor physics; seismic, stress, thermal, hydraulic, radiation, and accident analyses; compatibility of materials; and accessibility for inservice inspection, maintenance, and repair.

17.3.2.2 7p

Any errors or deficiencies found in the design process or the design itself are documented and corrected, as outlined in the applicable corrective action program procedures.

17.3.2.2 8p

Following completion of the design change/modification, controlled design change information is made available to affected personnel.

117.3.2.2 8p

Training, on design changes/modifications that affect the operation of the plant, is provided to affected plant operating personnel.

17.3.2.3 Design Verification

17.3.2.3

Procedures require that the adequacy of design changes be verified by the performance of design reviews, alternate calculations, or qualification testing. The control measures specified in the plan for control of design verification activities are as follows:

1. Personnel responsible for design verification do not include the original designer or the designer's immediate supervisor unless the immediate supervisor is the only one capable of verifying the design.
2. Procedures identify the positions or organizations responsible for design verification and define their authority and responsibility. Procedures also provide guidelines as to the method of design verification to be used. Unless otherwise specified, design verification is performed by the method of independent design reviews and includes verification that Safety Analysis Report (UFSAR) commitments have been addressed.
3. Qualification tests to verify the adequacy of the design are performed using the most adverse specified design conditions.

4. Design changes are reviewed to assure that design parameters are defined and that inspection and test criteria are identified.
5. Design verification is completed prior to relying upon the component, system or structure to perform its function.

17.3.2.4 Procurement Control

17.3.2.4 1p

Duke Energy Progress, Inc. maintains a program for supplier evaluation, results of supplier evaluation, surveillance of suppliers, supplier furnished records, certificates of conformance, effectiveness of supplier quality control, and the purchase of spare or replacement parts.

17.3.2.4 2p

Procedures define requirements for the control of procurement documents and ensure that purchased material and services are of acceptable quality.

Potential contractors and suppliers are evaluated prior to award of a procurement contract when needed to assure the contractor's or supplier's capability to comply with a requirements.

Retained as Site Specific in A17.3.2.4
This content essentially duplicates portions of ANSI N45.2.13.

Procurement documents, such as purchase specifications, contai

1. Technical, administrative, regulatory, and reporting requir component identification requirements, drawings, specific standards, test and inspection requirements, and special
2. Identification of the documentation to be prepared, mainta applicable) to Duke Energy Progress, Inc. for review and may include, as necessary, inspection and test records, q required documentation.
3. Identification of those records to be retained, controlled, a and those delivered to the purchaser prior to use or inst

17.3.2.5 3p

Receipt inspections are performed by qualified inspectors in accordance with procedures to assure that:

1. Materials, equipment, or components are properly identified and correspond with associated documentation.
2. Inspection records or certificates of conformance attesting to the acceptance of materials, equipment, and components are completed and are available prior to installation or use.
3. Materials, equipment, and components are inspected and judged acceptable in accordance with predetermined inspection instructions prior to installation or use.
4. Items not meeting applicable requirements are identified and controlled until proper disposition is made.

17.3.2.5 5p

Appropriate controls and provisions have been included in procurement procedures for selection, determination of suitability for the intended use, evaluation, receipt, and quality evaluation of commercial grade items to ensure that these items will perform satisfactorily in service.

Procurement documents require suppliers to operate in accordance wi compatible with the applicable requirements of Duke Energy Progress, procedures where their services are utilized in support of plant activitie

Retained as Site Specific in A17.3.2.4

17.3.2.5 Procurement Verification

17.3.2.5 1p

Duke Energy Progress procurement documents are prepared, reviewed, approved, and controlled in accordance with procedures to assure that requirements are correctly stated, inspectable, verifiable, and controllable, and there are adequate acceptance/rejection criteria. Procurement documents are reviewed by personnel knowledgeable in applicable technical and quality requirements, and documentary evidence of that review and approval is retained and available for verification.

17.3.2.6 Identification and Control of Items

17.3.2.6 1p

Procedures require spare or replacement parts to be subject to QA program controls, codes and standards, and technical requirements which ensure they are suitable f

17.3.2.6 1p

Items accepted or released are identified as to their inspection status prior to forwarding them to a controlled storage area or releasing them for installation or further work. (Bulk items will not require individual accept tags; however, status of unacceptable bulk items will be so indicated).

Procedures require that materials, parts, and components be identified and controlled to prevent the use of incorrect or defective items. These procedures also require that identification of items be maintained either on the item in a manner that does not affect the function or qua traceable to the item.

A17.3.2.6 Retained as Site Specific

Procedures implementing these requirements provide for the followin

1. Verification that items received at the plant are properly ident the appropriate documentation, such as drawings, specificati manufacturing and inspection documents, nonconformance r reports.
2. Verification of item identification consistent with the Duke Energy Progress, Inc. inventory control system and traceable to documentation which identifies the proper uses or applications of the item.

17.3.2.6 5p

Consumables utilized in safety-related structures, systems and components are subject to appropriate controls as described in procedures.

17.3.2.7 Handling, Storage, and Shipping

17.3.2.7 1p

Procedures define requirements for the control of the handling, storage, and shipping of safety-related items. These procedures require measures to be taken to ensure special handling, storage, cleaning, packaging, shipping, and preservation requirements are established to control these activities in accordance with design and specification requirements to preclude damage, loss or deterioration by environmental conditions such as temperature or humidity.

Provisions are established to control the shelf life and storage of chemicals, and other consumable materials.

A17.3.2.7 Retained as Site Specific

17.3.2.8 Test Control

17.3.2.8 1p

Procedures define requirements for test programs when required and require that items be tested to demonstrate that they will perform satisfactorily in service.

17.3.2.8 2p

Modifications, repairs, and replacements are accomplished in accordance with the original design and testing requirements or acceptable alternatives.

Test procedures incorporate or reference the following, as required:

1. Instructions and prerequisites for performing the tes
2. Use of proper test equipment,
3. Mandatory inspection hold points,
4. Acceptance criteria

A17.3.2.8 Retained as Site Specific

Test results are documented, evaluated, and their acceptab individual or group.

When the acceptance criteria are not met, affected areas ar

17.3.2.9 Measuring and Test Equipment Control

17.3.2.9 2p

Procedures define requirements for the control of measuring and test equipment used. These procedures include requirements to establish procedures for the calibration technique and frequency, maintenance, and control of measuring and test equipment.

17.3.2.9 3p

Inspections and test devices are selected to assure accurate measurement (i.e., to overcome inherent inaccuracies associated with environment, human error, equipment, etc.).

17.3.2.9 2p a.

Measuring and test equipment (M&TE) is identified and traceable to the calibration test data.

Measuring and test instruments are calibrated at specified intervals (or immediately before and after use) based upon one or more of the following:

17.3.2.9 2p b.

1. Technical Specifications
2. Required accuracy
3. Intended use
4. Frequency of usage
5. Stability characteristics
6. Other conditions affecting measurement
7. Manufacturer's recommendations

17.3.2.9 2p c.

Status of calibration for measuring and test equipment is provided through the use of tags, stickers, labels, routing cards, computer programs, or other suitable means. The status indicators indicate the date recalibration is due or the frequency of recalibration.

17.3.2.9 2p j.

Portable measuring and test equipment are calibrated by standards at least four times as accurate as the portable measuring and test equipment, unless limited by the state of the art.

A17.3.2.9 site specific requirements for accuracy of calibration standards

Special tools such as torque wrenches, calipers, and micrometers are calibrated to be accurate as the application(s) for which it is used, using standards which are at least a special tool being calibrated.

Installed measuring and test instruments are calibrated by instruments at least as acc installed, unless limited by the state of the art.

Reference and transfer standards are traceable to nationally recognized standards; or standards do not exist, provisions are established to document the basis for the calibra

Measures are required to be taken and documented to determine the validity of previous inspections and test results, if the measuring and test equipment is found to be out of calibration.

17.3.2.9 2p e.

17.3.2.10 Inspection Test and Operating Status

17.3.2.10 1p

Procedures define requirements for the identification and control of the inspection, test, and operating status of safety-related structures, systems, and components.

A17.3.2.10 1p

se procedures include the application, removal, and verification of inspection and welding stamps, or r status indicators as appropriate.

17.3.2.10 1p and 2p

Measures are established for indicating the operating status of structures, systems, and components. These measures include the use of checklists, computer programs, logs, stickers, tags, labels, record cards, and test records to indicate the acceptable operating status of installed equipment. Installed equipment which, if operated, could cause damage to other equipment/systems or to personnel is tagged to indicate its non-operational status and to prevent inadvertent use.

17.3.2.10 4p

Selected plant procedures and subsequent revisions receive separate technical review to ensure required inspections, tests, and other critical operations are included.

Altering the sequence of required tests, inspections, and safety-related operations can onl
accomplished by methods outlined in procedures.

17.3.2.10 2p

17.3.2.11 Special Process Control

17.3.2.11 1p, 2p

Procedures define requirements for the control of special processes, such as welding, heat treating, and nondestructive examination.

Procedures require that special processes be performed by qualified personnel using proper equipment and in accordance with written qualified procedures. These personnel and procedures are to be qualified in accordance with applicable codes, standards, and specifications as described in procedures. Qualification records of special process procedures and personnel performing special processes are maintained and available for verification.

17.3.2.12 Inspection

17.3.2.12

Procedures define requirements for an inspection program to verify conformance to performance and quality requirements specified for those activities and services.

Inspections are performed by personnel who are not directly responsible for performing or supervising the activity being inspected. Inspection personnel are qualified in accordance with applicable codes and standards, and their qualifications and certifications are maintained current.

Inspections are performed in accordance with procedures or other documents which provide for the following:

1. Identification of individuals or groups responsible for performing the inspections
2. Identification of characteristics and activities to be inspected
3. Acceptance criteria
4. Inspection techniques
5. Recording the results of the inspection, review of the results, and identification of the inspector
6. Indirect control by monitoring of processing methods, equipment, and personnel when direct inspection is not possible

Procedures identify inspection hold points, beyond which work may not proceed until inspected.

When acceptance criteria are not met, the condition will be documented in accordance with the applicable corrective action program procedures and re-inspected or evaluated, as appropriate.

Modification, repairs, and replacements are inspected in accordance with the original design and inspection requirements or acceptable alternatives.

17.3.2.13 Corrective Action

The primary goal of the Duke Energy Progress, Inc. corrective action program is to i
operations and performance by identifying and correcting root causes of equipment
performance problems.

A17.3.2.13
Retained as site specific

Procedures define requirements for a corrective action program that charges person
supporting the nuclear plants with the responsibility to identify adverse conditions (in
adverse to quality).

Procedures include requirements for verification of the acceptability of the rework/re
inspection and/or testing in accordance with the original inspection or test requireme
alternative inspection and testing method.

Conditions that require rework/repairs are identified through the use of maintenance A17.3.2.13

17.3.2.14 Control of Documents

17.3.2.14 1p

Procedures define requirements for the development, review, approval, issue, use, revision, and control of documents. These procedures define the scope of which documents are to be controlled.

Procedures require the identification of those individuals or organizations responsible for reviewing, approving, and issuing documents and revisions thereto. 17.3.2.14 4p

Changes to documents are reviewed and approved by the same organization that perfo review and approval or by other designated qualified responsible organizations. A17.3.2.14

Controlled documents are to be distributed to and used by the person performing the activity in accordance with plant procedures. 17.3.2.14 3p 17.3.2.14 2p

A document control system has been established to identify the current revision number of instructions, procedures, specifications, and drawings. 17.3.2.14 2p

Superseded documents are controlled to prevent inadvertent use.

17.3.2.15 Records

17.3.2.15 1p

The program requires that sufficient records be maintained to provide documentary evidence of the quality of items and the accomplishment of activities affecting quality. 17.3.2.15 2p

Procedures define requirements for the identification, collection, and storage of quality assurance records. 17.3.2.15 7p

Records are identifiable and retrievable through the use of indexes and filing systems, which are required by the program.

17.3.2.15 8p

Procedures are required to be developed to indicate responsibilities and retention periods.

The structure in which single copy records are maintained is designed to prevent destruction, deterioration or theft. This structure ensures protection against destruction b deterioration by the environmental conditions of temperature and humidity. A17.3.2.15

The dual storage provision of ANSI N45.2.9-1974 is used for the storage of optical disk and other electronic media, i.e., magnetic tape. Replaced with 17.3.2.15 3p, 4p, 5p and standard exception in RG 1.88.

17.3.2.16 Record Retention

Facility records shall be retained in accordance with ANSI N45.2.9-1974.

The following records shall be retained for at least five years: 17.3.2.15 list of typical records. 17.3.2.15 9p addresses retention.

a. Records and logs of facility operation covering time interva
b. Records and logs of principal maintenance activities, inspe ement of principal items of equipment related to nuclear safety.
c. All Reportable Events.
d. Records of surveillance activities, inspections, and calibrat al Specifications.
e. Records of changes made to Operating Procedures.
f. Records of radioactive shipments.
g. .Records of sealed source and fission detector leak tests and results.
h. Records of annual physical inventory of all sealed source material of record.

The following records shall be retained for the duration of the Facility Operating License:

a. Records and drawing changes reflecting facility design modifications made to systems and equipment described in the Final Safety Analysis Report.
b. Records of new and irradiated fuel inventory, fuel transfers and assembly burnup histories.
c. Records of facility radiation and contamination surveys.
d. Records or radiation exposure for all individuals entering radiation control areas.
e. Records of gaseous and liquid radioactive material released to the environs.
f. Records of transient or operational cycles for those facility components identified in UFSAR Table 5-11.
g. Records of reactor tests and experiments.
h. Records of training and qualification for current members of the plant staff.
i. Records of inservice inspections performed pursuant to 10 CFR 50.55a(g).
j. Records of QA activities required by the QA Manual.
k. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR 50.59.
l. Records of the service lives of all safety-related hydraulic and mechanical snubbers including the data at which the service life commences and associated installation and maintenance records.
m. Records of analyses required by the Radiological Environmental Monitoring Program.
n. Records of meetings of the PNSC.
o. Records of Independent Review.

17.3.3 ASSESSMENT

17.3.3.1 Methodology

17.3.3.1 except as noted

The overall objective at CP&L is to encourage ownership, involvement, and dedication by each individual supporting the Nuclear Generation Group. This involves continually and aggressively looking for ways to improve the overall performance and safety at each plant. This approach of identifying and correcting conditions early, requires active support by management and employees.

A process of assessment is an attitude by personnel that the Duke Energy Progress, Inc. Nuclear Generation Group is improving on a continual basis. This process, along with an effective corrective action program, ensures that conditions are identified early, corrected promptly and effectively before becoming significant quality or safety problems.

Personnel responsible for carrying out the assessment functions, including safety committee activities, evaluations pursuant to 10 CFR 50.59 verifications, self-assessment and independent assessments, are cognizant of day-to-day activities, events, and have necessary experience to act in a management advisory function.

The Nuclear Oversight Section Directors/Managers, Superintendents, and Independent Review Engineers, separately, will hold periodic, but not less frequently than semi-annual (+25% for s flexibility), peer review meetings to share and exchange of information among sites. These m allow the use of designated alternates to attend.

A17.3.3.1 Site specific meeting

Assessment activities are accomplished using processes or procedures of a detail needed to accomplish the function based on complexity and importance to safety.

The managers of functions that support the Nuclear Generation Group are responsible for ensuring that self-assessment activities and processes are implemented within their functions on a continuing basis.

17.3.3.2 Self-Assessment

17.3.3.3
The content of 17.3.3.2 and 17.3.3.3 for independent assessments are merged in new section 17.3.3.3.

It is the management expectation that indivi nd product. Adverse conditions identified during self-ass ed in accordance with the corrective action program.

Self-Assessment activities are not necessar rforming self-assessment do not require any special equired to hold their present position.

17.3.3.2.1 Line Organization

17.3.3.1 3p, 4p

Each individual, work group, and manager s that may need improvement.

Members of the line organization are charged with the responsibility to continually evaluate their activities and use each opportunity to achieve higher standards of quality and improved performance.

Self-assessment activities focus on how well the integrated quality assurance program is working and is to identify conditions that hinder the organization from achieving its safety, quality, and performance goals and standards.

17.3.3.2.2 Nuclear Oversight

17.3.3.3
The content of 17.3.3.2 and 17.3.3.3 for independent assessments are merged in new section 17.3.3.3.

The Nuclear Oversight Department shall monitor specific functi management, to determine that the desired levels of performan assigned these duties shall work with each nuclear plant or cor appropriate, to improve implementation of Duke Energy Progre programs and processes to support safe and reliable operation

In promoting self-assessment, the functions of the Nuclear Ove 1) independently assess the self-assessment and corrective action implementation process of the line organization; 2) ensure that "lessons learned" are shared among the plants and support organizations; and 3) facilitate the use of industry peer evaluators to identify industry best practices.

The Nuclear Oversight Department performs these functions by evaluating the self evaluation implementation of each of the major functional areas of maintenance, operations, engineering, environmental and chemistry, radiation protection, and plant support, once every 24 months (plus appropriate scheduling flexibility). Nuclear Oversight Department teams may include peers from other Duke Energy Progress, Inc. plants and from the nuclear utility industry, as appropriate, to lend expertise to the assessment.

Nuclear Oversight will, by procedure, evaluate for each assessed functional area: 1) the effectiveness of the self-assessment program, 2) the ability to incorporate lessons learned from within Duke Energy Progress, Inc. , as well as industry events, and 3) the corrective action implementation facilitate exchange of information among organizations, the Nuclear Oversight Section Directors/Managers and Superintendents will hold separate periodic group meetings, r semi-annually (+25% for scheduling flexibility).

A17.3.3.1
Site specific meeting

Written Nuclear Oversight Department evaluations, including the results and recommended corrective actions, will be reported to senior management.

17.3.3.3 Independent Assessment

17.3.3.3

The Nuclear Oversight Department is responsible for conducting independent assessments of functions and activities affecting the nuclear programs at Duke Energy Progress, Inc. locations as delineated in Section 17.3.1.3. The Nuclear Oversight Department independently monitors and assesses the Company's nuclear programs on a continuing basis. As part of this continuing assessment process, the Nuclear Oversight Department performs audits to verify that applicable elements of the quality assurance

and other regulatory required programs have been developed, documented, and effectively implemented in accordance with specified requirements. In this section, the words assess, assessment, and their various word forms are used generically to indicate the act of evaluation the performance of the line organization.

17.3.3.3.1 Organization

17.3.3.3.1

Personnel performing independent assessment activities are generally assigned to Nuclear Oversight from the line and other organizations on a rotational basis for two to five year assignm A17.3.3.3.1 personnel are full-time assessors during this time period, they have no direct responsi being assessed. However, on an exception basis, personnel in Nuclear Oversight may provide assistance to the line organization by participating in emergency preparedness activities, ad hoc committees or analyzing technical issues, if such assistance is deemed to be in the overall best interest of safety and is approved in advance by Nuclear Oversight Section management. In addition, subject matter experts from the line organizations may be utilized to add specific technical expertise to the assessment team or a specific audit team. When supporting a specific audit team, the subject matter experts will work under the direction of the audit team leader and will not be assessing any functions associated with their normal job assignment at the audited site.

Selection of assessment personnel is based on experience and/or training that establishes that their qualifications are commensurate with the complexity or special nature of the area being assessed. The process for qualification of personnel to perform audits and assessments is established in procedures.

17.3.3.1 1p

The Vice President - Brun the Executive Vice President - Nuclear Generation and Chief Nuclear Officer are responsible for ensuring that an environment exists for a strong self-assessment program at the Brunswick site and within Nuclear Generation, respectively. Nuclear Oversight includes auditors assigned responsibility for the independent audits of the Brunswick Nuclear Plant. The Vice President - Brunswick Nuclear Plant, working with the Vice President – Nuclear Oversight, A17.3.3.3.1 that assessment personnel are assigned from line and other organizations on a rotational b BNP Nuclear Oversight organization.

Personnel performing assessments, including audits, shall have access to records, procedures, and personnel to gather data.

17.3.3.3.2 Assessment Process

17.3.3.3.2

The independent assessment process includes gathering data, analyzing data, focusing on selected issues and identifying deficiencies to desired performance. The results of independent assessments are communicated to management in a manner that causes action to correct deficiencies and develop action to prevent recurrence. In addition, this process should evaluate corrective measures adopted to eliminate the deficiencies identified.

Data is gathered using performance based techniques during:

1. Observations of work activities (including line organization self-assessment activities)
2. Interviews
3. Reviews of documents to gather information (including the use of NRC, INPO, and other agency evaluations)
4. Review of evaluations pursuant to 10 CFR 50.59
5. Team independent audits, and
6. Analysis of plant data and reports (including adverse condition reports, etc.)

Audits are an independent assessment activity performed to verify that applicable elements of the quality assurance and other regulatory required programs have been developed, documented, and effectively implemented in accordance with specified requirements. As such audits involve planning activities to

identify the organizations to be evaluated, the characteristics to be focused on during the audit, and the applicable acceptance criteria. Independent Audit activities are selected with flexibility based on various factors. These factors include but are not limited to: importance to safety and reliability, Nuclear Oversight independent assessments of site work activities, time since last audit, plant management perspective, outside agency audits, and problem areas identified from industry and Duke Energy Progress, Inc. experience.

Preparation activities may include a review of performance data, relevant documentation, previous assessment data, industry experience, team member experience, and management input. These activities enable the team to focus on issues which may impact safety and reliability when analyzing data.

Assessments are scheduled on the basis of the status and safety importance of the activities or processes being performed. The schedule is flexible and dynamic to allow assessment to be changed depending on plant conditions, events, or issues raised by senior management. Audits are scheduled per the following section.

17.3.3.3.3 Nuclear Oversight Audit Program

17.3.3.3.3

Nuclear Oversight audits will be performance based and will be scheduled based on plant performance and importance to safety but at a frequency not to exceed twenty-four months, with exceptions as allowed in Table 1-6. These audits shall encompass:

17.3.3.3.7 address extension poilcy

1. The conformance of facility operation to provisions contained within the Technical Specifications and applicable license conditions.
2. The performance, training and qualifications of the Nuclear Generation staff supporting the Brunswick Nuclear Plant.
3. The results of actions taken to correct deficiencies occurring in facility equipment, structures, or systems that affect nuclear safety; or method of operation that affect nuclear safety.
4. The performance of activities required by the Operational Quality Assurance Program to meet the criteria of Appendix B, 10 CFR 50 for activities performed by the Nuclear Generation Department and the Supply Chain Department, supporting the Brunswick Nuclear Plant.
5. Any other area of nuclear generation considered appropriate by responsible management.
6. The Radiological Environmental Monitoring Program and the results thereof
7. The Offsite Dose Calculation Manual and implementing procedures
8. The Process Control Program and implementing procedures for processing and packaging of radioactive wastes

Audits of activities prescribed by the Code of Federal Regulations will be performed at the frequencies prescribed by the applicable regulation, with exceptions as allowed in Table 1-6.

These assessments shall encompass:

17.3.3.3.3.1

1. Emergency Preparedness (per 10 CFR 50.54(t))
2. Security (per 10 CFR 50.54(p))
3. Radiation Protection (per 10 CFR 20.1101c)

A17.3.3.3.3.1 RP Audit is site specific.

17.3.3.3.4 Deleted

17.3.3.3.5 Independent Audit of Fire Protection Program

17.3.3.3.3.2

An independent fire protection audit shall be performed at least once per 24 months utilizing qualified offsite licensee personnel or an outside fire protection engineer.

A17.3.3.3.3.2 site specific details for FP audit

An independent fire protection audit shall be performed at least once per 36 months by which must include an outside, qualified fire protection engineer. The outside fire prote be external to Duke Energy Progress, Inc. and meet education and experience require Professional Member of the Society of Fire Protection Engineers.

17.3.3.3.6 Results

17.3.3.3.4 (except as noted)

Adverse conditions are reported in accordance with the applicable corrective action program procedure or by formal correspondence between responsible levels of management.

Independent audit results are communicated to line management to allow for timely action to address potential problems or recognize strengths and superior performance.

Independent assessment results are documented and reviewed with management personnel responsible for the areas assessed.

Results of independent assessments, special investigations, and analysis of data will be provided to Nuclear Oversight Management, as appropriate, for review. ~~A periodic briefing of Nuclear Oversight activities, along with potential findings and recommendations, President - Nuclear Generation/CNO.~~

The periodic briefing is deleted here. 17.3.1.3, 4th paragraph addresses this.

Follow-up is accomplished to assure that corrective action is taken as a result of the audit and that deficient areas are re-audited, when necessary, to verify implementation of adequate corrective actions.

17.3.3.3.7 Nuclear Oversight Independent Review Program

A17.3.3.2 Independent reviews for ANSI N18.7 Section 4.3 are site specific.

The Nuclear Oversight Section shall function to provide independent review of anges, tests, and procedures; verify that Reportable Events are investigated in a timel cted in a manner that reduces the probability of recurrence of such events; and detect be apparent to a day-to-day observer.

The individuals assigned responsibility for independent reviews shall be qualifi ines. These individuals shall collectively have the experience and competence requi es in the following areas:

a. Nuclear Power Plant Operations
b. Nuclear Engineering
c. Chemistry and Radiochemistry
d. Metallurgy
e. Non-destructive Testing
f. Instrumentation and Control
g. Radiological Safety
h. Mechanical and Electrical Engineering
i. Administrative Controls
j. Seismic and Environmental
k. Quality Assurance Practices
l. Other Appropriate Fields

The Manager – BNP Nuclear Oversight Section shall have a bachelor's degree in an engineering or related field and, in addition, shall have a minimum of ten years related experience, of which a minimum of five years shall be in the operation and/or design of nuclear power plants.

The individuals performing independent reviews shall have a bachelor's degree in an en related field or equivalent and, in addition, shall have a minimum of five years related ex

The Manager – BNP Nuclear Oversight Section or individuals performing independent re not possess formal educational requirements shall not be automatically eliminated where provide sufficient demonstration of their abilities. These other factors shall be evaluated case-by-case basis and approved and documented by the Vice President – Nuclear Ove positive factors listed as follows may be considered in making the evaluation of an accep to the educational requirements.

a. High School diploma or GED.
b. Academic and related technical training.
c. Has or have held a license as a senior reactor operator at BSEP.
d. Four years of additional experience in his area of responsibility.
e. Four years of supervisory or management experience.
f. Demonstrated ability to communicate clearly (orally and in writing).
g. Certification of academic ability and knowledge by corporate management.
h. Successful completion of the Engineer-In-Training examination.
i. Professional Engineer license.
j. Associate degree in Engineering or related science.

An individual may possess competence in more than one specialty area. If sufficient exp available within the Nuclear Oversight Department, competent individuals from other Dul Progress, Inc. organizations or outside consultants shall be utilized in performing indepe and investigations.

The documents submitted under Section 17.3.3.3.7 shall be reviewed by individuals mee requirements of this section to ensure applicable disciplines are encompassed. Multiple conducted on documents where required to meet applicable disciplines.

Independent reviews shall be performed by individuals not directly involved with the activ or responsible for the activity under review.

The Nuclear Oversight independent review program shall be conducted in accordance w approved procedures.

The Nuclear Oversight Section shall perform reviews of the following:

a. Written evaluations of changes in the facility as described in the FSAR (as updat procedures as described in the FSAR (as updated) and tests or experiments not FSAR (as updated) which are completed without prior NRC approval under the p 10 CFR 50.59. These reviews are to verify that such changes, tests, or experim involve a change in the Technical Specifications or require NRC approval pursua 10 CFR 50.59. These reviews may be conducted after appropriate managemen implementation may proceed prior to completion of the review.

b. Proposed changes in procedures required by Technical Specifications, propose facility, or proposed tests or experiments, any of which involve a change in the T Specifications or require NRC approval pursuant to 10 CFR 50.59 prior to implementation.

A17.3.3.2 Independent reviews for ANSI N18.7 Section 4.3 are site specific.

c. Proposed changes to the Technical Specifications or Operating License prior to implementation.

d. Violations, deviations and reportable events, which require reporting to the NRC in as:

   1. Violations of applicable codes, regulations, orders, technical specifications, lice requirements or internal procedures or instructions having safety significance.

   2. Significant operating abnormalities or deviations from normal or expected perfo plant safety-related structures, systems, or components, and

   3. Reportable Events as specified in 10 CFR 50.73.

e. Any other matter involving safe operation of the nuclear power plant that the Manag Nuclear Oversight Section, deems appropriate for consideration or which is referre Manager – BNP Nuclear Oversight Section, by the on-site operating organization, functional organizational units within Duke Energy Progress, Inc.

A17.3.3.2 Independent reviews for ANSI N18.7 Section 4.3 are site specific.

Results of Nuclear Oversight independent reviews shall be documented and retained.

17.3.4 REVIEW AND AUDIT

17.3.4.1 Procedures, Tests, and Experiments

A17.3.4.1 entire section

1. The procedures established, implemented, and maintained for the Quality Assurance Program for effluent and environmental monitoring use the guidance in Regulatory Guide 1.21, Revision 1, June 1974 and Regulatory Guide 4.1, Revision 1, April 1975.
2. Temporary changes to procedures of Technical Specification 5.4.1, any other procedures that affect nuclear safety, and proposed tests or experiments may be made provided:
   a. The intent of the original procedure, proposed test or experiment is not altered.
   b. The change is approved by two members of the plant management staff, at least one of whom holds a Senior Reactor Operator License on the unit affected.
   c. The change is documented, reviewed pursuant to Sections 17.3.4.4.1 and 17.3.4.2 and approved ~~by the General Manager - Brunswick Plant or his previously designated alternate~~ within 14 days of implementation.
3. The evaluation prepared in accordance with Sections 17.3.4.4.1.a written determination, with basis, of whether or not the procedures experiments, and changes thereto require NRC approval pursuant to 10 CFR 50.59, or whether they involve a change to the Technical Specifications.
4. Following the evaluation pursuant to 10 CFR 50.59, the procedures required by Technical Specification 5.4.1, other procedures that affect nuclear safety, proposed tests or experiments, and changes thereto (other than editorial or typographical) which have been determined to not require NRC approval pursuant to 10 CFR 50.59 or involve a change to the Technical Specifications shall be approved prior to implementation ~~by the General Manager - Brunswick Plant or his previously designated alternate~~.

17.3.1.3 addresses approval authority for procedures

17.3.1.3 addresses approval authority for procedures

17.3.4.2 Modifications

A17.3.4.2 entire section

1. The evaluation prepare Section 17.3.4.4.1.c shall include a written determination, with bas the proposed modification is a change in the facility as described in the FSA olves a change to the Technical Specifications, or requires NRC approval pursuant to 10 CFR 50.59.

2. Following the evaluation pursuant to 10 CFR 50.59, proposed modifications which have been determined to not require NRC approval pursuant to 10 CFR 50.59 or involve a change to the Technical Specifications shall be approved by the General Manager - Brunswick Plant or his previously designated alternate.

17.3.4.3 Operating License/Technical Specifications

A17.3.4.3 entire section

1. Operating License/Technical Specification changes shall be p ce with 10 CFR 50.90.
2. Operating License/Technical Specification change requests shall be reviewed by the Plant Nuclear Safety Committee (PNSC) in accordance with Section 17.3.4.6.8 and by the BNP Nuclear Oversight Section in accordance with Section 17.3.3.3.7.
3. Changes to the 61BTH Independent Spent Fuel Storage Installation (ISFSI) Technical Specifications and License are processed by Transnuclear, Inc., and will only be reviewed by the PNSC if a plant-specific safety issue is identified.

17.3.4.4 10 CFR 50.59 Evaluations and Independent Review Control

A17.3.4.4 entire section

1. An evaluation pursuant to 10 CFR 50.59 shall be prepared for each of the followin
   a. Changes to procedures required by Technical Specification 5.4.1 or changes to other procedures that affect nuclear safety with the exception of those procedures, which are exempt from review under 10 CFR 50.59 in accordance with NEI 96-07, Revision 1, as endorsed by Regulatory Guide 1.187, November 2000.
   b. Proposed tests or experiments that affect nuclear safety.
   c. Proposed modifications to plant systems or equipment that affect nuclear safety.
2. Two reviews of the item and evaluation(s) prepared in accordance with Section 17.3.4.4.1 shall be performed prior to approval and implementation.
3. The item and associated evaluation(s) shall be examined in order to determine whether an interdisciplinary review is required in accordance with Section 17.3.4.5.5.

17.3.4.5 Nuclear Reviewers

A17.3.4.5 entire section

1. Individuals shall be designated/approved by the General Manager - Brunswick Plant for performing evaluations pursuant to 10 CFR 50.59.
2. Individuals designated under Section 17.3.4.5.1 shall have an academic degree in an engineering or related field or equivalent and two years related experience.
3. A list shall be maintained of individuals qualified to perform evaluations pursuant to 10 CFR 50.59, including additional individuals whose expertise may be necessary during the reviews to assure that the reviewers collectively possess the background and qualifications in the disciplines necessary and important to the specific review.
4. The list specified in Section 17.3.4.5.3 shall include the disciplines for which each individual is qualified.
5. For those cases where interdisciplinary reviews are required, as many individuals as necessary shall be used to perform the nuclear review function.
6. One of the two reviewers shall be an individual other than the original preparer or the individual approving the action.

17.3.4.6 Plant Nuclear Safety Committee

A17.3.4.6 entire section

1. As an effective means for the regular review, c ance of plant operational safety, a PNSC shall be established.
2. The PNSC shall function through the utilization of subcommittees, audits, investigations, reports, and/or performance of reviews as a group.
3. The PNSC shall be composed of a chairman and six to eight members. The members shall be from the following areas:
   - ◊ Operations
   - ◊ Maintenance
   - ◊ Engineering
   - ◊ Health Physics/Chemistry
   - ◊ Regulatory Affairs
4. The PNSC Chairman, alternate Chairmen, members and alternate members shall be designated in writing by the Plant General Manager. Members shall be individuals who are unit manager level or above from the site management organization. Alternate members shall, as a minimum, meet equivalent qualification criteria as specified in Section 4.4 of ANSI N18.1-1971 for professional-technical personnel. "Equivalent qualification" is defined to meet the criteria of Sections 4.3.2 and 4.5.1 of ANSI N18.1-1971 for nontechnical personnel as it pertains to education and experience."
5. The quorum of the PNSC necessary for the performance of the activities of these Technical Specifications shall consist of the Chairman (or his designated alternate) and four members (including alternates).
6. No more than two alternates shall be counted toward meeting the quorum requirement or participate as voting members of the PNSC at any one time.
7. The PNSC shall meet at least once per calendar month and as convened by the PNSC Chairman or his designated alternate.
8. The PNSC activities shall include the following:
   a. Review of all procedures required by Technical Specification 5.4.1 and changes thereto (and any other procedures and changes thereto), any of which require NRC approval pursuant to 10 CFR 50.59 or involve a change to the Technical Specifications, prior to implementation.
   b. Review of all proposed tests or experiments that require NRC approval pursuant to 10 CFR 50.59 or involve a change to the Technical Specifications, prior to implementation.
   c. Review of all proposed modifications that require NRC approval pursuant to 10 CFR 50.59 or involve a change to the Technical Specifications, prior to implementation.
   d. Review of all proposed changes to the Technical Specifications or Operating License, prior to implementation.
   e. Review of reports on violations of Technical Specifications including reports covering evaluation and recommendations to prevent recurrence to the Vice President - Brunswick Nuclear Plant.
   f. Performance of special reviews, investigations (or analyses), and reports thereon as requested by the Manager – BNP Nuclear Oversight Section.
   g. Review of all Reportable Events.
   h. Review of facility operations to detect potential nuclear safety hazards.

i. Review of the Security Plan at least once per calendar year.

j. Perform annual review of the Radiological Emergency Response Plan (0ERP) in accordance with the approved 0ERP.

A17.3.4.6 entire section

k. Review of accidental, unplanned, or uncontrolled [illegible] preparation of reports covering evaluation, recommendations and disposition of the corrective action to prevent recurrence and the forwarding of these reports to the Vice President - Brunswick Nuclear Plant.

l. Review of changes to the Process Control Program and the Offsite Dose Calculation Manual.

9. If there is a disagreement between recommendations of a majority of the PNSC and the actions contemplated by the General Manager - Brunswick Plant, the PNSC shall provide written notification within 24 hours to the Vice President - Brunswick Nuclear Plant. The course determined by the General Manager - Brunswick Plant to be the most conservative shall be followed.

10. The PNSC shall maintain written minutes of each PNSC meeting that, at a minimum, document the results of all PNSC activities performed under the provisions of Section 17.3.4.6 requirements. Copies shall be provided to the Vice President - Brunswick Nuclear Plant and the Manager – BNP Nuclear Oversight Section.

11. Each Reportable Event shall be reviewed by the Plant Nuclear Safety Committee - Brunswick Plant and shall be submitted to the Manager – BNP Nuclear Oversight Section and the Vice President - Brunswick Nuclear Plant.

END-OF-CHAPTER

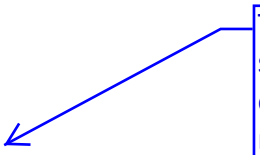
Attachment 4

Markup of the Shearon Harris Nuclear Power Plant Final Safety Analysis Report (FSAR)
Chapters 1.8 and 17.3

66 Pages Follow

This markup package includes UFSAR pages affected by the transfer of information to the Topical Report providing the Quality Assurance Program Description.

Red colored Information identifies Changes within the UFSAR.



Text callout within Blue Text box with arrows identifies content in standard text of the Body of the Topical Report in Attachment 1 of this Letter. This text generally is in the form of a section number followed by indication of which paragraph addresses the content. for example "17.3.2.1 2p" indicates the content is reflected in the second paragraph of Section 17.3.2.1

Blue Text within Blue Text box without arrow identifies content retained as site specific in Attachment B to the Topical Report in Attachment 1 of this Letter. This text is generally is in the form of a Site Specific Attachment section number followed by indication of which paragraph addresses the content. For example "B17.3.2.1 2p" indicates the content is reflected in Attachment B in the second paragraph of Section B17.3.2.1. In certain cases, this type box contains the justification for deleted content.

1.8 Conformance to NRC Regulatory Guides

This section describes the extent to which the SHNPP project complies with all applicable NRC regulatory guides. All regulatory guides which by virtue of the implementation section of the guide itself are applicable to the project, or have been designated as Category 2, 3, or 4 by the NRC's Regulatory Requirements Review Committee have, as a minimum, been addressed.

Whenever the requirements of the technical specifications conflict with the requirements of regulatory guides and codes and standards, the requirements of the technical specifications shall govern.

Specific applicability of referenced standards (i.e., standards other than the primary one endorsed by the specific regulatory guide) are noted in that portion of this section where the regulatory guide has endorsed it as the primary standard. The extent to which a standard applies to a particular situation will be determined by responsible plant management as evidenced through concurrence/approval of governing procedures or other documents.

Regulatory Guide 1.1 NET POSITIVE SUCTION HEAD (NPSH) FOR EMERGENCY CORE COOLING AND CONTAINMENT HEAT REMOVAL SYSTEM PUMPS (REV. 0)

The SHNPP Project complies with Regulatory Guide 1.1.

FSAR Reference: Sections 6.2.2, 6.3.2, and 6.5.2.

Regulatory Guide 1.28 QUALITY ASSURANCE PROGRAM REQUIREMENTS (DESIGN AND CONSTRUCTION) ~~(REV 0)~~

~~For those activities performed under operating license, SHNPP shall comply with the requirements of Regulatory Guide 1.33 as specified in CP&L's position on Regulatory Guide 1.33. Regulatory Guide 1.28 is not considered necessary and is not included as part of the Operational QA Program.~~

In the UFSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.28 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the FSAR in Chapter 17 (see Section 17.3).

Conformance with Regulatory Guide 1.28 is addressed in Site Specific Attachment B, Table B17-1.

Regulatory Guide 1.30 QUALITY ASSURANCE REQUIREMENTS FOR THE INSTALLATION AND TESTING OF INSTRUMENTATION AND ELECTRIC EQUIPMENT ~~(REV. 0)~~

In the UFSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.30 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the FSAR in Chapter 17 (see Section 17.3).

~~Carolina Power & Ligh~~ ANSI N45.2.4-1972 as it is ~~~~ following clarifications:

1. Paragraph 2.1, ~~~~ responsible plant management, will be incorporated into procedures.

2. Paragraphs 2.2 and 2.3; Prerequisites, Procedures, and Instructions: these controls will be implemented as determined by responsible plant management in approved procedures.

3. Paragraph 2.4, Results, will be implemented as set forth in Section 17.3 and by compliance with Regulatory Guide 1.33.

4. Paragraph 2.5, Measuring and Test Equipment, will be implemented as set forth in Section 17.3 in lieu of the requirements set forth in this paragraph.

5. Paragraph 3, Preconstruction Verification: "Approved instructions" ~~are interpreted to include vendor manuals~~

Conformance with Regulatory Guide 1.30 is addressed in Site Specific Attachment B, Table B17-1.

6. Paragraph 4, Installation, will be implemented by inclusion of requirements in modification or maintenance procedures, where such procedures are used. Standard CP&L practices require that appropriate care be exercised whether a procedure is required or not.

7. Paragraph 5.1, Inspections, including subparagraphs 5.1.1, 5.1.2, and the first sentence in 5.1.3, will be implemented as set forth in Section 17.3. The remaining sentence in 5.1.3 is covered in equivalent detail by CP&L's commitment to Regulatory Guide 1.33, paragraph 5.2.6; the requirements as set forth in that commitment will be implemented in lieu of the requirements stated here.

8. Paragraph 5.2, Tests, including subparagraphs 5.2.1 through 5.2.3, will be implemented as set forth in Section 17.3. The test program will consider the elements outlined in this paragraph when developing test requirements for inclusion in maintenance and modification procedures. In some cases, testing requirements may be met by post-installation surveillance testing in lieu of a special post-installation test.

9. Paragraph 6, Post-Construction Verification, is not generally considered applicable at operating facilities because of the scope of the work and the relatively short interval between installation and operation.

10. Paragraph 6.2.1 titled Equipment Tests: The last paragraph of this section deals with tagging and labeling. Carolina Power & Light Company will comply with an alternate last paragraph which reads: "Each safety-related component of process instrumentation is identified with a unique number. This number is utilized in instrument maintenance records so that current calibration status, including data such as the date of the calibration and identity of person that performed the calibration, can be readily determined. Such information may also be contained on tags or labels which may be attached to installed instrumentation."

11. Paragraph 7, Data Analysis and Evaluation, will be implemented as stated with adding the clarifying phrase "When used" at the beginning of that paragraph. The plant shall have procedures, to the extent determined by responsible plant management, for the performance of analyzing test data, but these procedures are not referred to as data processing procedures.

FSAR References: Sections 8.3.1.2 and 17.3.

Conformance with Regulatory Guide 1.30 is addressed in Site Specific Attachment B, Table B17-1.

Regulatory Guide 1.33 QUALITY ASSURANCE PROGRAM REQUIREMENTS ~~(REV. 2)~~ (OPERATION)

In the UFSAR, Replace Strikethrough text with: Conformance with Regulatory Guide 1.33 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the FSAR in Chapter 17 (see Section 17.3).

~~Carolina Power & Light Compa~~ 1976, with the following clarifications:

1. Paragraph 1, "Scope", r than those associated with safety-relat 1976 has not fully taken into account the requirements of regulations other than 10CFR50. Conflicts may exist between ANSI N18.7-1976 and those other regulations, such as OSHA, 10CFR19, 20, 21, 30, 40, 70, 71, 73, and ASME. Therefore, CP&L shall apply ANSI N18.7-1976 only to those plant features addressed in Section 3.2 of the FSAR that are classified as safety-related and under the control of the QA program.

2. Written audit reports are not formally reviewed as part of the Independent Review function.

3. The Senior Vice President and Chief Nuclear Officer - Nuclear Generation will assure that an independent assessment of the overall Nuclear Oversight program is conducted at least once every 24 months. Results of the independent assessment will be reported directly to the Senior Vice President and Chief Nuclear Officer - Nuclear Generation and entered into the Corrective Actio Program for resolution. (For schedular consistency, the exceptions included in paragra independent assess

Conformance with Regulatory Guide 1.33 is addressed in Site Specific Attachment B, Table B17-1.

4. Paragraph 5.2.6, Equipment Control: CP&L will comply with the "independent verification" requirements based on the definition of this phrase as given under the commitment to Regulatory Guide 1.74.

Since CP&L sometimes uses descriptive names to designate equipment, the sixth paragraph, second sentence is replaced with: "Suitable means include identification numbers or other descriptions which are traceable to records of the status of inspections and tests.

The first sentence in the seventh paragraph will be complied with after clarifying "operating personnel" to mean trained employees assigned to, or under the control of, CP&L management at an operating nuclear facility.

5. Paragraph 5.2.7, Maintenance and Modification: Since some emergency situations could arise which preclude preplanning of all activities, CP&L will comply with an alternate to the first sentence in the second paragraph which reads: "Except in emergency or abnormal operating conditions where immediate actions are required to protect the health and safety of the public, to protect equipment or personnel, or to prevent the deterioration of plant conditions to a possible unsafe or unstable level, maintenance or modification of equipment shall be preplanned and performed in accordance with written procedures. Where written procedures would be required and are not used, the activities that were accomplished shall be documented after the fact and receive the same degree of review as if they had been preplanned." Where procedures are not available, documented instructions may be used to perform maintenance and modification activities. "Documented Instructions" are defined as any credible information (e.g., vendor manuals, vendor recommendations, engineering direction etc.) used during work planning/execution which is reviewed and approved prior to use in accordance with approved procedures.

Paragraph 5.2.7.1, Maintenance Programs: CP&L will comply with the requirements of the first sentence of the fifth paragraph. This clarification is needed since it is not always possible to promptly determine the cause of the malfunction. CP&L will initiate proceedings to determine the cause, and will make such determination promptly where practical. Determination of the term "promptly" and the term "practical" will be the responsibility of plant management and shall be based on the effect of the condition on the immediate health and safety of the public.

6. Paragraph 5.2.8, Surveillance Testing and Inspection Schedule: In lieu of a "master surveillance schedule," the following requirement shall be complied with: "surveillance testing schedule(s) shall be established reflecting the status of all planned in-plant surveillance tests and inspections."

Conformance with Regulatory Guide 1.33 is addressed in Site Specific Attachment B, Table B17-1.

7. [illegible] requires certain pro[illegible]ict between 10CFR73 and Regulatory Guide 1.17 and ANSI N18.17 does not exist, CP&L shall not follow Paragraph 5.2.9. An NRC approved security plan shall be implemented prior to fuel loading.

8. Paragraph 5.2.11, Corrective Action, requires certain activities to be performed. In order to avoid conflict between requirements, CP&L shall follow the requirements in Section 17.3, in lieu of Paragraph 5.2.11 as additionally clarified in above paragraph (4).

9. Paragraph 5.2.13.1, Procurement Document Control: When purchasing commercial-grade calibration services from certain accredited calibration laboratories, the procurement documents are not required to impose a quality assurance program consistent with ANSI N45.2-1971. Alternate requirements described in Section 1.8 for Regulatory Guide 1.123 may be implemented in lieu of imposing a quality assurance program consistent with ANSI N45.2-1971.

10. Paragraph 5.2.15, Review, Approval and Control of Procedures: The third sentence in Paragraph three is interpreted to mean: "Applicable procedures shall be reviewed following an accident, an unexpected transient or a significant operator error. Applicable procedures shall also be reviewed following an equipment malfunction which results in a reportable event."

Paragraph 5.2.15 states that, "Plant procedures shall be reviewed by an individual knowledgeable in the area affected by the procedure no less frequently than every two years to determine if changes are necessary or desirable. A revision to a procedure constitutes a procedure review." In lieu of these requirements, the Shearon Harris Nuclear Power Plant has programmatic controls in place to continually identify procedure revisions to routine procedures which may be needed to ensure that procedures are appropriate for the circumstance and are maintained current.

11. Paragraph 5.2.16, Measuring and Test Equipment - In order to properly address this paragraph, CP&L submits the following discussion of M&TE:

IEEE Standard 498-1975 defines measuring and test equipment (M&TE) as follows:

Devices or systems used to calibrate, measure, gauge, test, inspect, or control in order to acquire research, development, test, or operational data to determine compliance with design, specifications, or other technical requirements. M&TE does not include permanently installed operating equipment or test equipment used for preliminary checks where accuracy is not required; for example, circuit checking multimeters.

Conformance with Regulatory Guide 1.33 is addressed in Site Specific Attachment B, Table B17-1.

NOTE: M&TE does not include rules, tape measures, levels, and other devices if normal commercial practices provide adequate accuracy.

There is a key distinction between installed process instruments and measuring and test equipment. A piece of measuring and test equipment may be used to calibrate a number of plant instruments. Thus, a calibration error could affect a wide variety of plant equipment. Process instruments, on the other hand, perform a single function and may be used to operate equipment, verify operability of equipment, or perform a single monitoring or trip function. In the case of measuring and test equipment, the key concern when a device is out of calibration is to identify other instruments to which this accuracy has been transferred and, secondly, to prevent recurrence. In the case of process instruments, the key emphasis is to prevent recurrence of the out-of-calibration condition.

In ANSI N18.7-1976 (and other documents), the distinction between measuring and test equipment and process instruments is not well defined. The requirements in the second and third paragraphs in Section 5.2.16 will be applied to measuring and test equipment and those in the first and third paragraphs applied to process instruments with the exception that process instrumentation shall be "suitably marked or tracked to indicate calibration status" versus "su tion, a review of out-of line if action is requi modification, procedural revision, or corrective maintenance. Section 17.3 provides additional requirements for control of MT&E.

Conformance with Regulatory Guide 1.33 is addressed in Site Specific Attachment B, Table B17-1.

12. Paragraph 5.2.17, Inspections: As a general clarification, when inspections are not contained in a separate inspection report, inspection requirements will be integrated into appropriate procedures or other documents with the procedure or document serving as the record. Records of inspections will be identifiable and retrievable.

13. Paragraph 5.2.17, second to the last sentence in the last paragraph, "Deviations, their cause, and any . . .", to be consistent with Paragraph 5.2.11, the cause of the condition will be determined for only significant conditions adverse to safety.

14. Paragraph 5.3.5(4), CP&L interprets the review requirements for "Supporting Maintenance Documents" which have not been incorporated in a procedure, be performed in an equivalent manner as described in approved procedures.

15. Paragraph 5.3.6, Radiation Control Procedures, discusses certain control programs. As previously stated, Paragraph 1, Scope, of ANSI N18.7-1976 references those activities involved with being safety-related. The radiation protection program is not considered to be in this category but rather a program required to comply with 10CFR19, 20, 30, 70, 71, and 100. Therefore, CP&L shall develop its radiation protection program as stated in Section 12.5.

16. Paragraph 5.3.9.3, Emergency Procedures: As directed by the NRC, CP&L will follow a format for emergency procedures in accordance with 10CFR50, Appendix E.

17. Paragraph C.3 of Regulatory Guide 1.33 states that changes to Technical Specifications or license amendments should be reviewed by the independent review body prior to their submittal to the NRC for approval. These changes will be reviewed by the independent review body prior to their implementation as required by ANSI N18.7-1976/ANS-3.2.

The requirements of the standard provide adequate assurance that items affecting safety will be reviewed before they are put into effect.

18. Paragraph C.4 of Regulatory Guide 1.33 will be implemented with the following clarifications: In lieu of the audit program provisions contained in Regulatory Position C.4 of Regulatory Guide 1.33, audits (assessments) of facility activities will be conducted in accordance with the Quality Assurance Program Description contained in FSAR Section 17.3.

Regulatory Position C.4 endorses ANSI NI8.7-1976/ANS-3.2, section 4.5 that states that audits of selected aspects of the operational phase activities, including safety-related functions, are completed within a perio

Conformance with Regulatory Guide 1.33 is addressed in Site Specific Attachment B, Table B17-1.

a) Audits shall be p
Schedules shall b
b) A maximum extension not to exceed 25 percent of the audit interval shall be allowed. That is to say that, for audits on a 24-month frequency, the maximum time between specific audits shall not exceed 30 months. Likewise, audits on an annual (12 month) frequency shall not be extended beyond 15 months.
c) When an audit interval extension is used, the next audit for that particular audit area will be scheduled from the anniversary exit date rather than from the exit date of the extended audit.
d) Item b shall also apply to supplier audits and evaluations except that a total combined time interval for any three consecutive inspection or audit intervals should not exceed 3.25 times the specified inspection or audit interval.

Note: This grace period will not be applied to audits of: Emergency Preparedness to satisfy the requirements of 10 CFR 50.54(t); Security to satisfy the requirements of 10 CFR 50.54(p), 73.55(g)(4) and 73 Appendix C; Radiation Protection to satisfy 10 CFR 20.1101(c); and Fire Protection. The schedule for these audits will continue to be based on the exit date and not the exit month.

19. Paragraph C.5.d of the Regulatory Guide 1.33 will be implemented by adding the clarifying phrase "Where practicable" in front of the fourth sentence of the fifth paragraph. The Regulatory Guide's changing of the two uses of the word "should" in this sentence to "shall" unnecessarily restricts CP&L's options on repair or replacement parts. It is not always practicable to test parts prior to use. Modification review in accordance with the provisions of 10CFR50.59 will be conducted and documented. The words "where practical" will be determined by responsible plant management and the results documented.

20. Paragraph C.5.e of Regulatory Guide 1.33 will be implemented subject to the same clarifications made for ANSI N45.2.2.

21. Paragraph C.5.f of Regulatory Guide 1.33 will be implemented with the substitution of the word "practical" for the word "possible" in the last sentence.

22. Paragraph C.5.g of Regulatory Guide 1.33 will be implemented with the addition of the modifier "normally" after each of the verbs (should) which the Regulatory Guide converts to "shall". It is CP&L's intent to fully comply with the requirements of this paragraph, and any conditions which do not fully comply will be documented and approved by the Plant Staff. In these cases, the reason for the exception shall be retained for the same period of time as the affected preoperational tests.

23. Paragraph 5.2.2. Procedure adherence describes that for temporary changes to procedures that one of the approvers shall be the supervisor in charge of the shift and hold a Senior Reactor Operator license. To avoid overloading the supervisor in charge of the shift with administrative tasks, any member of Operation's management with a Senior Reactor Operator license will be allowed to approve temporary changes to procedures.

Conformance with Regulatory Guide 1.33 is addressed in Site Specific Attachment B, Table B17-1.

24. Paragraph 5.3.10 of ANSI N18.7-1976/ANS 3.2, the last sentence in the first paragraph requires "Test and inspection results, shall be documented and evaluated..." Also, the last sentence in the second paragraph requires "The test and inspection procedures shall require recording the date, identification of those performing the test or inspection, as-found condition, corrective actions performed, if any, and as-left condition." As an alternative to the records required for Inspections outlined in paragraph 5.3.10, HNP shall provide the following as the method to document results of inspections:

The results of inspections will be documented in appropriate records and those records shall, as a minimum, identify (a) through (h) below:

(a) Authorized individual approving results.
(b) Date of inspection.
(c) Inspector/Data recorder.
(d) Item inspected.
(e) M&TE used.
(f) Reference to information on action taken in connection with non-conformances.
(g) Results or acceptability.
(h) Type of observation.

Conformance with Regulatory Guide 1.33 is addressed in Site Specific Attachment B, Table B17-1.

Regulatory Guide 1.37 QUALITY ASSURANCE REQUIREMENTS FOR CLEANING FLUID SYSTEMS AND ASSOCIATED COMPONENTS OF WATER-COOLED NUCLEAR POWER PLANTS ~~(REV. 0)~~

~~Carolina Power & Light Company shall comply with the requirements of ANSI N45.2.1-1973, as it is endorsed by Regulatory Guide 1.37-March 1973, with the following clarifications:~~

~~1. Paragraph 2.5, Test Equipment, outlines control of inspection and test equipment. CP&L has addressed its position relative to Measuring & Test Equipment (M&TE) in Section 17.3.~~

~~2. Paragraph 5, Installation Cleaning: The recommendation that local rusting on corrosion resistant alloys be removed by mechanical methods is interpreted to mean that local rusting may be removed mechanically, but the use of other removal means is not precluded provided other cleaning methods are not considered detrimental as determined by responsible plant management.~~

~~3. The guide and standard are applicable to those areas of the Quality Assurance Program addressing on-site cleaning of materials and components, cleanness control, preoperation cleaning and layup of fluid systems.~~

~~4. With regard to Paragraph C.3 of Regulatory Guide 1.37: Chromates or other additives, normally in the system water, will not necessarily be added to the flush water.~~

~~5. With regard to Paragraph C.4 of Regulatory Guide 1.37: Expendable materials, such as inks and related products; temperature indicating sticks; tapes; gummed labels; wrapping materials; water soluble dam materials; lubricants, NDT penetrant materials and couplants, dessicants, which contact stainless steel or nickel alloy surfaces shall be of commercial quality. Levels for halogens, sulfur, chlorides, low melting point metal, etc., for use on stainless steel and nickel alloy surfaces will be as determined by responsible technical group to limit or preclude intergranular cracking and stress corrosion cracking.~~

In the FSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.37 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the FSAR in Chapter 17 (see Section 17.3).

Conformance with Regulatory Guide 1.37 is addressed in Site Specific Attachment B, Table B17-1.

Regulatory Guide 1.38 QUALITY ASSURANCE REQUIREMENTS FOR PACKAGING, SHIPPING, RECEIVING, STORAGE, AND HANDLING OF ITEMS FOR [illegible]

Replace Strikethrough text with:
Conformance with Regulatory Guide 1.38 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the FSAR in Chapter 17 (see Section 17.3).

Carolina Power & Lig
ANSI N45.2.2-1972 as it is
following clarifications:

1. Paragraph 2.1. [illegible] be governed by the Standard shall be identified. However, the Standard is part of the CP&L QA Program and it will, therefore, be applied to those structures, systems, and components which are included in that Program.

2. Paragraph 2.3 - Results - The full requirements of this paragraph shall apply to the inspections and tests that are performed to determine the acceptability [illegible]

Conformance with Regulatory Guide 1.38 is addressed in Site Specific Attachment B, Table B17-1.

3. Par
examination, and testing activities for verification and acceptance/rejection purposes shall be qualified in accordance with Regulatory Guide 1.58.

4. Paragraph 2.5 - Measuring and Test Equipment (2.5.2) - That equipment which measures quality of the permanent plant items shall be under the calibration and control program; whereas the equipment used to measure secondary conditions, such as warehouse temperature, humidity, etc., will be maintained in good working order and checked for proper functioning when accuracy is in doubt, but not maintained under the calibration and control program. Traceability to calibration records will be provided when it is impractical (because of size, configuration, or application) to physically mark calibration information on the item. Note: M&TE does not include rulers, tape measures, levels, and other devices if normal commercial practices provide adequate accuracy.

5. Paragraph 2.7, Classification of Items: CP&L may choose not to explicitly use the four level classification system. However, the specific requirements of the Standard that are appropriate to each class will be applied unless justified and documented.

6. Paragraph 2.7.1(3) requires special nuclear material (fuel) and sources to be classified as level A. Carolina Power & Light Company shall store new/used nuclear fuel and radioactive sources in storage locations as described in the Sections 9 and 12. Radioactive sources used by HP personnel shall be stored and controlled in accordance with HP practices and procedures.

7. Paragraph 3.2 - Levels of Packaging - Packaging for shipment off-site will be equal to or exceed the original packaging by the vendor, as required to assure the quality of the item is not degraded as a result of shipping or handling.

8. Paragraph 3.4, Methods of preservation: (First sentence) CP&L will comply with these requirements subject to the clarification that the term "deleterious corrosion" means corrosion which cannot be subsequently removed and which adversely affects form, fit, or function.

9. Paragraph 3.6 - Barrier and Wrap Materials and Desiccants - The use of clear plastic in warehouses will be minimized. The guide rule is that the clear plastic shall be used only where periodic visual inspection is necessary. Plastic wrap on items supplied in accordance with a vendor's approved QA/QC program will be accepted and stored without rewrapping.

10. Paragraph 3.7, Containers, Crating and Skids: In lieu of the requirements of this paragraph, CP&L will use means as determined by responsible plant technical personnel needed to provide adequate protection of the items in storage.

11. Paragraph 4 - Shipping - Requirements of paragraph 4, Shipping, primarily applies to the vendor. Plant functions with regard to return shipments will meet or exceed the methods of the vendor for the item or approved alternatives.

12. Paragraph 5.2.1, Shipping Damage Inspection: Warehouse personnel will normally visually scrutinize incoming shipments for damage of the types listed in this paragraph; this activity is not necessarily performed prior to unloading. Since required items receive the Item inspection of Paragraph 5.2.2, separate documentation of the Shipping Damage Inspection is not necessary. Release of the transport agent after unloading and the signing for the receipt ment completion of th ed will be documented an person performing the visual scrutiny during unloading is not considered to be performing an inspection function as defined under Regulatory Guide 1.74; therefore, while he will be trained and qualified to perform this function, he may not necessarily be certified (N45.2.6) as an Inspector.

Conformance with Regulatory Guide 1.38 is addressed in Site Specific Attachment B, Table B17-1.

13. Paragraph 5.2.2, Item Inspection: The need and extent for inspection of items will be determined by responsible plant technical personnel. Receiving inspections shall be performed in an area designated for receipt of material and shall normally be performed in the receiving building. The receiving building and the areas designated will provide adequate protection for the material, but may not comply with all of the specific requirements contained in Section 6 of this standard. Material that is suspected of being compromised during the receiving process shall be evaluated by responsible technical personnel, as determined by plant management.

14. Paragraph 5.2.2(1) - Identification and Marking - Item inspection will include inspection for identification and marking required by the purchase order documents. Marking that is not quality related or which provides no traceability will not be inspected.

15. Paragraph 5.3.1 - Acceptable - Item acceptance status will be indicated by application of tags, stickers, ribbons, or signs. Storage areas are not designated as accept areas except for bulk items.

16. Paragraph 6.1.1 - Scope - The levels and methods of storage for items between the time of removal from the prescribed storage until placement in the installed location may be relaxed as determined by responsible plant

management for short periods of time, according to the sensitivity of the item being handled and the elements of contact anticipated during this interval. Where relaxation of storage requirements of this standard are deemed appropriate, the item, conditions, precautions and follow-up inspection for assurance that quality of the item has been maintained will be documented.

17. Paragraph 6.1.2, Levels of Storage: Subpart (2) is replaced with the following:

(2) Level B items shall be stored within a fire-resistant, weather-tight, and well ventilated building or equivalent enclosure. This building shall be situated and constructed so that it will not normally be subject to flooding; the floor shall be paved or equal, and well drained. If any water comes in contact with stored equipment, such equipment will be labeled or tagged non[Conformance with Regulatory Guide 1.38 is addressed in Site Specific Attachment B, Table B17-1.]be processed shoring, o]l be provided with heating and temperature control or its equivalent to reduce condensation and corrosion. Minimum temperature shall be 40° F and maximum temperature shall be 140° F or less if so stipulated by a manufacturer.

18. Paragraph 6.2.1, Access to Storage Areas: Items which fall within the Level D classification of the Standard will be stored in areas which may be posted to limit access, but other positive controls such as fencing or guards will not normally be provided.

19. Paragraph 6.2.4, Storage of Food and Associated Items: The sentence is replaced with the following: "The use or storage of food, drinks, and salt tablet dispensers in any storage area shall be controlled and shall be limited to designated areas where such use or storage is not deleterious to stored items.

20. Paragraph 6.2.5, Measures to Prevent Entrance of Animals: The sentence is replaced with the following: "Warehouse personnel shall be alert to detect evidence of rodents or small animals in indoor storage areas. Consideration will be given when setting up the system to provide reasonable assurance that rodents or other small animals will not be present. If any such evidence is detected, a survey or inspection will be utilized to determine the extent of the damage; exterminators or other appropriate measures shall be used to control these animals to minimize possible contamination and mechanical damage to stored material."

21. Paragraph 6.3.3, Storage of Hazardous Material: The sentence is replaced with the following: "Hazardous chemicals, paints, solvents, and other materials of a like nature shall be stored in approved cabinets or containers which are not in close proximity to installed safety systems required for safe shutdown.

22. Paragraph 6.4.2, Care of Items: The following alternates are provided for indicated subparts:

(5) Space heaters in electrical equipment shall be energized unless a documented engineering evaluation determines that such space heaters are not required."

(6) "Large (greater than or equal to 50 HP) rotating electrical equipment shall be given insulation resistance tests on a scheduled basis unless a documented engineering evaluation determines that such tests are not required."

(7) "Prior to being placed in storage, rotating equipment weighing over approximately 50 pounds shall be evaluated by engineering personnel to determine if shaft rotation in storage is required; the results of the evaluation shall be documented. If rotation is required, it shall be performed at specified intervals, and documented. Parts will receive a coating of lubrication where applicable, so that the shaft does not come to rest in the same position occupied prior to rotation. For long shafts or heavy equipment subject to undesirable bowing, shaft orientation after rotation shall

Conformance with Regulatory Guide 1.38 is addressed in Site Specific Attachment B, Table B17-1.

(8) manufacturer's instructions shall be evaluated by responsible plant personnel to determine applicability during storage of the item.

23. Paragraph 6.5, Removal of Items from Storage: Carolina Power & Light Company does not consider the last sentence of this paragraph to be applicable to the Operations Phase due to the relatively short period of time between installation and use. The first sentence of the paragraph is replaced with: "CP&L will develop, issue, and implement a procedure(s) which cover(s) the removal of items from storage. The procedure(s) will assure that the inspection status of all material issued is known, controlled, and appropriately dispositioned." When items are released and waiting at a location prior to installation, responsible plant management in accordance with plant procedures will determine and document the extent of inspection and storage requirements.

24. Paragraph 6.6, Storage Records: Carolina Power & Light Company will comply with the requirements of this Section with the clarification that, for record purposes, personnel access to storage areas will not be recorded. Unloading or pick-up of material shall not be considered "access," nor shall inspection by NRC or other regulatory agents, nor shall tours by non-CP&L employees who are accompanied by CP&L employees.

25. Paragraph 7.3 - Hoisting Equipment - The load chart for each crane includes the model number for that crane. This load chart is considered to be "Certification" by the manufacturer for that crane as required by paragraph 7.3.1. Likewise, forklifts are considered certified by the manufacturer's literature giving maximum capacity as required by paragraph 7.3.2.

Paragraph 7.3, Hoisting Equipment: Rerating of hoisting equipment will be considered only when absolutely necessary. Prior to performing any lift above the load rating, the equipment manufacturer will be contacted for his approval and direction. The manufacturer will be requested to supply a document granting approval for a limited number of lifts at the new rating and

any restrictions involved, such as modifications to be made to the equipment, the number of lifts to be made at the new rating, and the test lift load. At all times, the codes governing rerating of hoisting the equipment will be complied with.

If rerating of hoisting equipment is necessary and CP&L cannot or does not contact the equipment manufacturer as described above, the test weight used in temporarily rerating hoisting equipment for special lifts will be at least equal to 110 percent of the lift weight. A dynamic load test over the full range of the lift using a weight at least equal to the lift weight will be performed.

26. Paragraph 7.4 - Inspection of Equipment and Rigging - Nondestructive examinations will be performed by QC personnel qualified in accordance with Regulatory Guide 1.58 (except as amended by safety analysis report position). Operators will be trained in the operation and maintenance inspections of their assigned equipment.

27. Appendix A.3.5.1 - Caps and Plugs; A.3.5.2, Tapes and Adhesives; and A.3.6.3, Desiccants - Plugs, caps, tapes, adhesives, desiccants, markers and other temporary items will be of commercial quality. Levels for halogens, sulfur, chlorides, low melting point metal, etc., for use on stainless steel and nickel alloy surfaces will be as determined by the responsible technical group to limit or preclude intergranular cracking and stress corrosion cracking.

FSAR Reference: Section 17.3

Conformance with Regulatory Guide 1.38 is addressed in Site Specific Attachment B, Table B17-1.

Regulatory Guide 1.39 HOUSEKEEPING REQUIREMENTS FOR WATER COOLED NUCLEAR POWER PLANTS ~~(REV. 2)~~

~~Carolina Power & Light Company complies with the requirements of~~ ANSI N45.2.3-1973 as endorsed by Regulatory Guide 1.39, September 1977, ~~with~~ the following clarifications for:

1. Paragraph 2.1, Planning: The zone designations provided in the standard will be used as a guide in developing plant procedures; however, plant areas will not necessarily be divided into Zones I through V. Equivalent controls will be maintained as prescribed in approved procedures.

2. Paragraph 3.5, Surveillance, Inspection, and Examinations: Subparagraph (1) is not applicable during normal operations but will be implemented if large items are to be moved or handled.

~~FSAR Reference: Section 17.3~~

In the UFSAR, Replace Strikethrough text with: Conformance with Regulatory Guide 1.39 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the FSAR in Chapter 17 (see Section 17.3).

Conformance with Regulatory Guide 1.39 is addressed in Site Specific Attachment B, Table B17-1.

Regulatory Guide 1.58 QUALIFICATION OF NUCLEAR POWER PLANT INSPECTION, EXAMINATION AND TESTING PERSONNEL (REV. 1)

Replace Strikethrough text with:
Conformance with Regulatory Guide 1.58 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the FSAR in Chapter 17 (see Section 17.3).

~~Carolina Power & Light Company has reviewed Regulatory Guide 1.58, Revision 1, which is addressed in the FSAR with the following clarifications:~~

~~1. With regard to Paragraph 1.2 of ANSI N45.2.6-1978 titled Applicability: Carolina Power & Light Company elects not to apply the requirements of this guide to those personnel who are involved in the daily operations of surveillance, maintenance, and certain technical and support services whose qualifications are controlled by Section 17.3 of the FSAR or are controlled by other QA Program commitment requirements. Only personnel in the following listed categories will be required to meet ANSI N45.2.6-1978 requirements: (1) Nondestructive Examination (NDE) personnel (2) QC inspection personnel, and (3) Receipt Inspection personnel.~~

~~2. The fourth paragraph of Paragraph 1.2 requires that the Standard be imposed on personnel other than CP&L employees. The applicability of the Standard to suppliers and contractors will be documented and applied as specified in the procurement documents for each supplier and contractor.~~

~~3. With regard to Paragraph 2.5 of ANSI N45.2.6-1978 titled Physical: Carolina Power & Light Company will implement the requirements of this Section with the stipulation that, where no special physical characteristics are required, none will be specified. The converse is also true: if no special physical requirements are stipulated by CP&L, none are considered necessary. Carolina Power & Light Company employees receive an initial physical examination to assure satisfactory physical condition; however, only the following listed personnel will receive an annual examination: (1) NDE personnel (2) QC inspection personnel, and (3) Receipt Inspection personnel. This annual examination shall consist of the near visual acuity using the standard Jaeger's type chart or equivalent test.~~

~~4. With regard to Paragraph 3 of ANSI N45.2.6-1978 titled Qualifications: Only personnel performing NDE (such as LP, MT, UT, and RT) will be grouped in levels of capability and certified for inspection, review, and evaluation of inspection data, and reporting of inspection and test results. Inspection personnel are qualified based on preestablished experience, education, on-the-job training, written examinations and proficiency tests associated with the specific activity. Proficiency tests are given to personnel performing independent QC inspections and documented acceptance criteria are developed to determine if individuals are properly trained and qualified. Certificates of qualification delineate the functions personnel are qualified to perform. Qualification records are maintained and performance evaluations conducted at least on an every three year basis.~~

Conformance with Regulatory Guide 1.58 is addressed in Site Specific Attachment B, Table B17-1.

5. With regard to Paragraph 3.5 of ANSI N45.2.6-1978 titled Education & Experience Recommendations: Carolina Power & Light Company will certify individual inspectors through training and experience to requirements appropriate to the specific assignment; however, except for NDE, personnel will not be classified by levels of capability. The training experience requirements will be directed toward qualifying personnel for specific inspection and testing operations.

Conformance with Regulatory Guide 1.58 is addressed in Site Specific Attachment B, Table B17-1.

Regulatory Guide 1.64 QUALITY ASSURANCE REQUIREMENTS FOR THE DESIGN OF NUCLEAR POWER PLANTS ~~(REV. 2)~~

~~Carolina Power & Light Company shall comply with NRC Regulatory Guide 1.64, Rev. 2, which endorses ANSI Standard N45.2.11-1974 with the following clarification:~~

~~Paragraph C.2(1): For the exceptional circumstance in which the designer's immediate Supervisor is the only technically qualified individual available, this review can be conducted by the Supervisor, provided that: i) the other provisions of the Regulatory Guide are satisfied, ii) the justification is individually documented and approved in advance by the Supervisor's management, and iii) quality assurance audits cover frequency and effectiveness of the use of Supervisors as design verifiers to guard against abuse.~~

~~FSAR~~

In the UFSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.64 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the FSAR in Chapter 17 (see Section 17.3).

Conformance with Regulatory Guide 1.64 is addressed in Site Specific Attachment B, Table B17-1.

Regulatory Guide 1.74 QUALITY ASSURANCE TERMS AND DEFINITIONS ~~(REV. 0)~~

In the FSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.74 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the FSAR in Chapter 17 (see Section 17.3).

~~The SHNPP project comp~~

Regulatory Guide 1.74, ANSI N45.2.10-1973.

Carolina Power & Light Company complies with the requirements of this guide with the following clarifications:

1. Carolina Power & Light Company reserves the right to define additional words or phrases which are not included in this Standard. Such additional definitions will be documented in appropriate procedures, manuals, etc.

2. In addition to the Standard's definition of "Inspection," CP&L will use the following: "Inspection (when used to refer to activities that are NOT performed by quality organization personnel) - Examining, viewing closely, scrutinizing, looking over or otherwise checking activities. Personnel performing these functions are not necessarily certified to ANSIN45.2.6."

When CP&L intends for Inspection to be performed in accordance with the QA Program by personnel certified as required by that Program and for activities defined by "Inspection" in ANSIN45.2.10, appropriate references to the plant ~~d~~/or to Quality Pr~~ made. If such refer~~ ~~he additional definition given above.

Conformance with Regulatory Guide 1.74 is addressed in Site Specific Attachment B, Table B17-1.

3. In addition to the Standard's definition of "procurement documents," CP&L will utilize the definitions given in ANSIN45.2.13 and in Regulatory Guide1.74. The compound definition, Procurement documents-Contractually binding documents that identify and define the requirements which items or services must meet in order to be considered acceptable by the purchaser. They include documents which authorize the seller to perform services or supply equipment, material or facilities on behalf of the purchaser (e.g. contracts, letters of intent, work orders, purchase orders, or proposals and their acceptance, drawings, specifications, or instructions which define requirements for purchase).

4. "Quality Assurance Program Requirements" (Not defined in ANSIN45.2.10, but used and defined differently in ANSIN45.2.13) - Those individual requirements of the QA Program which, when invoked in total or in part, establish the requirements to the quality assurance program for the activity being controlled. Although not specifically used in the Operational QA Program, ANSIN45.2 may be imposed upon CP&L's suppliers.

5. "Independent Verification" - Verification that required actions have been completed by an individual other than the person who performed the ~~operation or activity being verified. Such verification will not require~~

confirmation of the identical action when other indications provide assurance or indication that the prescribed activity is in fact complete. Examples include, but are not limited to: verification of a breaker opening by observing remote breaker indication lights; verification of a set point (made with a voltmeter or ammeter for example) by observing the actuation of status or indicating lights are the required panel-meter indicated value; verification that a valve has been positioned by observing the starting or stopping of flow on meter indications or by remote valve position indicating lights.

6. "Audit" (Will be a modification of the word - to allow the use of subjective evidence if available - as defined in Paragraph 1.4 of ANSI N45.2.12-1977 and Paragraph 1.4.3 of ANSI N45.2.23-1978 as opposed to the definition given in ANSI N45.2.10-1973) - A documented activity performed in accordance with written procedures or checklists to verify, by examination and evaluation of objective evidence where available, that applicable elements of the quality assurance program have been developed, documented, and effectively implemented in accordance with specified requirements. An audit should not be confused with surveillance or inspection for the sole purpose of control or product acceptance.

Conformance with Regulatory Guide 1.74 is addressed in Site Specific Attachment B, Table B17-1.

Regulatory Guide 1.88 COLLECTION, STORAGE AND MAINTENANCE OF NUCLEAR POWER PLANT QUALITY ASSURANCE RECORDS (REV. 2)

In the FSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.88 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the FSAR in Chapter 17 (see Section 17.3).

~~Carolina Power & Lig~~
Guide 1.88, Rev. 2, which
88-18, Plant Records Stora
clarifications:

1. Appendix A of ANSI N45.2.9 is not considered to be a mandatory list. This list will be used as a guideline for classifying those documents that need to be maintained as QA records. Whether a particular type of document needs to be classified as a QA record and its appropriate retention period is determined in accordance with records management procedures.

2. Paragraph 1.4, Definitions: The phrase "when the document has been completed" is clarified to mean when the document has received the final review performe ting or collecting the Request, Equipm documents, the package will be considered to be the document for the purpose of determining when the document is complete.

Conformance with Regulatory Guide 1.88 is addressed in Site Specific Attachment B, Table B17-1.

3. Paragraph 3.2.1, Generation of Quality Assurance Records: The phrase "completely filled out" is clarified to mean that sufficent information is recorded to fulfill the intended purpose of the record.

4. Paragraph 3.2.2, Index: The storage location will be delineated in procedures in lieu of in the Index. The specific location of a record "within a storage area" is delineated by a computerized indexing system plus a storage area labeling system which provides information by record type and storage medium.

5. Paragraph 4.2, Timeliness: Carolina Power & Light Company's contractual agreement with its contractors and suppliers will constitute fulfillment of the requirements of this paragraph.

6. Paragraph 5.4, Preservation: The following clarification is substituted for the current subparagraph 5.4.2: "Records shall not be stored loosely. They shall be secured for storage in file cabinets or on shelving in containers." The following clarification is substituted for the current subparagraph 5.4.3: "Appropriate provisions shall be made for special processed records (such as radiographs, photographs, negatives, microfilm, and magnetic media) to prevent or minimize damage from excessive light, stacking, electromagnetic fields, temperature and humidity, etc. Manufacturer's recommendations will be considered as appropriate."

7. Paragraph 5.5, Safekeeping: Routine general office and nuclear site security systems and access controls are provided. No special security systems are required to be established for record storage areas.

8. Paragraph 5.6, Facility: This paragraph provides no distinction between temporary and permanent facilities. To cover temporary storage, the following clarification is added: "Complete records may be stored in one-hour ~~fire rated file cabinets until transmitted for permanent storage. In general,~~

records shall not be maintained in temporary storage for more than ninety days after completion. Any exceptions to this requirement must be justified, evaluated and approved by the Supervisor Document Services or designee and documented. A list of exceptions shall be maintained and available for NRC review. Exceptions may include records needed on a continuing basis for an extended period of time at the location of the work group responsible for generating the records and records which are cumulative in nature and could best be turned over for storage for a designated period of time.

9. Paragraph 5.6, subparagraph 3, is clarified to require a two-hour minimum fire rating to be consistent with the 1979 version of the Standard and NRC Criteria for Record Storage Facilities (Guidance - ANSI N45.2.9, Section 5.6) issued 7/1/80.

10. Paragraph 5.6, subparagraph 9, is clarified to read: "No pipes or penetrations except those providing fire protection, lighting, temperature/humidity control or communications are to be located within the facility. All such penetrations shall be sealed or dampened to comply with a minimum two-hour fire protection rating."

11. Additional clarification for QA records is provided in Section 17.3.

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Letter 88-18, Plant Records

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tape, in accordance with the

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modification of record data.

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ensure that the data is legible in the computer system and on the backup media.

c. The data for each record is stored in the computer system for on-line retrieval and also written to two separate backup media. The backup copies are stored in separate remote locations which meets the requirements of ANSI N45.2.9, 1974 for dual record storage.

d. To ensure permanent retention of records, the records stored on electronic media are acceptably copied onto new electronic media before the manufacturer's certified useful life of the original electronic media is exceeded. This includes verification of the records so copied.

e. If the electronic computer system in use is to be replaced by an incompatible new system, the records stored on the old system's media are acceptably converted into the new system before the old system is taken out of service. This includes verification of the records so copied.

Conformance with Regulatory Guide 1.88 is addressed in Site Specific Attachment B, Table B17-1.
Exceptions 12 and 13 are replaced with standard exception for handling of Electronic Records in Table 17-1 at Regulatory Guide 1.88. The standard exception was approved by NRC safety evaluation dated May 26, 2015 to Duke Energy Carolinas, ADAMS Accession No. ML15138A347

Regulatory Guide 1.94 QUALITY ASSURANCE REQUIREMENTS FOR INSTALLATION, INSPECTION AND TESTING OF STRUCTURAL CONCRETE AND STRUC NUCLE

In the FSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.94 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the FSAR in Chapter 17 (see Section 17.3).

Carolina Power & Light
guidance of ANSI N45.2.5-1974
Rev. 1, with the following cl

a) Paragraph 2.1, Planning: Requirements, as determined by responsible plant management, will be incorporated into procedures.

b) Paragraph 2.3, Results, will be implemented as set forth in Sections 17.3.2.12, 17.3.2.8, and 17.3.2.15 and Regulatory Guide 1.33.

c) Paragraph 2.5 of ANSI N45.2.5, Measuring & Test Equipment, requires certain controls over this type of equipment. The equipment listed shall be included in the calibration control program; however, the basis and control of measuring and test equipment is that stated in Section 17.3.2.9.

d) The cement test frequency for standard physical and chemical properties is in accordance with ASTM C 183, on the basis of one test per daily production at the cement plant, reference ANSI N45.2.5, Table B. Table B also lists a test frequency for ASTM C 235 which has been discontinued by ASTM. Carolina Power & Light Company plans to discontinue testing in accordance with ASTM C 235. Acceptance of aggregates for durability/hardness will be in accordance with ASTM C 131 or C 535, Los Angeles Abrasion Test.

e) Gradation - In addition to the gradations listed in ASTM C-33, an aggregate designated 78-M (State of North Carolina designation) is used in special areas such as around major penetrations or in reinforcing steel congested areas, with the approval of the engineers. This aggregate meets all other qualifications of ASTM C-33, with the exception of gradation analyses. The results during preliminary concrete mix design have been satisfactory and in accordance with the requirements of ASME Section III, Division 2/ACI-359 Code.

f) Paragraph 5.4, High Strength Bolting: Bolting connection points will be visually inspected in accordance with ANSI N45.2.5-1974 except that bolt length will be checked to ensure bolts are long enough as indicated by the point of the bolts being flush with or outside the face of the nuts in accordance with ANSI N45.2.5-1978.

Conformance with Regulatory Guide 1.94 is addressed in Site Specific Attachment B, Table B17-1.

Regulatory Guide 1.116 QUALITY ASSURANCE REQUIREMENTS FOR INSTALLATION, INSPECTION, AND TESTING OF MECHANICAL EQUIPMENT AND SYSTEMS (REV. 0-R)

In the FSAR, Replace Strikethrough text with: Conformance with Regulatory Guide 1.116 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the FSAR in Chapter 17 (see Section 17.3).

~~Carolina Power & Light~~ ANSI N45.2.8-1975 as it is e June 1976, with the follow

1. Paragraph 2.1, P responsible plant management, will be incorporated into procedures.

2. Paragraph 2.3, Results, will be implemented as set forth in Section 17.3 and by compliance with R.G. 1.33.

3. Paragraph 2.8, Measuring and Test Equipment - CP&L has addressed this requirement for the operational phase of the plant in Section 17.3.

4. Paragraph 2.9, Prerequisites, references requirements of other standards. Carolina Power & Light Company has addressed applicable standards in the appropriate sections of the FSAR in lieu of the requirements of this paragraph. The extent to which this paragraph applies will be determined by responsible plant management based on end use and complexity of the item.

5. Paragraph 3.3, Processes and Procedures: "Approved instructions" are interpreted to include vendor manuals.

6. Paragraph 4.6, Care of Items: This will be done as outlined in the position on Regulatory Guide 1.38.

7. Paragraph 5, including subparagraphs 5.1 through 5.4, Installed Systems, Inspections and Tests: Responsible plant management will determine the extent to which the elements in this paragraph are applied when developing test requirements for inclusion in modification procedures. In some cases, testing requirements may be met by post-installation surveillance testing in lieu of a special post-installation test.

Conformance with Regulatory Guide 1.116 is addressed in Site Specific Attachment B, Table B17-1.

Regulatory Guide 1.123 QUALITY ASSURANCE REQUIREMENTS FOR CONTROL OR PROCUREMENT OF ITEMS AND SERVICES FOR NUCLEAR POWER P

In the FSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.123 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the FSAR in Chapter 17 (see Section 17.3).

Carolina Power & Li
ANSIN45.2.13-1976 as it i
following clarifications:

1. Paragraph 1.2.2, Purchaser's Responsibilities: Item c is one of the options which may be used by CP&L to assure quality; however, any of the options given in 10CFR50, Appendix B, Criterion VII as implemented by Section 17.3 may also be used. Evaluation of supplier's QA program will be conducted as determined by the Material Services Section in the Operations and Environmental Support Department depending on complexity and end use of item.

2. Paragraph 3.1, Procurement Document Preparation, Review and Control Change: The changed document may not always be as reviewed by the originator; however, at least an equivalent level shall review and approve any changes.

3. Paragraphs 3.2.3, 3.2.4, and 3.2.6 - CP&L does not consider that these paragraphs or vendor qualifications apply for the procurement of off-the-shelf items. Off-the-shelf items (which include original as well as spare and replacements) are commercial grade items which are defined in 10CFR21.

Special quality verification requirements shall be determined, as necessary, by responsible technical group to assure accceptability of the item. The responsible technical organization will review purchase requisitions of items classified as "commercial grade" to assure proper application of the 10CFR21 criteria.

When purchasing commercial-grade calibration services from calibration laboratories that have been accredited by NVLAP or A2LA, the procurement documents are not required to impose a quality assurance program consistent with ANSI N45.2-1971. In such cases, accreditation may be accepted in lieu of the purchaser imposing a QA Program consistent with ANSI N45.2-1971, provided the following are met:

Conformance with Regulatory Guide 1.123 is addressed in Site Specific Attachment B, Table B17-1.

The exceptions for purchase of Commercial Grade Calibration services are replaced with standard Exception in Table 17-1 at Regulatory Guide 1.123. The standard exception continues to use the SE to Arizona Public Services Company dated Sept 28, 2005, but is updated to reflect NRC clarification in Letter ML100130016.

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Progress Energy's QA Program and technical requirements including the requirement for the calibration certificate/report to include identification of the laboratory equipment/standards used.

5) The purchase documents require reporting as-found calibration data when calibrated items are found out-of-tolerance.

4. Paragraph 3.3 requires procurement documents to be reviewed prior to bid or award of contract. The documented review of procurement documents is provided through review of the procurement specification and purchase requisition by the responsible technical organization prior to bid or award of contract.

5. Paragraph 3.4, Procurement Document Control: Carolina Power & Light Company will meet the requirements of Section 17.3 in lieu of the requirements specified in this paragraph.

6. Paragraph 4.2, Selection Measures, outlines certain methods acceptable for the selection of suppliers. Carolina Power & Light Company's history of using similar methods has proven adequate in the procurement of items; the [Conformance with Regulatory Guide 1.123 is addressed in Site Specific Attachment B, Table B17-1.] and (c) with the follow

1) The supplier's quality assurance capabilities as determined by a direct survey of his facilities and personnel, and the implementation of his Quality Assurance Program.

2) Evaluating the supplier's history of providing a product which performs satisfactorily in actual use. One or more of the following information shall be evaluated:

(i) Experience of users of identical or similar products of the same prospective supplier.

(ii) Carolina Power & Light Company's records that have been accumulated in connection with previous procurement actions and product operating experience. Historical data should be representative of the supplier's current capability. If there has been no recent experience with the supplier, or if he is a new supplier, the prospective supplier shall be requested to submit information on a similar item or service for evidence of his current capabilities.

(iii) Evaluating the supplier's current quality records supported by documented qualitative and quantitative information which can be objectively evaluated. This would include review and evaluation of the supplier's Quality Assurance Program Manual and Procedures, as appropriate, to ensure that the applicable requirements of 10CFR50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants" are met.

(iv) Verification that the supplier holds an active CERTIFICATE OF AUTHORIZATION from the ASME to supply or manufacture materials or the item(s) described in the purchase requisition.

(v) A supplier may be considered acceptable, without a survey, to supply off-the-shelf items. An inspection shall be performed to assure that the correct item was received and no damage exists.

(vi) Verification that the supplier is listed in the current NUPIC (Nuclear Procurement Issues Committee) database. However, the audit report which formed the basis for listing the supplier in the NUPIC database must be obtained and reviewed for applicability to the procurement. All deficiencies which could degrade the procured item must be resolved prior to the procurement. This review shall be documented and, together with the audit report, be retained.

3) When purchasing commercial-grade calibration services from an NVLAP or A2LA accredited calibration laboratory verification
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Conformance with Regulatory Guide 1.123 is addressed in Site Specific Attachment B, Table B17-1.

The exceptions for purchase of Commercial Grade Calibration services are replaced with standard Exception in Table 17-1 at Regulatory Guide 1.123. The standard exception continues to use the SE to Arizona Public Services Company dated Sept 28, 2005, but is updated to reflect NRC clarification in Letter ML100130016.

7. Paragraphs 5.2 and 5.3 shall be applied to the extent determined by responsible plant management based on complexity of the item and its end use.It is not intended that these paragraphs be applied to spares or replacement parts that do not change original design intent.

8. Paragraph 6.1, General, outlines methods for monitoring and evaluating supplier performance. Carolina Power & Light Company wishes to replace paragraph 6.1(a), (b), (c), (d), and (e) with the following methods for monitoring and evaluating supplier performance:

a. Reviewing documents generated or processed during activities fulfilling procurement requirements.

b. Reviewing LER's.

c. Periodic audits.

d. Annual evaluations.

e. Those controls specified in FSAR Section 17.3.

9. Paragraph 6.4, Control of Changes in Items or Services: Since ANSIN45.2 does not apply to the operational phase, equivalent controls outlined in ANSI N18.7-1976 will be used in lieu of the requirements of ANSIN45.2, Section 7.

10. Paragraph 7.4, Measuring and Test Equipment, outlines certain measures to be taken. Carolina Power & Light Company for the operating phase has addressed the topic of measuring and test equipment in Section 17.3 in lieu of the requirements in this paragraph.

11. Paragraph 8 provides guidance for purchaser review and disposition of vendor nonconformances. CP&L, as purchaser, requires as a minimum deviations to procurement documents and previously approved supplier documents that cannot be brought into conformance prior to shipment of the material to be submitted to CP&L for approval. Such deviations, when approved by purchaser, are required to be submitted along with shipment of the material. Additionally, paragraph 8.2, Disposition: the third sentence of item b is revised to read:

> Nonconformances to the contractural procurement requirements or Purchaser approved documents which consist of one or more of the following shall be submitted to the Purchaser for approval of the recommended disposition prior to shipment, when the nonconformance could adversely affect the end use of a *module or shippable component relative to safety, interchangeability, operability, reliability, integrity, or maintainability:
>
> a. Technical or material requirement is violated;
>
> b. [redacted] approved by the Purchas
>
> c. [redacted] of the original manufacturing process or by rework; and/or
>
> d. The item does not conform to the original requirement, even though the item can be restored to a condition such that the capability of the item to function is unimpaired.
>
> *A module is any assembly of interconnected components which constitute an identifiable device, instrument, or piece of equipment. A module can be disconnected, removed as a unit, and replaced with a spare. It has definable performance characteristics which permit it to be tested as a unit. A module could be a card or other subassembly of a larger device, provided it meets the requirements of this definition.

Conformance with Regulatory Guide 1.123 is addressed in Site Specific Attachment B, Table B17-1.

12. Regulatory Position C.3 indicates that purchaser should verify the implementation of the supplier's corrective action systems when such a system is required, but this verification need not be included as part of the purchaser's corrective action measures. Carolina Power & Light Company interprets this statement to mean that once corrective action has been verified by purchaser on nonconforming vendor items, the items can be released for use in its intended application. The cause and action to preclude recurrence of deficiencies is the responsibility of the vendor, and independent verification of such vendor action by purchaser or vendor notification of such action to purchaser, is not required on the basis that the vendor's QA program has been accepted by the purchaser. The QA program provides for determining cause and action to preclude recurrence on significant deficiencies, and purchaser audits are conducted to ensure vendor's compliance with his accepted QA program commitments. In addition, CP&L will provide overview of those causes and corrective action activities associated with items of high volume and which are considered significant to safety in cases where vendor's recent performance has appeared marginal.

13. Paragraph 10.2a: CP&L will comply with this paragraph to the extent that for non-Code items, certificates of compliance will be traceable only to the purchase order and not to the specific item.

Conformance with Regulatory Guide 1.123 is addressed in Site Specific Attachment B, Table B17-1.

Regulatory Guide 1.144 AUDITING OF QUALITY ASSURANCE PROGRAMS FOR NUCLEAR POWER PLANTS (REV. 0)

In the FSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.144 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the FSAR in Chapter 17 (see Section 17.3).

~~Carolina Power & Ligh~~
Regulatory Guide 1.144, Janu
the following clarifications

1. C.3.(b)(2): The
annually, triennially, will be complied with, however, such audits would only be required of the vendor if the vendor is involved with an active contract/procurement document. This concept is as discussed in Paragraphs 3.5.3.1 and 3.5.3.2 of ANSI N45.2.12-1977.

When purchasing commercial-grade calibration services from a NVLAP or A2LA accredited calibration laboratory, the accreditation process and accrediting body may be credited with carrying out a portion of the purchaser's duties of verifying acceptability and effective implementation of the calibration service suppli
performing an audit, accepting
commercial-grade supplier surv
accreditation shall be perform
at a minimum, verification of

Conformance with Regulatory Guide 1.144 is addressed in Site Specific Attachment B, Table B17-1.

The portion of exception 1 addressing purchase of Commercial Grade Calibration services is replaced with standard Exception in Table 17-1 at Regulatory Guide 1.123. The standard exception continues to use the SE to Arizona Public Services Company dated Sept 28, 2005, but is updated to reflect NRC clarification in Letter ML100130016.

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uncertainties.

2. Paragraph 2.3, Training: The training of CP&L audit personnel will be accomplished as described in CP&L's position on Regulatory Guide 1.146.

3. Paragraph 2.4, Maintenance of Proficiency: The maintenance of proficiency of CP&L audit personnel will be accomplished as described in CP&L's position on Regulatory Guide 1.146.

4. Paragraph 3.2.2 indicates that objective evidence is to be examined and evaluated. Carolina Power & Light Company believes that the use of subjective evidence is also an important element of the audit program. See Paragraph 4.3.2 clarifications below.

5. Paragraph 3.3, Essential Elements of the Audit System; Carolina Power & Light Company will comply with subparagraph 3.3.5 as it was originally written (subparagraph 3.2.5) in ANSI N45.2.12, Draft 3, Revision 4:

"Provisions for reporting on the effectiveness of the quality assurance program to the responsible management." For the audition organization (CP&L), effectiveness is reported as required by the FSAR and by CP&L's assessment procedures. Other than audit reports, CP&L may not directly report on the effectiveness of the quality assurance programs to the audited organization, ~~when such organizations are outside of CP&L.~~

Subparagraph 3.3.7 requires verification of effective corrective action on a "timely basis". Timely basis is interpreted to mean within the period of time that is accepted by the organization. Each finding requires a response and a corrective action completion date. These dates are subject to revision and must be escalated to higher authority when there is a disagreement between the audited and the auditing organization on what constitutes "timely corrective action."

6. Paragraph 4.3.1, Preaudit Conference: Carolina Power & Light Company will comply with the requirement of this paragraph by inserting the word "Normally" at the beginning of the first sentence. This clarification is required because, in the case of certain unannounced audits or audits of a particular operation or work activity, a preaudit conference might interfere with the spontaneity of the operation or activity being audited. In other cases, pers not always be availabl ent to beginning a tended to be all inclusi mally be covered during the course of the audit.

Conformance with Regulatory Guide 1.144 is addressed in Site Specific Attachment B, Table B17-1.

7. Paragraph 4.3.2, Audit/Assessment Process:

a. Subparagraph 4.3.2.2 could be interpreted to limit auditors to the review of only objective evidence. Sometimes objective evidence may not be available; therefore, Carolina Power & Light Company will comply with an alternate sentence which reads: "When available, objective evidence shall be examined for compliance with quality assurance program requirements. If subjective evidence is used (e.g., personnel interviews, direct observations by the auditor), then the audit report or checklist must indicate how the evidence is obtained."

b. Subparagraph 4.3.2.4 is modified as follows to take into account the fact that some nonconformances are virtually "obvious" with regards to the needed corrective action. As a result of this, CP&L proposes the following alternate words: "When a nonconformance or quality assurance program deficiency is identified as a result of an audit, unless the apparent cause, extent, and corrective action is readily evident, further investigations shall be conducted by the audited organization in an effort to identify the cause and effect and to determine the extent of the corrective action required."

c. Subparagraph 4.3.2.5 contains a statement "acknowledged by a member of the audited organization". This is clarified to mean that "a member of the audited organization has been informed to the findings. Agreement or disagreement with a finding may be expressed in the response from the audited organization."

d. Subparagraph 4.3.2.6 is modified as follows to account for the fact that immediate notification is not always possible: "Conditions requiring immediate corrective action (i.e., those which are so severe that any delay would be undesirable) shall be reported as immediately as practical to management of the audited organization."

8. Paragraph 4.3.3, Post Audit Conference: Carolina Power & Light Company will substitute and comply with the following paragraphs: "For all external audits, a postaudit conference shall be held with management of the audited organization to present audit findings and clarify misunderstandings. Where no adverse findings exist, this conference may be waived by management of the audited organization. Such waiver shall be documented in the audit report. For all internal audits unless unusual operating or maintenance conditions preclude attendance by appropriate managers/supervisors, an audit debrief shall be held with managers/supervisors. If there are no adverse findings, management of the internal audited organization may waive the audit debrief. Such waiver shall be documented in the audit report."

9. Paragraph 4.4, Reporting:

Conformance with Regulatory Guide 1.144 is addressed in Site Specific Attachment B, Table B17-1.

l by the audit team leader w be issued as soon as practi .4 as clarified by the following words: "An audit report, which shall be signed by the unit team leader, or his supervisor in the absence of the audit team leader shall provide:" In cases where the audit report is not signed by the Lead Auditor due to his absence, the record copy of the report must be signed by the Lead Auditor upon his return. The report shall not require the Lead Auditor's review/concurrence/signature if the Lead Auditor is no longer employed by CP&L at the time audit report is issued.

b. Carolina Power & Light Company will comply with subparagraph 4.4.3 clarified to read: "Supervisory level personnel with whom significant discussions were held during the course of preaudit (where conducted), audit, and postaudit (where conducted) activities.

c. Audit reports may not necessarily contain an evaluation statement regarding the effectiveness of the quality assurance program elements which were audited, as required by subparagraph 4.4.4, but they will provide an effectiveness summary of the audited areas."

d. Subparagraph 4.4.6 - Nuclear Oversight Section Management will determine the need for audit reports to include recommendations for corrective actions.

e. Carolina Power & Light Company will comply with the last paragraph of Section 4.4 of ANSI N45.2.12 concerning issuing audit reports with the following clarification: "Audit reports shall be issued within thirty working days after the last day of the audit. The last day of an audit shall be considered to be the day of the post-audit conference. If a post-audit conference is not held because it was deemed unnecessary, the last day of the audit shall be considered to be the date the post-audit conference was deemed unnecessary as documented in the audit report."

10. Paragraph 4.5.1, By Audited Organization: Carolina Power & Light Company will comply with the following clarification of this paragraph:
"Management of the audited organization or activity shall review and

investigate all adverse audit findings, as necessary, (cause, etc.) to determine and schedule appropriate corrective action including action to prevent recurrence. They shall respond, in writing, within thirty days after the date of receipt of the audit report. The response shall clearly state the corrective action taken or planned to prevent recurrence and the results of the investigation if conducted. In the event that corrective action is not completed by the time the response is submitted, the audited organization's response shall include a scheduled date for completion of planned corrective action. A follow-up response shall be provided stating the corrective action was completed. If corrective actions are verified as satisfactorily completed by the quality organization prior to the scheduled completion date or when completion of corrective action can be verified during a follow-up audit, no follow-up response is required. The audited organization shall take appropriate action to assure that corrective action is accomplished as scheduled."

11. Paragraph 5 - Audit checklists are not considered QA records. CP&L believes that actual audit reports provide sufficient detail to substantiate the results of the audit, and the checklist is maintained as an audit "tool" versus a QA record. Additionally, the audit checklist need only document objective evidence examined to support the audit findings.

Conformance with Regulatory Guide 1.144 is addressed in Site Specific Attachment B, Table B17-1.

Regulatory Guide 1.146 QUALIFICATION OF QA PROGRAM AUDIT PERSONNEL FOR NUCLEAR POWER PLANTS ~~(REV. 0, 8/80)~~

~~Carolina Power & Light Company shall comply with requirements of Regulatory Guide~~ 1.146, August 1980, which endorses ANSI N45.2.23-1978 with the following clarifications.

1. Paragraph 2.2, Qualification of Auditors: Subparagraph 2.2.1 references an ANSI B45.2 (presumed to be N45.2); therefore, CP&L will comply with an alternate subparagraph 2.2.1 which reads:

"Orientation to provide working knowledge and understanding of the CP&L QA Program, including the ANSI standards and Regulatory Guides included in the Program, and CP&L's procedures for implementing audits and reporting results."

In the FSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.146 is addressed in the description of the Quality Assurance Program that is incorporated by reference into the FSAR in Chapter 17 (see Section 17.3).

2. ~~Paragraph 4.1, Organization Responsibility: Carolina Power & Light Company~~ will comply with this Paragraph with the substitution of the following sentence in place of the last sentence in the Paragraph.

"The NOS Manager or the Audit Team Leader shall, prior to commencing the audit, assign personnel ... scope, complexity, or spe...

Conformance with Regulatory Guide 1.146 is addressed in Site Specific Attachment B, Table B17-1.

3. Pa... Light Company will substitute the following sentence for this Paragraph:

"Records for each Lead Auditor shall be maintained and updated during the period of the annual management assessment. This annual management assessment shall be as defined in the clarification for Paragraph 3.2 noted above."

4. ANSI N45.2.23, paragraph 2.3.4 states, "The prospective lead auditor shall have participated in a minimum of five (5) quality assurance audits within a period of time not to exceed three (3) years prior to the date of qualification, one audit of which shall be a nuclear quality assurance audit within the year prior to qualification."

Carolina Power & Light Company substitutes the following instead of the cited sentence of ANSI N45.2.23, paragraph 2.3.4:

"Prospective Lead Auditors shall demonstrate the ability to effectively implement the audit process and effectively lead an audit team. This process is described in written procedures that provide for evaluation and documentation of the results of this demonstration. In addition, the prospective Lead Auditor shall have participated in at least two nuclear quality assurance audits within the year preceding the individual's effective date of qualification. Upon successful demonstration of the ability to effectively implement the audit process and effectively lead audits, and having met the other provisions of Section 2.3 of ANSI N45.2.23-1978, the individual ~~may be certified as being qualified to lead audits.~~"

CHAPTER 17
QUALITY ASSURANCE

TABLE OF CONTENTS

In the UFSAR, Delete subheadings for 17.3 as content is moved to a Topical Report

17.3 HNP Quality Assurance Program Description

17.3.1 Management

17.3.1.1 Except as noted

17.3.1.1 Methodology. It is the policy of Carolina Power & Light (CP&L) Company to operate and maintain nuclear power plants without jeopardy to its employees or to the public health and safety.

The Quality Assurance (QA) Program Manual (NGGM-PM-0007) promulgates the 10CFR50 Appendix Executive Vice Pres

The Second paragraph from the UFSAR is covered generically in Second paragraph of 17.3.1.1. The standard documentation does not spell out the QA Program Manual, instead using generic term of "implementing procedures." Approval level for procedures is addressed in 17.3.1.3 as indicated in Standard Review Plan.

The QA Pro operation, maintenance, modification, and refueling.) This program applies to individuals and organizations responsi procedures define resp accomplishment of act structures, systems, a established requireme applies is maintained a maintaining this list or

In the UFSAR, Replace the content of section 17.3 with:

The description of the Quality Assurance Program is contained in the Duke Energy Corporation Topical Report Quality Assurance Program Description Operating Fleet, DUKE-QAPD-0001-A. That Topical Report follows the format and content guidance of NUREG-0800 Section 17.3 except it is based on ANSI N18.7-1976 in lieu of ANSI/ASME NQA-1 and NQA-2.

Topical Report DUKE-QAPD-0001-A is incorporated by reference into the UFSAR.

The QA Progra necessary to assure th will be operated and m

Deviations from the QA program shall be permitted only upon written authority from the Executive Vice

Content of the fifth UFSAR paragraph is not carried forward. The deleted paragraph stated "Deviations from the QA Program shall be permitted only upon written authority from the Executive Vice President - Nuclear Generation Group/ CNO." Compliance with the QA Program is mandatory. Intentional deviations are not permitted under normal operating conditions.

The QA responsibility fo levels of quality involved with plant performance to ensure the plant is operated in a safe, reliable, and efficient manner. The Nuclear Oversight (NOS) Department evaluates the performance and effectiveness of plant programs, processes, personnel, and the line organization's self-assessment. The activities of the NOS are intended to detect deficiencies in the desired levels of performance and quality, to communicate these conditions to the Executive Vice President-Nuclear Generation & Chief Nuclear Officer and other appropriate Vice Presidents responsible for the assessed organizations, and to ensure adequate action is taken to correct and eliminate these conditions.

17.3.1.2 Organization. The CP&L organization responsible for the safe plant operation is described in Section 13.1 of the FSAR and in implementing procedures. The term "line organization" used in this program refers to the production organization reporting to the Executive Vice President - Nuclear Generation and Chief Nuclear Officer and the staff supporting the Nuclear Generatio Development and Improvement.

17.3.1.2 The reference to the organization description from UFSAR Section 13.1 is replaced with a generic organization description in the QAPD Section 17.3.1.2. UFSAR Section 13.1 is NOT affected by this change.

17.3.1.3 1p

17.3.1.3 Responsibility. The primary responsibil nce, including the identification and effective correction of problems potentially affecting the safe and reliable operation of the Company's nuclear facilities, resides with the line organization.

17.3.1.3 2p

The managers of functions involving nuclear fuel, engineering, and operations shall assure that their personnel are adequately trained for their jobs and they have the experience and education required to carry out their assigned responsibilities. These managers shall ensure that adequate resources and procedures are available for correctly implementing the work activities to support this program.

17.3.1.3 3p

Independent inspections are conducted to verify specific critical quality attributes. Individuals performing these inspections have access to necessary information to ensure that activities and equipment meet established acceptance criteria.

17.3.1.3 4p

The Nuclear Oversight Department is responsible for monitoring and assessing activities that are performed by the line organization for, or in support of, the Harris Nuclear Plant and Nuclear Generation. These activities include those performed at the individual plant sites, corporate offices, and other Nuclear Generation locations. The Nuclear Oversight Department independently monitors and assesses the Company's nuclear programs on a continuing basis. As part of this continuing assessment process, the Nuclear Oversight Department performs audits to verify that applicable elements of the quality assurance and other regulatory required programs have been developed, documented and effectively implemented in accordance with specified requirements. These evaluations are performance based with emphasis on the quality of the end product.

17.3.1.3 2p supplemented by 17.3.3.3.6, Independent Audit of QA Functions.

The Executive Vice President-Nuclear Generation cer is responsible for ensuring that the results and effectiveness ght (NOS) Department and its processes in accomplishing its assigne arly evaluated at a frequency not to exceed 24 months, with exceptions a .8. This will be accomplished through an independent assessment of NOS with the results reported directly to the Executive Vice President-Nuclear Generation and Chief Nuclear Officer. This assessment will focus on the results and effectiveness of NOS performing activities described in 17.3.3.3.3, including Harris Nuclear Plant Nuclear Oversight Section and will include an evaluation to assure that the Nuclear Oversight Department is functioning as an independent organization. It will also determine the effectiveness and independence of Nuclear Oversight Department personnel in rotational assignments into and out of NOS.

17.3.1.3 4p, except the frequency is omitted, updates are provide with the completion of audits

On an approximately quarterly basis, g of Nuclear Oversight activities, along with any poten recommendations, shall be presented to the Executive Vice Pr Generation and Chief Nuclear Officer. The Vice President - shall have access to the corporate management up to and including the Executive Vice President - Nuclear Generation and Chief Nuclear Officer to resolve any quality or nuclear safety related concerns if the concerns cannot be resolved satisfactorily at a lower management level.

17.3.1.2.2

17.3.1.4 Authority. The program and procedures require that the authority and duties of persons and organizations performing activities affecting quality be clearly established and delineated in writing and that these individuals and organizations have suff

Content retained in B17.3.1.4 as site specific amplification of 17.3.1.4 generic text.

organizational freedom to:

1. Identify quality, nuclear safety,

2. Order unsatisfactory work to be s processing, delivery, or installa ial.

3. Initiate, recommend, or provide s erse to quality.

4. Verify implementation of solutions.

17.3.1.5 1p

17.3.1.5 Personnel Training and Qualification. Both on-site and off-site personnel within the CP&L organization and contract personnel, who perform activities affecting quality (implement elements of the QA Program) shall be indoctrinated and trained such that they are knowledgeable and capable of performing their assigned tasks.

17.3.1.5 2p

Training programs and reviews ensure that proficiency of personnel performing activities affecting quality is achieved and maintained by training (formal and on-the-job training), examining, and/or certifying, as appropriate.

17.3.1.5 4p

Personnel training and qualification records are to be maintained in accordance with plant procedures.

17.3.1.5 5p

Personnel within the Operating organization performing duties of a licensed operator are indoctrinated, trained, and qualified as required by 10 CFR 55.

17.3.1.6 1p

17.3.1.6 Corrective Action. The primary goal of the CP&L corrective action program is to improve overall plant operations and performance by identifying and correcting root causes of equipment and human performance problems. Part of this effort is directed toward encouraging individuals to voluntarily report events, near misses, and potential problems. It is the policy of CP&L to seek improvement in each nuclear plant's performance as well as in the performance of supporting Departments.

17.3.1.6 2p

Management will emphasize to all levels in the organization the importance of identifying and effectively correcting situations that can adversely affect human and equipment performance. An important aspect of this program is the assignment of qualified personnel to accurately evaluate equipment/human performance problems, implement appropriate corrective actions, and verify corrective action adequacy.

17.3.1.6 3p

Management is responsible for fostering a positive environment that encourages the self-identification of adverse conditions and trends.

The program requires that an evaluation of adverse co conditions adverse to quality, nonconformances, failures, m deficiencies, deviations, and defective material and equipm determine need for corrective action.

Content retained in B17.3.1.6 as site specific amplification of 17.3.1.6.

Conditions adverse to quality are identified through assessments, tests, checks, and review of documents.

The program requires corrective action to be initiate recurrence of significant conditions adverse to quality. F conditions adverse to quality, procedures require follow-up verifications, inspections, etc., to be conducted to verify implementation of corrective action and to close out the co documentation.

The program outlines the methodology for resolution o involving quality and nuclear safety issues arising from a opinion between identifying personnel and other groups.

Significant conditions adverse to quality are reporte management for review and evaluation.

Periodic review and evaluation of adverse trends are management.

17.3.1.7 1p

17.3.1.7 Regulatory Commitments. The operation of nuclear plants shall be accomplished in accordance with the U.S. Nuclear Regulatory Commission (NRC) Regulations specified in Title 10 of the U.S. Code of Federal Regulations.

17.3.1.7 2p

The operation of the Company's nuclear power plants shall be in accordance with the terms and conditions of the facility operating license issued by the NRC.

17.3.1.7 3p

The program and procedures are designed to ensure compliance with the NRC Regulatory Guides and ANSI Standards applicable to the operations phase and to which HNP is committed. The commitment to comply or exceptions for CP&L to follow are presented in Section 1.8 in this FSAR. The requirements of this section (17.3) may provide additional exceptions to these regulatory guides and codes and standards.

The Nuclear Regulatory Commission shall be notified of changes to the QA Program description in accordance with 10 CFR 50.54(a)(3).

17.3.1.7 4p

17.3.2 Performance/Verification

17.3.2.1 1p thru 4p

17.3.2.1 Methodology. Personnel performing work activities are responsible for achieving the acceptable level of quality.

Personnel performing verification activities are responsible for verifying the achievement of acceptable quality.

Work is accomplished and verified using instructions, procedures, or appropriate means that are of a detail commensurate with the activity's complexity and importance to safety.

Criteria that define acceptable quality are specified in procedures and/or other documents, and verification, when required is performed against these criteria.

17.3.2.2 3p

17.3.2.2 Design Control. Procedures define requirements for the control of design activities associated with modifications of items that are safety-related.

17.3.2.2 1p

Design changes are subject to appropriate controls which were applicable to the original design. CP&L may designate an organization to make design changes other than the organization which prepared the original design. In any case, CP&L will assure that the organization has access to pertinent background information, including an adequate understanding of the requirements and intent of the original design, and that the organization has demonstrated competence in applicable design areas.

17.3.2.2 5p

Measures shall be taken to assure that the design selected to accomplish a necessary or desirable change does not create "new" problems in off-normal modes of operation or in adjacent inter-tied s

17.3.2.2 5p

Design changes made to the plant are accomplished in a planned and controlled manner in accordance with written, approved procedures. These procedures include provisions, as necessary, to ensure that:

1. Design documents (such as specifications, drawings, procedures and instructions) reflect applicable regulatory, performance, quality, and quality verification requirements and design bases. These documents are checked for accuracy and completeness by qualified individuals and reviewed to assure that documents are prepared in accordance with procedures.

2. There is adequate review of the suitability of materials, parts, equipment, and processes which are essential to the safety-related functions of structures, systems, and components.

3. Materials, parts, and equipment which are commercial grade items or which have been previously approved for a different application are evaluated for suitability prior to selection.

4. Design documents and procedures are controlled to reflect design modifications and "as-built" conditions.

17.3.2.2 5p

5. Internal and external design interfaces between organizations participating in modification activities are adequately defined and controlled, including the review, approval, release, and distribution of design documents and revisions.

17.3.2.2 5p

The above controls are applied as necessary to such aspects of design as reactor physics; seismic, stress, thermal, hydraulic, radiation, and accident analyses; compatibility of materials; and accessibility for inservice inspection, maintenance, and repair.

17.3.2.2 7p

Any errors or deficiencies found in the design process or the design itself are documented and corrected, as outlined in the applicable Department's corrective action program procedures.

17.3.2.2 8p

Following completion of the design change/modification, controlled design change information is made available to affected personnel.

17.3.2.2 8p

Training, on design changes/modifications that affect the operation of the plant, is provided to affected plant operating personnel.

B17.3.2.2
Retained as site specific amplification

Controls are applied to the development, content and use of computer codes to ensure (1) the codes are developed, documented and certified for use per approved procedures; (2) the codes are controlled to preclude use of outdated or obsolete codes; (3) instructions concerning the use of the codes are provided; and (4) adequate QA provisions are implemented for the procurement of computer codes.

17.3.2.3

17.3.2.3 Design Verification. Procedures require that the adequacy of design changes be verified by the performance of design reviews, alternate calculations, or qualification testing. The control measures specified in the plan for control of design verification activities are as follows:

1. Personnel responsible for design verification do not include the original designer or the designer's immediate supervisor unless the immediate supervisor is the only one capable of verifying the design.

2. Procedures identify the positions or organizations responsible for design verification and define their authority and responsibility. Procedures also provide guidelines as to the method of design verification to be used. Unless otherwise specified, design verification is performed by the method of independent design reviews and includes verification that Safety Analysis Report (SAR) commitments have been addressed.

3. Qualification tests to verify the adequacy of the design are performed using the most adverse specified design conditions.

4. Design changes are reviewed to assure that design parameters are defined and that inspection and test criteria are identified.

5. Design verification is completed prior to relying upon the component, system or structure to perform its function.

17.3.2.4 Procurement Control. CP&L maintains a program for supplier evaluation, results of supplier evaluation, surveillance of suppliers, supplier furnished records, certificates of conformance, effectiveness of supplier quality control, and the purchase of spare parts.

17.3.2.4 1p

17.3.2.4 2p

Procedures define requirements for the control of procurement documents and ensure that purchased material and services are of acceptable quality.

Potential contractors and suppliers are evaluated by Vendor and Equipment Quality Unit personnel prior to award of a procurement contract when needed to assure the contractor's or supplier's capability to meet applicable technical and quality requirements.

Retained as Site Specific in B17.3.2.4
This content essentially duplicates portions of ANSI N45.2.13.

Procurement documents, such as purchase specifications, reference the following:

1. Technical, administrative, regulatory, and requirements including material and component identification requirements, specifications, codes and industrial standards, test and inspection requirements, and special process instructions.

2. Identification of the documentation to be prepared, submitted (as applicable) to CP&L for review and approval. This may include, as necessary, inspection and test records, quality or code required documentation.

3. Identification of those records to be retained, controlled, and maintained by the supplier, and those delivered to the purchaser prior to use or installation of the hardware.

17.3.2.5 3p

Receipt inspections are performed by qualified inspectors in accordance with procedures to assure that:

1. Materials, equipment, or components are properly identified and correspond with associated documentation.

2. Inspection records or certificates of conformance attesting to the acceptance of materials, equipment, and components are completed and are available prior to installation or use.

3. Materials, equipment, and components are inspected and judged acceptable in accordance with predetermined inspection instructions prior to installation or use.

4. Items not meeting applicable requirements are identified and controlled until proper disposition is made.

17.3.2.4 5p

Appropriate controls and provisions have been included in procurement procedures for selection, determination of suitability for the intended use, evaluation, receipt, and quality evaluation of commercial grade items to ensure that these items will perform satisfactorily in service.

Procurement documents require suppliers to operate in accordance with QA programs which are compatible with the applicable portions of CP&L's QA Program and procedures where their services are performed at the plant activities.

Retained as Site Specific in B17.3.2.4

17.3.2.5 Procurement Verification. CP&L procurement documents are prepared, reviewed, approved, and controlled in accordance with procedures to assure that requirements are correctly stated, inspectable, verifiable, and controllable, and there are adequate acceptance/rejection criteria. Procurement documents are reviewed by personnel knowledgeable in applicable technical and quality requirements, and documentary evidence of that review and approval is retained and available for verification.

17.3.2.6 Identification and Control of Items. Procedures require spare or replacement parts to be subject to QA program controls, codes and standards, and technical requirements which ensure they are suitable for their intended service.

Items accepted or released are identified as to their inspection status prior to forwarding them to a controlled storage area or releasing them for installation or further work. (Bulk items will not require individual accept tags; however, status of unacceptable bulk items will be so indicated).

Procedures require that materials, parts, and components be identified and controlled to prevent the use of incorrect or defectiv
procedures also require that identification of items be ma
the item in a manner that does not affect the function or
or on records traceable to the item.

Procedures implementing these requirements provide f

1. Verification that items received at the plant
identified and can be traced to the appropriate documentat
drawings, specifications, purchase orders, manufacturing a
documents, nonconformance reports, or material test report

2. Verification of item identification consistent
inventory control system and traceable to documentation wh
proper uses or applications of the item.

3. Verification of correct identification of mate
components prior to fabrication, assembly installation or use, and results documented.

Consumables utilized in safety-related structures, systems and components are subject to appropriate controls as described in procedures.

17.3.2.7 Handling, Storage, and Shipping. Procedures
requirements for the control of the handling, storage, and shipping of safety-related items. These procedures require measures to be taken to ensure special handling, storage, cleaning, packaging, shipping, and preservation requirements are established to control these activities in accordance with design and specification requirements to preclude damage, loss or deterioration by environmental conditions such as temperature or humidity.

Provisions are established to control the shelf life
chemicals, reagents, lubricants, and other consumable mater

17.3.2.5 1p

17.3.2.6 1p

17.3.2.6 1p

B17.3.2.6 Retained as Site Specific

17.3.2.6 5p

17.3.2.7 1p

B17.3.2.7

17.3.2.8 1p

17.3.2.8 Test Control. Procedures define requirements for test programs when required and require that items be tested to demonstrate that they will perform satisfactorily in service.

17.3.2.8 2p

Modifications, repairs, and replacements are accomplished in accordance with the original design and testing requirements or acceptable alternatives.

Test procedures incorporate or reference the follo

B17.3.2.8 Retained as Site Specific

1. Instructions and prerequisites for performir

2. Use of proper test equipment.

3. Mandatory inspection hold points.

4. Acceptance criteria.

Test results are documented, evaluated, and their
determined by a qualified, responsible individual or gr

When the acceptance criteria is not met, affected
retested or evaluated, as appropriate.

17.3.2.9 2p

17.3.2.9 Measuring and Test Equipment Control. Procedures define requirements for the control of measuring and test equipment used. These procedures include requirements to establish procedures for the calibration technique and frequency, maintenance, and control of measuring and test equipment.

17.3.2.9 3p

Inspections and test devices are selected to assure accurate measurement (i.e., to overcome inherent inaccuracies associated with environment, human error, equipment, etc.).

17.3.2.9 2p a.

Measuring and test equipment (M&TE) is identified and traceable to the calibration test data.

Measuring and test instruments are calibrated at specified intervals (or immediately before and after use) based upon one or more of the following:

17.3.2.9 2p b.

1. Technical Specifications,

2. Required accuracy,

3. Intended use,

4. Frequency of usage,

5. Stability characteristics,

6. Other conditions affecting measurement,

7. Manufacturer's recommendations.

17.3.2.9 2p c.

Status of calibration for measuring and test equipment is provided through the use of tags, stickers, labels, routing cards, computer programs, or other suitable means. The status indicators indicate the date recalibration is due or the frequency of recalibration.

17.3.2.9 2p j.

Portable measuring and test equipment is calibrated by standards which are at least four times as accurate as the portable measuring and te equipment, unless limited by the state of the art. In cases where t accuracy is not achievable or is limited by the state of the art, an engineering evaluation or other appropriate justification is perform documented to justify acceptability of the M&TE in question. The ev is reviewed in accordance with approved procedures.

B17.3.2.9 site specific requirements on accuracy of calibration standards

Calibration of installed plant devices shall be against M&TE h sufficient accuracy, greater than the device being calibrated, to as the system containing the device is within the specified system tole The basis for determining the "greater than accuracy" shall be docum

Reference and transfer standards are traceable to nationally r standards; or where national standards do not exist, provisions are established to document the basis for the calibration.

17.3.2.9 2p e.

Measures are required to be taken and documented to determine the validity of previous inspections and test results, if the measuring and test equipment is found to be out of calibration.

17.3.2.10 1p

17.3.2.10 Inspection, Test, and Operating Status. Procedures define requirements for the identification and control of the inspection, test, and operating status of safety-related structures, systems, and components.

B17.3.2.10 1p

These procedures include the application, removal, and verification of tion and welding stamps, or other status indicators as appropriate.

17.3.2.10 1p, 2p

Measures are established for indicating the operating status of structures, systems, and components. These measures include the use of checklists, computer programs, logs, stickers, tags, labels, record cards, and test records to indicate the acceptable operating status of installed equipment. Installed equipment which, if operated, could cause damage to other equipment/systems or to personnel is tagged to indicate its non-operational status and to prevent inadvertent use.

17.3.2.10 4p

Selected plant procedures and subsequent revisions receive separate technical review to ensure required inspections, tests, and other critical operations are included.

Altering the sequence of required tests, inspections, and other operations important to safety can only be accomplished by methods ou procedures.

B17.3.2.10 2p

17.3.2.11 1p, 2p

17.3.2.11 Special Process Control. Procedures define requirements for the control of special processes, such as welding, heat treating, and nondestructive examination.

Procedures require that special processes be performed by qualified personnel using proper equipment and in accordance with written qualified procedures. These personnel and procedures are to be qualified in accordance with applicable codes, standards, and specifications as described in procedures. Qualification records of special process procedures and personnel performing special processes are maintained and available for verification.

17.3.2.12 Inspection. Procedures d 17.3.2.12 for an inspection program to verify conformance to performance and quality requirements specified for those activities and services.

Inspections are performed by personnel who are not directly responsible for performing or supervising the activity being inspected. Inspection personnel are qualified in accordance with applicable codes and standards, and their qualifications and certifications are maintained current.

Inspections are performed in accordance with procedures or other documents which provide for the following:

1. Identification of individuals or groups responsible for performing the inspections.

2. Identification of characteristics and activities to be inspected.

3. Acceptance criteria.

4. Inspection techniques

5. Recording the results of the inspection, review of the results, and identification of the inspector.

6. Indirect control by monitoring of processing methods, equipment, and personnel when direct inspection is not possible.

Procedures identify inspection holdpoints, beyond which work may not proceed until inspected.

Modification, repairs, and replacements are inspected in accordance with the original design and inspection requirements or acceptable alternatives.

When acceptance criteria are not met, the condition will be documented in accordance with the applicable department's corrective action program procedures and reinspected or evaluated, as appropriate.

17.3.2.13 Corrective Action. The primary goal of the CP& action program is to improve overall plant operations and perfor identifying and correcting root causes of equipment and human pe problems.

B17.3.2.13 retained as site specific

Procedures define requirements for a corrective action charges personnel working at or supporting the nuclear plants responsibility to identify adverse conditions (including cond quality).

B17.3.2.13 retained as site specific

Procedures include requirements for verification of the the rework/repair of items by reinspection and/or testing in the original inspection or test requirements or by an accepte inspection and testing method.

Conditions that require rework/repairs are identified through the use of maintenance work request forms.

17.3.2.14 1p

17.3.2.14 Control of Documents. Procedures define requirements for the development, review, approval, issue, use, revision, and control of documents. These procedures define the scope of which documents are to be controlled.

Procedures require the identification of those individuals or organizations responsible for reviewing, approving, and issuing documents and revisions thereto.

17.3.2.14 4p

Changes to documents are reviewed and approved by the sa that performed the original review and approval or by other de qualified responsible organizations.

B17.3.2.14

17.3.2.14 3p

Controlled documents are to be distributed to and used by the person performing the activity in accordance with plant procedures.

17.3.2.14 2p

A document control system has been established to identify the current revision number of instructions, procedures, specifications, and drawings.

17.3.2.14 2p

Superseded documents are controlled to prevent inadvertent use.

17.3.2.15 1p

17.3.2.15 Records. The program requires that sufficient records be maintained to provide documentary evidence of the quality of items and the accomplishment of activities affecting quality.

17.3.2.15 2p

Procedures define requirements for the identification, collection, and storage of quality assurance records.

17.3.2.15 7p

Records are identifiable and retrievable through the use of indexes and filing systems, which are required by the program.

17.3.2.15 8p

Procedures are required to be developed to indicate responsibilities and retention periods.

The structure in which single copy records are maintained is designed to prevent destruction, deterioration, or theft. This structure ens protection against destruction by fire, flooding, theft, and dete the environmental conditions of temperature and humidity.

B17.3.2.15

The dual storage provision of ANSI N45.2.9, 1974, is used for the storage of optical disk and other electronic media, i.e., magnetic tape

Replaced with 17.3.2.15 3p, 4p, 5p and standard exception in RG 1.88.

17.3.3.1 except as noted

17.3.3 Assessment

17.3.3.1 Methodology. The overall objective at CP&L is to encourage ownership, involvement, and dedication by each individual supporting the Nuclear Generation Group. This involves continually and aggressively looking for ways to improve the overall performance and safety at each plant. This approach of identifying and correcting conditions early, requires active support by management and employees.

A process of assessment is an attitude by personnel that the CP&L Nuclear Generation Group and organizations supporting the NGG are improving on a continual basis. This process, along with an effective corrective action program, ensures that conditions are identified early; corrected promptly and effectively before becoming significant quality or safety problems.

Personnel responsible for carrying out the assessment functions, including safety committee activities, nuclear safety reviews, verifications, self-assessment and independent assessments, are cognizant of day-to-day activities, events, and have necessary experience to act in a management advisory function.

Nuclear Oversight Section Directors/Managers, Superintendents, and Independent Review Engineers, will hold periodic, but not less frequ B17.3.3.1 semi-annual (+25% for scheduling flexibility), peer review meetings and exchange information among sites. These meetings will allow the designated alternates to attend.

Assessment activities are accomplished using processes or procedures of a detail needed to accomplish the function based on complexity and importance to safety.

The managers of functions that support the Nuclear Generation Group are responsible for ensuring that self-assessment activities and processes are implemented within their functions on a continuing basis.

17.3.3.3
The content of 17.3.3.2 and 17.3.3.3 for independent assessments are merged in new section 17.3.3.3.

17.3.3.2 Self-Assessment. It is the m individuals and organizations will self-asses conditions identified during self-assessment resolved in accordance with the corrective ac

Self-assessment activities are not necessarily a documented activity and personnel performing self-assessment do not require any special training or qualifications beyond that required to hold their present position.

17.3.3.1 3p, 4p

17.3.3.2.1 Line organization. Each individual, work group, and manager should be aware of areas that may need improvement.

Members of the line organization are charged with the responsibility to continually evaluate their activities and use each opportunity to achieve higher standards of quality and improved performance.

Self-assessment activities focus on how well the quality assurance program is working and is to identify conditions that hinder the organization from achieving its safety, quality, and performance goals and standards.

17.3.3.2.2. Nuclear Oversight.

17.3.3.3
The content of 17.3.3.2.2 and 17.3.3.3 for independent assessments are merged in new section 17.3.3.3.

The Nuclear Oversight (NOS) Depa reas, along with the line organization management, to rmance are being achieved. Individuals assigned these t or corporate support organization, as appropri 's Nuclear Generation Group programs and processes to support safe and reliable operation.

In promoting self-assessment, the functions of NOS are to:

1. Independently assess the self - assessment and corrective action implementation process of the line organization,
2. Ensure that "lessons learned" are shared among the plants and support organizations, and
3. Facilitate the use of industry peer evaluators to identify industry best practices.

NOS performs these functions by evaluating the self evaluation implementation of the major functional areas of maintenance, operations, engineering, environmental and chemistry, radiation protection and plant support once every 24 months (+ appropriate scheduling flexibility). NOS teams may include peers from other CP&L plants and from the nuclear utility industry, as appropriate, to lend expertise to the assessment.

NOS will, by procedure, evaluate for each assessed functional area:

1. The effectiveness of the self evaluation program,
2. The ability to incorporate lessons learned from within CP&L, as well as industry events, and
3. The corrective action implementation programs.

To facilitate exchange of information among organizations, the Nuclear Ov
Directors/Managers and Superintendents will hold separate periodic group
than semi-annually (+25% for scheduling flexibility) as stated in 17.3.3.1.

B17.3.3.1

Written Nuclear Oversight evaluations, including the results and recommended corrective actions, will be reported to senior management.

17.3.3.3

17.3.3.3 Independent Assessment. The Nuclear Oversight Department is responsible for conducting independent assessments of functions and activities affecting the nuclear programs at Duke Energy Progress locations as delineated in Section 17.3.1.3. The Nuclear Oversight Department independently monitors and assesses the Company's nuclear programs on a continuing basis. As part of this continuing assessment process, the Nuclear Oversight Department performs audits to verify that applicable elements of the quality assurance and other regulatory required programs have been developed, documented and effectively implemented in accordance with specified requirements. In this section, the words assess, assessment, and their various word forms are used generically to indicate the act of evaluating the performance of the line organization.

17.3.3.3.1

17.3.3.3.1 Organization. Personnel performing independent assessmen
generally assigned to Nuclear Oversight from the line and other organizations o
basis for two to five year assignments. Since these personnel are full-time asse

B17.3.3.3.1
Rotations are site specific.

this time period, they have no direct responsibilities in the areas being assessed. However, on an exception basis, personnel in Nuclear Oversight may provide assistance to the line organization by participating in emergency preparedness activities, ad hoc committees or analyzing technical issues, if such assistance is deemed to be in the overall best interest of safety and is approved in advance by Nuclear Oversight management. In addition, subject matter experts from the line organizations may be utilized to add specific technical expertise to the assessment team or a specific audit team. When supporting a specific audit team, the subject matter experts will work under the direction of the audit team leader and will not be assessing any functions associated with their normal job assignment at the audited site.

Selection of assessment personnel is based on experience and/or training that establishes that their qualifications are commensurate with the complexity or special nature of the area being assessed. The process for qualification of personnel to perform audits and assessments is established in procedures.

17.3.3.1 1p

The Vice President - Harris Nuclear Plant and the Executive Vice President - Nuclear Generation and Chief Nuclear Officer are responsible for ensuring that an environment exists for a strong self - assessment program at the Harris site and within Nuclear Generation, respectively. Nuclear Oversight includes auditors assigned responsibility for the independent audits of the Harris Nuclear Plant. The Vice President - Harris Nuclear Plant, working with the Vice President - Nuclear Oversight, also ensures that assessment personnel are a B17.3.3.3.1 line and other organizations on a rotational basis to the HNP Nuclear Oversight or

Personnel performing assessments, including audits, shall have access to records, procedures, and personnel to gather data.

17.3.3.3.2

17.3.3.3.2 Assessment process. The independent assessment process includes gathering data, analyzing data, focusing on selected issues and identifying deficiencies to desired performance. The results of independent assessments are communicated to management in a manner that causes action to correct deficiencies and develop action to prevent recurrence. In addition, this process should evaluate corrective measures adopted to eliminate the deficiencies identified.

Data is gathered using performance based techniques during:

1. Observations of work activities (including line organization self assessment activities),
2. Interviews,
3. Reviews of documents to gather information (including the use of NRC, INPO, and other agency evaluations),
4. Nuclear Safety Review activities,
5. Team independent audits, and
6. Analysis of plant data and reports (including adverse condition reports, etc.)

Audits are an independent assessment activity performed to verify that applicable elements of the quality assurance and other regulatory required programs have been developed, documented and effectively implemented in accordance with specified requirements. As such audits involve planning activities to identify the organizations to be evaluated, the characteristics to be focused on during the audit, and the applicable acceptance criteria. Independent Audit activities are selected with flexibility based on various factors. These factors include but are not limited to: importance to safety and reliability, Nuclear Oversight independent assessments of site work activities, time since last audit, plant management perspective, outside agency audits, and problem areas identified from industry and Duke Energy experience.

Preparation activities may include a review of performance data, relevant documentation, previous assessment data, industry experience, team member experience, and management input. These activities enable the team to focus on issues which may impact safety and reliability when analyzing data.

Assessments are scheduled on the basis of the status and safety importance of the activities or processes being performed. The schedule is flexible and dynamic to allow assessment to be changed depending on plant conditions, events, or issues raised by senior management. Audits are scheduled per the following section.

17.3.3.3.3

17.3.3.3.3. Nuclear Oversight Audit Program. Nuclear Oversight audits will be performance based and will be scheduled based on plant performance and importance to safety but at a frequency not to exceed 24 months, with exceptions as indicated below and as allowed in Section 1.8. This grace period does not apply to assessments of Emergency Preparedness, Security, Radiation Protection and Fire Protection. These audits shall encompass:

17.3.3.3.7 for extension policy

1. The conformance of facility operation to provisions contained with Specifications and applicable license conditions.

2. The performance, training and qualifications of the line organizations supporting the Harris Nuclear Plant.

3. The results of actions taken to correct deficiencies occurring in facility equipment, structures or systems that affect nuclear safety, or method of operation that affect nuclear safety.

4. The performance of activities required by the Operational Quality Assurance Program to meet the criteria of Appendix B, 10 CFR 50 performed by the line organizations supporting the Harris Nuclear Plant.

5. Any other area of nuclear generation considered appropriate by responsible management.

6. The Radiological Environmental Monitoring Program and the results thereof.

7. The OFF-SITE DOSE CALCULATION MANUAL and implementing procedures.

8. The PROCESS CONTROL PROGRAM and implementing procedures for processing and packaging of radioactive wastes.

As described in FSAR section 17.3.4.1.5, audits of the Fire Protection Program under 10 CFR 50.48(c), NFPA 805, may be conducted using a three-year (triennial) freque

17.3.3.3.3.2

B17.3.3.3.3.2 site specific Fire Protection audit implementation

~~Audits of activities prescribed by the Code of Federal Regulations will be performed at~~ the frequencies prescribed by the applicable regulation. These audits shall encompass:

17.3.3.3.3.1

1. Emergency Preparedness (per 10 CFR 50.54(t))

2. Security (per 10 CFR 50.54(p))

3. Radiation Protection (per 10 CFR 20.1101c)

B17.3.3.3.3.1 for RP audit

17.3.3.3.4 - Deleted

17.3.3.3.4 (except as noted)

17.3.3.3.5 Results. Adverse conditions are reported in accordance with the applicable department's corrective action program procedure or by formal correspondence between responsible levels of management.

Independent audit results are communicated to line management to allow for timely action to address potential problems or recognize strengths and superior performance.

Independent assessment results are documented and reviewed with management personnel responsible for the areas assessed.

Results of independent assessments, special investigations, and analysis of data will be provided to Nuclear Oversight management for review. ~~A periodic briefing of Nuclear Oversight Section activities, along with potential findings and rec~~ ~~Executive Vice President - Nuclear Generation and Ch~~

The periodic briefing is deleted here. 17.3.1.3, 4th paragraph addresses this.

Follow-up is accomplished to assure that corrective action is taken as a result of the audit and that deficient areas are reaudited, when necessary, to verify implementation of adequate corrective actions.

17.3.4 Administrative Controls This section was added to the FSAR to relocate certain administrative controls from Technical Specifications. These relocated administrative controls include Review and Audit, Procedure Review Requirements, and Record Retention.

17.3.4.1 Review and Audit.

B17.3.4.1, 10CFR50.59 and Technical Reviews

17.3.4.1.1 10CFR50.59 and technical reviews.

17.3.4.1.1.1 General program control. A 10CFR50.59 and a evaluation shall be prepared for each of the following:

a) All procedures and programs required by Technical Spec other procedures that affect nuclear safety, and changes thereto exception of those procedures which are exempt from review under accordance with NEI 96-07, Revision 1, as endorsed by Regulatory November 2000:

b) All proposed tests and experiments that are not descri Final Safety Analysis Report; and

c) All proposed changes or modifications to plant systems that affect nuclear safety.

17.3.4.1.1.2 Technical evaluations.

a) Technical evaluations will be performed by personnel q the subject matter and will determine the technical adequacy and the proposed activity. If interdisciplinary evaluations are req the technical scope of an activity, they will be performed.

b) Technical review personnel will be identified by the re manager or his designee for a specific activity when the review begins.

17.3.4.1.1.3 Qualified 10CFR50.59 reviewers. The Plant Ma designate those individuals who will be responsible for performi reviews described in Section 17.3.4.1.1.4. These individuals sha baccalaureate degree in an engineering or related field or equiva years of related experience. Such designation shall include the or procedure categories for which each individual is qualified. individuals or groups not on the plant staff may be relied upon 10CFR50.59 reviews if so designated by the Plant Manager.

17.3.4.1.1.4 10CFR50.59 evaluations and approvals.

a) The 10CFR50.59 evaluation prepared in accordance with Section 17.3.4.1.1.1 shall include a written determination, with whether or not the procedures or changes thereto, proposed tests experiments and changes thereto, and modifications require a lic in accordance with 10CFR50.59, or whether they involve a change Safety Analysis Report, the Technical Specifications, or the ope license.

b) The 10CFR50.59 evaluation shall be prepared by a quali individual. The 10CFR50.59 evaluation shall be reviewed by a sec individual.

B17.3.4.1, 10CFR50.59 and Technical Reviews

c) A 10CFR50.59 evaluation and subsequent review that conc subject action may require a license amendment, a change to the T Specifications, or a change to the operating license, will be ref Plant Nuclear Safety Committee (PNSC) for their review in accorda Section 17.3.4.1.2.5. If the PNSC recommendation is that an item license amendment, a change to the Technical Specifications, or a the operating license, the action will be referred to the commiss approval prior to implementation. Implementation may not proceed review by the Nuclear Oversight Section in accordance with Sectic 17.3.4.1.3.4.

d) If a 10CFR50.59 evaluation and subsequent review conclu subject action does not require a license amendment, a change to Specification, or a change to the operating license, the action m approved by the Plant Manager or his designee, or as applicable, manager of the primary functional area affected by the action. T approving the action shall assure that the reviewers collectively background and qualification in all of the disciplines necessary to the specific review for both safety and technical aspects.

e) A 10CFR50.59 evaluation and subsequent review that conc modifications, procedures, tests or experiments which constitute the facility as described in the Final Safety Analysis Report sha referred to the Nuclear Oversight Section for review in accordanc section 17.3.4.1.3.4, but implementation may proceed prior to the of that review.

f) The individual approving the procedure, tests, or exper change thereto shall be other than those who prepared the 10CFR5(evaluation or performed the 10CFR50.59 review.

B17.3.4.2, Plant Nuclear Safety Committee

17.3.4.1.2 Plant Nuclear Safety Committee (PNSC).

17.3.4.1.2.1 Function. The PNSC shall function to advise Manager on all matters related to nuclear safety.

17.3.4.1.2.2 Composition.

a) The PNSC will be composed of six to eight members. Me Chairman shall be designated in writing by the Plant Manager. T shall represent the engineering, operations, maintenance, health chemistry, and licensing/regulatory programs functions. The Pla designate in writing additional non-voting members from additior functional areas as deemed appropriate (e.g., Training, Organiza Effectiveness, and/or Outage and Scheduling). Non-voting member considered in the establishment of a quorum except when designat Chairman.

b) The Plant Manager may designate in writing other regul voting members who may serve as Acting Chairman of PNSC meetings Chairman shall have a bachelor's degree in an engineering or sci equivalent, and in addition shall have 10 years of power plant e which 3 years shall be nuclear power plant experience. The othe members (and any alternates) and non-voting members shall have a degree in an engineering or science field or equivalent and in a have a minimum of 5 years technical experience of which a minimu

shall be in one or more of the areas listed above. Members without ar applicable bachelor's degree shall have a minimum of 10 years technica experience, of which a minimum of 3 years shall be in one or more of t listed above. No more than two alternates shall participate as voting in PNSC activities at any one time.

17.3.4.1.2.3 Meeting frequency. The PNSC shall meet at least o calendar month and as convened by the PNSC Chairman or his designated alternate. The PNSC must meet in session to perform its function unde FSAR.

17.3.4.1.2.4 Quorum. The quorum of the PNSC necessary for the performance of the PNSC responsibility and authority provisions of the shall consist of the Chairman or his designated alternate and four mem including alternates.

17.3.4.1.2.5 Responsibilities. The PNSC shall be responsible f

a) Review of proposed procedures or changes thereto that have initially determined to require a license amendment or involve an unre change to the Technical Specification;

b) Review of all proposed tests and experiments that affect n safety and that have been initially determined to appear to require a amendment or involve an unreviewed change to the Technical Specificati

c) Review of all proposed changes to Appendix A Technical Specifications;

d) Review of all proposed changes or modifications to unit sy equipment that affect nuclear safety and that have been initially dete to appear to require a license amendment as defined in 10CFR50.59 or i change to the Technical Specifications;

e) Investigation of all violations of the Technical Specifica including the preparation and forwarding of reports covering evaluatio recommendations to prevent recurrence, to the Vice President - Harris Plant;

f) Review of all reportable events;

g) Review of unit operations to detect potential hazards to n safety;

h) Performance of special reviews, investigations, or analyse reports thereon as requested by the Plant General Manger or the Manger Nuclear Oversight Section;

i) Review of the Security Plan;

j) Review of the Emergency Plan;

k) Review of any accidental, unplanned, or uncontrolled radio release including the preparation of reports covering evaluation, recommendations, and disposition of the corrective action to prevent recurrence and the forwarding of these reports to the Vice President - Nuclear Plant;

B17.3.4.2, Plant Nuclear Safety Committee

l) Review, prior to implementation, of changes to the Off-
Calculation Manual, the Process Control Program, the Radwaste Treat
Systems, and the Technical Specification Equipment List Program.

17.3.4.1.2.6 Requirements. The PNSC shall:

a) Render determinations in writing with regard to whether each item considered under Section 17.3.4.1.2.5.a. through e. requi license amendment; and

b) Provide written notification within 24 hours to the Vic President - Harris Nuclear Plant of disagreement between the PNSC a Plant Manager. However, the Plant Manager shall have responsibilit resolution of such disagreements pursuant to Technical Specificatic

17.3.4.1.2.7 Records. The PNSC shall maintain written minut PNSC meeting that, at a minimum, document the results of all PNSC a performed under the responsibility provisions of the FSAR. Copies provided to the Vice President - Harris Nuclear Plant and the Manager - Nuclear Oversight Section.

17.3.4.1.3 HNP Nuclear Oversight Section independent review

17.3.4.1.3.1 Function. The HNP Nuclear Oversight Section sha to provide independent review of plant changes, tests, and procedur that reportable events are investigated in a timely manner and corr manner that reduces the probability of recurrence of such events; a trends that may not be apparent to a day-to-day observer.

17.3.4.1.3.2 Organization. The individuals assigned respons independent reviews shall be technically qualified in a specified t discipline or disciplines. These individuals shall collectively ha experience and competence required to review activities in the foll areas:

a) Nuclear power plant operations,

b) Nuclear engineering,

c) Chemistry and radiochemistry,

d) Metallurgy,

e) Nondestructive testing,

f) Instrumentation and control,

g) Radiological safety,

h) Mechanical and electrical engineering,

i) Administrative controls,

j) Seismic and environmental,

B17.3.4.2, Plant Nuclear Safety Committee

B17.3.4.3 refers to: B17.3.3.2, Independent Review

k) Quality assurance practices, and

l) Other appropriate fields.

17.3.4.1.3.3 Requirements.

a) The Manager - HNP Nuclear Oversight Section shall have a degree in an engineering or related field, and in addition, shall ha minimum of 10 years' related experience, of which a minimum of 5 yea be in the operation and/or design of nuclear power plants.

b) The individuals performing independent reviews shall have bachelor degree in an engineering or related field or equivalent, an addition, shall have a minimum of 5 years' related experience.

c) An individual may possess competence in more than one sp area. If sufficient expertise is not available within the Nuclear O Section, competent individuals from other Carolina Power & Light Com organizations or outside consultants shall be utilized in performing independent reviews and investigations.

d) The documents submitted under 17.3.4.1.3.4 shall be revi individuals meeting the requirements of 17.3.4.1.3.2 and 17.3.4.1.3.3 ensure disciplines are encompassed. Multiple reviews will be conduct documents where required to meet applicable disciplines of Section 17.3.4.1.3.2.

e) Independent reviews shall be performed by individuals no involved with the activity under review or responsible for the activ review.

f) The Nuclear Oversight Section independent review program conducted in accordance with written, approved procedures.

g) Individuals who do not possess the formal educational re specified in Sections 17.3.4.1.3.3(a) and 17.3.4.1.3.3(b) shall not automatically eliminated where other factors provide sufficient demo of their abilities. These other factors shall be evaluated on a case basis and approved and documented by the Vice President - Nuclear Ov Department. The positive factors listed as follows may be considered the evaluation of an acceptable alternative to the educational requi

1) High school diploma or GED.

2) Academic and related technical training.

3) Has or has held a license as a senior reactor operato

4) Four years of additional experience in Nuclear Oversi related field (i.e., Quality Assurance, Performance E or Nuclear Assessment).

5) Four years of supervisory or management experience.

B17.3.4.3 refers to: B17.3.3.2, Independent Review

6) Demonstrated ability to communicate clearly (writing).

7) Certification of academic ability and knowled management.

8) Successful completion of the Engineer-In-Trai

9) Professional Engineer License.

10) Associate Degree in Engineering or related sc

17.3.4.1.3.4 Review. The Nuclear Oversight Section shall pe the following:

a) Written 10CFR50.59 evaluations of changes in the described in the Safety Analysis Report, changes in procedure the Safety Analysis Report, and tests or experiments not desc Safety Analysis Report which are completed without prior NRC the provisions of 10CFR50.59. These reviews are to verify th tests, or experiments do not involve a change in the Technica or require a license amendment as defined in 10CFR50.59. The conducted after appropriate management approval, and implemer proceed prior to completion of the review.

b) Proposed changes in procedures required by the Te Specifications, proposed changes in the facility, or proposed experiments, any of which involve a change in the Technical S require a license amendment pursuant to 10CFR50.59 prior to i

c) Proposed changes to the Technical Specifications license prior to implementation.

d) Violations, deviations, and reportable events, wh reporting to the NRC in writing, such as:

1) Violations of applicable codes, regulations Technical Specifications, license requirements, or internal p instructions having safety significance,

2) Significant operating abnormalities or devi normal or expected performance of plant safety-related struct components, and

3) Reportable events, as specified in 10CFR50.

e) Any other matter involving safe operation of the plant that the Manager - HNP Nuclear Oversight Section, deems consideration or which is referred to the Manager - HNP Nucle Section, by the on-site operating organization, Plant Nuclear (PNSC), or by other functional organizational units within Ca Light Company.

17.3.4.1.3.5 Records. Results of HNP Nuclear Oversight Section independent reviews shall be documented and retained.

B17.3.4.3 refers to: B17.3.3.2, Independent Review

17.3.4.1.4 Independent Safety Engineering Group.

B17.3.4.4, Independent Safety Engineering Group

17.3.4.1.4.1 Organization. The Independent Safety Engineeri
(ISEG) functions of improving licensee safety performance and abil
respond to accidents by providing onsite technical support and con
evaluation and feedback of lessons learned from operating experien
performed by a combination of different groups through the perform
their normal activities.

17.3.4.1.4.2 Activities. Key ISEG activities are outlined b
the groups that currently perform these activities:

1. Examination of Unit Operating Characteristics:
   - HNP has an established Corrective Action Program
     includes processes for the identification, class
     trending and correcting of conditions adverse to
   - The Nuclear Oversight Section at HNP is charged
     responsibility for the independent monitoring an
     of activities as defined in section 17.3.3.3.
   - HNP has implemented a Maintenance Rule Program t
     reasonable assurance that structures, systems, t
     components are capable of fulfilling their inten
     significant functions.
   - Harris Engineering Section has implemented a pro
     provides for the systematic trending of system a
     performance to determine the effectiveness of
     system/component maintenance
   - A corporate Probabilistic Safety Assessment Unit
     established with the mission of maintaining and
     plant specific risk models and risk based tools
     used to provide risk insights and tools to: sup
     maintenance and outage risk assessments; support
     Maintenance Rule Program; evaluate proposed plan
     for risk impact; monitor the risk effectiveness
     line maintenance activities; and support other r
     activities.
2. Examination of NRC Issuances, Industry Advisories, and
   Event Reports and other Sources of Unit Design Informa
   May Indicate Areas of Improving Unit Safety:
   - HNP has implemented an Operating Experience (OE)
     that provides for the receipt, processing, statu
     screening, reviewing, evaluating, and taking
     preventive/corrective actions in response to OE
   - The Nuclear Oversight organization independently
     the use of OE and the evaluation of relevant des
     information assessments of the stations OE Progr
     implementation of INPO SOER recommendations, and
     functional area assessment.
   - HNP Nuclear Oversight reviews License Event Repo
     developed pursuant to 10CFR50.73 as part of the
     Safety Review process defined in section 17.3.4.
3. Review of Plant Operations, Modifications, Maintenance
   Surveillances to Verify Independently that these Activ
   Performed Safely and Correctly and that Human Errors a
   as Much as Practical;

- The Nuclear Oversight Section assessments defined 17.3.3.3 and the Independent Review Program defin section 17.3.4.1.3 accomplish this function.

B17.3.4.4, Independent Safety Engineering Group

17.3.4.1.5 Outside agency inspection and audit program.

a) An independent fire protection assessment shall be perf least once per 36 months using an outside (external to Progress Ene qualified (meeting Member grade qualifications of the SFPE) fire pr engineer.

B17.3.4.5 refers to B17.3.3.3.3.2, Independent Audit of Fire Protection Program

b) Copies of the audit reports and responses to them shall forwarded to the Vice President - Harris Nuclear Plant and the Manag Nuclear Oversight Section.

17.3.4.2 Procedure Review Requirements.

17.3.4.2.1 Procedure revisions. Each procedure of Technical Specification 6.8.1, and changes thereto, shall be reviewed and appr accordance with Section 17.3.4.1.1 prior to implementation and revie periodically as set forth in administrative procedures.

B17.3.4.6, Procedure Review Requirements

17.3.4.2.2 Temporary changes. Temporary changes to procedur Specification 6.8.1 may be made provided:

a) The intent of the original procedure is not altered;

b) The change is approved by two members of the plant mana staff, at least one of whom holds a Senior Operator license on the affected; and

c) The change is documented, reviewed in accordance with Section 17.3.4.1.1, and approved within 14 days of implementation b Manager or by the manager of the functional area affected by the procedure.

B17.3.4.6, Procedure Review Requirements

17.3.4.3 Record Retention. In addition to the applicable record retention requirements of Title 10, Code of Federal Regulations, the following records shall be retained for at least the minimum period indicat

17.3.2.15 list of typical records. 17.3.2.15 9p addresses retention.

17.3.4.3.1 Five year records. The following records shall for at least 5 years:

a) Records and logs of unit operation covering time inte power level;

b) Records and logs of principal maintenance activities, inspections, repair, and replacement of principal items of equipment related to nuclear safety;

c) All reportable events;

d) Records of surveillance activities, inspections, and calibrations required by the Technical Specifications;

e) Records of changes made to the procedures required by Specification 6.8.1;

f) Records of radioactive shipments;

g) Records of sealed source and fission detector leak tests and results; and

h) Records of annual physical inventory of all sealed source material of record.

17.3.4.3.2 Records retained for the duration of the unit OL. The following records shall be retained for the duration of the unit operating license:

a) Records and drawing changes reflecting unit design modifications made to systems and equipment described in the Final Safety Analysis Report;

b) Records of new and irradiated fuel inventory, fuel transfers, and assembly burnup histories;

c) Records of radiation exposure for all individuals entering radiation control areas;

d) Records of gaseous and liquid radioactive material released to the environs;

e) Records of transient or operational cycles for those unit components identified in Technical Specifications Table 5.7-1;

f) Records of reactor tests and experiments;

g) Records of training and qualification for current members of the unit staff;

h) Records of inservice inspections performed pursuant to the Technical Specifications;

i) Records of quality assurance activities required by the Corporate Quality Assurance Program;

j) Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10CFR50.59;

k) Records of meetings of the PNSC;

l) Records of the service lives of all hydraulic and mechanical snubbers required by Technical Specification 3.7.8 including the date at which the service life commences and associated installation and maintenance records;

17.3.2.15 list of typical records. 17.3.2.15 9p addresses retention.

m) Records of secondary water sampling and

n) Records of analyses required by the Radi ental Monitoring Program that would permit evaluation of the accuracy of the analysis at a later date. This should include procedures effective at specified times and QA records showing that these procedures were followed;

o) Records of facility radiation and contamination surveys;

p) Records of independent reviews; and

q) Records of reviews performed for changes made to the Off-Site Dose Calculation Manual and the Process Control Program.

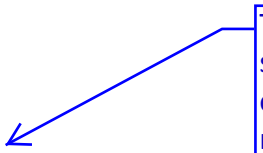
Attachment 5

Markup of the H. B. Robinson Steam Electric Plant Updated Final Safety Analysis Report (UFSAR) Chapters 1.8 and 17.3

70 Pages Follow

This markup package includes UFSAR pages affected by the transfer of information to the Topical Report providing the Quality Assurance Program Description.

Red colored Information identifies Changes within the UFSAR.



Text callout within Blue Text box with arrows identifies content in standard text of the Body of the Topical Report in Attachment 1 of this Letter. This text generally is in the form of a section number followed by indication of which paragraph addresses the content. for example "17.3.2.1 2p" indicates the content is reflected in the second paragraph of Section 17.3.2.1

Blue Text within Blue Text box without arrow identifies content retained as site specific in Attachment C to the Topical Report in Attachment 1 of this Letter. This text is generally is in the form of a Site Specific Attachment section number followed by indication of which paragraph addresses the content. For example "C17.3.2.1 2p" indicates the content is reflected in Attachment C in the second paragraph of Section C17.3.2.1. In certain cases, this type box contains the justification for deleted content.

1.8 CONFORMANCE TO NRC REGULATORY GUIDES

Regulatory Guides (originally called Safety Guides) have been published beginning in late 1970. Since H. B. Robinson (HBR) was licensed for operation prior to that time, they were not addressed. Those Regulatory Guides which have been addressed during the operating phase are discussed below.

Regulatory Guide 1.28	QUALITY ASSURANCE PROGRAM REQUIREMENTS (DESIGN AND CONSTRUCTION) ~~(REV. 0)~~
~~ANSI Standard N45.2-1971~~	~~QUALITY ASSURANCE REQUIREMENTS FOR NUCLEAR POWER PLANTS~~

This guide and the standard it endorses have been superseded for operations activities by Regulatory Guide 1.33 and ANSI N18.7-1976 which it endorses. The Operational Quality Assurance Program complies with Regulatory Guide 1.33 and ANSI N18.7-1976 as stipulated in Appendix A to that program; therefore, Regulatory Guide 1.28 (Safety Guide 28) and ANSI ~~N45.2-1971 which it endorses are not considered necessary and are not included as part of the~~ program.

In the UFSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.28 is addressed in the description of the Quality Assurance Program incorporated by reference in Chapter 17.

Conformance with Regulatory Guide 1.28 is addressed in Site Specific Attachment C, Table C17-1.

Replace Strikethrough text with:
Conformance with Regulatory Guide 1.30 is addressed in the description of the Quality Assurance Program incorporated by reference in Chapter 17.

Regulatory Guide 1.30

~~EQUIPMENT (REVISION 0) (AUGUST, 1972)~~

~~ANSI Standard N45.2.4-1972~~ ~~(IEEE-336-1971), INSTALLATION, INSPECTION, AND TESTING REQUIREMENTS FOR INSTRUMENTATION AND ELECTRICAL~~ ON OF ONS

Conformance with Regulatory Guide 1.30 is addressed in Site Specific Attachment C, Table C17-1.

HBR 2 shall comply with the provisions of Regulatory Guide 1.30, August 1972, as indicated below:

The installation, inspection, and testing of nuclear power plant instrumentation and electrical equipment at HBR 2 will be in accordance with the applicable requirements of ANSI N45.2.4-1972 with the following exceptions:

a) Section 1.4 titled Definitions: Definitions in this standard which are not included in ANSI N45.2.10 will be used; definitions which are included in ANSI N45.2.10 will be used as clarified in CP&L commitment to Regulatory Guide 1.74.

b) Section 1.5 titled Referenced Documents: CP&L's commitment to other documents referenced in this standard shall be as stated in our commitment to that document.

c) Section 2.5 titled Measuring and Test Equipment: CP&L will implement the applicable portions of this Section as follows:

The status of portable items of measuring and test equipment and reference standard shall be identified by use of tags, stickers, labels, routing cards, computer programs, or other suitable means for the date recalibration is due or the frequency of recalibration. These items are in a calibration program which requires recalibration on a specified frequency or, in certain cases, prior to use.

Instrumentation and electrical equipment in the categories listed below shall be in a calibration program. This program provides, by the use of status cards, computer schedules, or tags, for the date that recalibration is due and indicates the status of calibration. The identity of person(s), performing calibration is provided on the calibration documents.

1) Instruments installed as listed in the Technical Specifications

2) Installed instrumentation used to verify Technical Specification parameters, and

3) Installed safety-related instruments and electrical equipment that provide an active function during operation or during shutdown; i.e., not a device being designated safety-related solely because the instrument is an integral part of a pressure retaining boundary.

d) Section 7 titled Data Analysis and Evaluation states in part, "Procedures shall be established for processing inspection and test data and their analysis and evaluation." At HBR 2, data processing procedures per se have not been developed; instead, test data are recorded, processed, and analyzed in accordance with procedures and instructions in appropriate functional areas; e.g., maintenance, startup.

In the UFSAR, Replace with:
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Conformance with Regulatory Guide 1.30 is addressed in Site Specific Attachment C, Table C17-1.

Regulatory Guide 1.33	QUALITY ASSURANCE PROGRAM REQUIREMENTS (OPERATION) ~~REVISION 2, FEBRUARY 1978~~
~~ANSI Standard N18.7-1976~~	~~ADMINISTRATIVE CONTROLS AND QUALITY~~ ASSURANCE REQUIREMENTS FOR THE OPERATIONAL PHASE OF NUCLEAR POWER PLANTS

Comply with the provisions of Regulatory Guide 1.33, Rev. 2 February 1978, and the requirements and recommendations for administrative controls described in ANSI N18.7-1976 except as stated below:

In the UFSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.33 is addressed in the description of the Quality Assurance Program incorporated by reference in Chapter 17.

1. Paragraph C. Specification review body prior to their submittal to the NRC for approval. Changes to Technical Specifications or license amendments shall receive independent review prior to their implementation as required by ANSI N18.7-1976. The requirements of the standard provide adequate assurance that items affecting safety will be reviewed before they are put into effect. Independent review prior to NRC submittal is not part of the commitment. See UFSAR Section 17.3 for independent review requirements.

2. In lieu of the audit program provisions contained in Regulatory Position C.4 of Regulatory Guide 1.33, audits of facility activities will be conducted in accordance with the Quality Assurance Program Description contained in UFSAR Section 17.3.

3. Paragraph 4.5 - Written audit reports are not formally reviewed as part of the Independent Review function.

4. Paragraph 4.5 - The Executive Vice President, NGG & Chief Nuclear Officer will assure that an independent assessment of the overall Nuclear Oversight program is conducted at least once every 24 months. Results of the independent assessment will be reported directly to the Executive Vice President, NGG & Chief Nuclear Officer and entered into the Corrective Action Program for resolution. (For scheduling consistency, the exceptions included in paragraph 5 of this section will be used as clarification for scheduling this independent assessment).

5. Paragraph 4.5 - Audit Programs - RG 1.33 (Safety Guide 33, November 1972) endorses ANSI N18.7-1976/ANS-3.2, Section 4.5, that states that audits of selected aspects of the operational phase activities, including safety-related functions, are completed within a period of two years, with the following clarification:
   a) Audits shall be performed at the intervals designated herein for each audit area. ~~Schedules shall be based on the exit date of the audit.~~

Conformance with Regulatory Guide 1.33 is addressed in Site Specific Attachment C, Table C17-1.

b) A maximum extension not to exceed 25 percent of the audit interval shall be allowed. That is to say that, for audits on a 24-month frequency, the maximum time between specific audits shall not exceed 30 months. Likewise, audits on an annual (12 month) frequency shall not be extended beyond 15 months.

c) When an audit interval extension is used, the next audit for that particular audit area will be scheduled from the anniversary exit date rather than from the exit date of the extended audit.

d) Item b shall also apply to supplier audits and evaluations except that a total combined time interval for any three consecutive inspection or audit intervals should not exceed 3.25 times the specified inspection or audit interval.

NOTE: This grace period will not be applied to audits of the Nuclear Emergency Response Plan to satisfy the requirements of 10 CFR 50.54(t). Security Plan to satisfy 10 these audits will continue to be based on the exit date and not the exit month.

In the UFSAR, Replace with:
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6. Section 5.2.16 titled Measuring and Test Equipment: See UFSAR Section 17.3 for clarification.

7. The applicable procedures recommended in Appendix "A" of Regulatory Guide 1.33, Rev. 2, February 1978, shall be established, implemented, and maintained as specified in the HBR 2 Technical Specifications.

8. Section 5.2.17 titled Inspections: The second to the last sentence in the last paragraph, "Deviations, their cause, and any," to be consistent with Paragraph 5.2.11 and 10CFR50, Appendix B, the cause of the deviation will be determined for only significant conditions adverse to safety.

9. Section 5.3.9.1 titled Emergency Procedure Format and Content: Emergency procedures shall be in the format as committed to in NUREG-0737, TMI Action Plan.

10. Section 5.2.2 titled Procedure Adherence: Temporary changes to approved procedures shall be approved by persons specified in the HBR 2 UFSAR, Section 17.3, Appendix A, 1.1.2.

11. Section 5.2.15 titled Review, Approval and Control of Procedures, states that, "Plant procedures shall be reviewed by an individual knowledgeable in the area affected by the procedure no less frequently than every two years to determine if changes are necessary. A revision to a procedure constitutes a procedure review." In lieu of this commitment, H. B. Robinson Steam Electric Plant, Unit No. 2 has programmatic controls in place to continually identify procedure revisions which may be needed to ensure that procedures are appropriate for the circumstance and are maintained current.

Conformance with Regulatory Guide 1.33 is addressed in Site Specific Attachment C, Table C17-1.

12. ~~Paragraph 5.2.13.1, Procurement Document Control: When purchasing commercial-grade calibration services from certain accredited calibration laboratories, the procurement documents are not required to impose a quality assurance program consistent with ANSI N45.2-1971. Alternate requirements described in Section 1.8 for Regulatory Guide 1.123 may be implemented in lieu of imposing a quality assurance program consistent with ANSI N45.2-1971.~~

Replace with:
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Conformance with Regulatory Guide 1.33 is addressed in Site Specific Attachment C, Table C17-1.

Regulatory Guide 1.37 QUALITY ASSURANCE REQUIREMENTS FOR CLEANING OF FLUID SYSTEMS AND ASSOCIATED COMPONENTS OF WATER-COOLED NUCLEAR POWER PLANTS ~~(MARCH 1973)~~

~~ANSI Standard N45.2.1-1973C~~

In the UFSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.37 is addressed in the description of the Quality Assurance Program incorporated by reference in Chapter 17.

Those areas of the QA Program [illegible] cleanliness control, and preoperation cleaning and layup of HBR 2 fluid systems, will be in accordance with ANSI N45.2.1-1973, with the following exceptions:

a) At HBR 2 a classification system similar to ANSI N45.2.1-1973 has been developed and is fully implemented for cleaning of fluid systems.

b) Section 1.4 titled Definitions: Definitions in this standard which are not included in ANSI N45.2.10 will be used; definitions which are included in ANSI N45.2.10 will be used as clarified in CP&L commitment to Regulatory Guide 1.74.

c) Section 1.5 titled Referenced Documents: CP&L's commitment to other documents ~~referenced in this standard shall be as stated in our commitment to that document.~~

Conformance with Regulatory Guide 1.37 is addressed in Site Specific Attachment C, Table C17-1.

Regulatory Guide 1.38 QUALITY ASSURANCE REQUIREMENTS FOR PACKAGING, SHIPPING, RECEIVING, STORAGE, AND HANDLING OF ITEMS FOR WATER-COOLED NUCLEAR POWER PLANTS (~~MARCH 1973~~)

In the UFSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.38 is addressed in the description of the Quality Assurance Program incorporated by reference in Chapter 17.

~~ANSI Standard N45.2.2-1972~~

Packaging, shipping, receiving, s
applicable requirements of ANSI N45.2.2-1972 with the following specific exceptions:

a) Section 1.4 titled Definitions: Definitions in this standard which are not included in ANSI N45.2.10 will be used; definitions which are included in ANSI N45.2.10 will be used as clarified in CP&L commitment to Regulatory Guide 1.74.

b) Section 1.5 titled Referenced Documents: CP&L's commitment to other documents referenced in this standard shall be as stated in our commitment to that document.

c) Section 2.7 titled Classification of Items and Section 6.1.2 titled Levels of Storage:

1) Special electronic equipment and instrumentation received as assembled panels will be stored as recommended by the manufacturer and/or based on engineering evaluation to prevent damage, deterioration, or contamination, but not necessarily in a Level A storage area.

2) Chemicals used at HBR 2 are stored at the point of use and/or in warehouse areas that satisfy the requirement of Level B storage. These storage areas have been evaluated and determined to be adequate for the limitations established by the manufacturer.

3) Special nuclear materials are stored in areas specifically designed for such storage.

d) Section 7.3.4 - DEP intends to comply with the requirements of this section with the following clarification: Test loads equal to or greater than the original crane rating shall not pass over locations where special nuclear material is stored or where reactor system components or high cost equipment are located.

Conformance with Regulatory Guide 1.38 is addressed in Site Specific Attachment C, Table C17-1.

Section 6.4.2 of ANSI N45.2.2 - 1972, titled Care, sub-items (5), (61, and (7) are clarified as follows:

1 Sub-item (51, space heaters in electrical equipment shall be energized, unless a documented engineering evaluation determines that such space heaters are not required.

2) Sub-item (6). large rotating electrical equipment (i.e. greater than or equal to 50 horsepower) shall be given insulation resistance tests on a scheduled basis, unless a documented engineering evaluation determines such tests are not needed.

3) Sub-item (7). prior to being placed in storage, rotating equipment weighing over approximately 50 lbs. shall be evaluated and documented by engineering personnel to determine if shaft rotation during storage is required. If rotation is required the degree of turn shall be such that the parts receive lubrication where applicable and the shaft does not come to rest in a previous position. Required rotation shall be performed at the necessary intervals and documented.

In the UFSAR, Replace with:
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Conformance with Regulatory Guide 1.38 is addressed in Site Specific Attachment C, Table C17-1.

Regulatory Guide 1.39	HOUSEKEEPING REQUIREMENTS FOR WATER-COOLED NUCLEAR POWER PLANTS ~~(MARCH 1973)~~
~~ANSI Standard N45.2.3-1973~~	~~HOUSEKEEPING, DURING THE CONSTRUCTION~~ PHASE OF NUCLEAR POWER PLANTS

The applicable requirements of ANSI N45.2.3-1973 are followed at Robinson 2 within the context of the established QA Program with the following specific exception -- the zone designations of Section 2.1 of ANSI N45.2.3 and the requirements associated with each zone are considered impractical for implementation, as stated, at Robinson 2 during the operations phase. Instead, procedures or instruction for housekeeping activities, which include the applicable requirements outlined in Section 2.1 of ANSI N45.2.3 and which take into account radiation control considerations, security considerations, and cleanliness requirements are developed on a case basis for work to be performed.

In the UFSAR, Replace Strikethrough text with:
Conformance with Regulatory Guide 1.39 is addressed in the description of the Quality Assurance Program incorporated by reference in Chapter 17.

Conformance with Regulatory Guide 1.39 is addressed in Site Specific Attachment C, Table C17-1.

Regulatory Guide 1.58 — QUALIFICATION OF NUCLEAR POWER PLANT INSPECTION, EXAMINATION, AND TESTING PERSONNEL (~~SEPTEMBER, 1980~~)

~~ANSI Standard N45.2.6-1978~~

In the UFSAR, Replace with:
Conformance with Regulatory Guide 1.58 is addressed in the description of the Quality Assurance Program incorporated by reference in Chapter 17.

HBR 2 shall comply with NRC Regulatory Guide 1.58, September 1980 which endorses ANSI N45.2.6-1978, with the following exceptions:

1. Section 1.2 titled Applicability: DEP elects not to apply the requirements of this guide to those personnel who are involved in the daily operations of surveillance, maintenance, and certain technical and support services whose qualifications are controlled by the Technical Specifications or are controlled by other QA Program commitment requirements. Only personnel in the following listed categories will be required to meet ANSI N45.2.6-1978 requirements:

   a. Nondestructive examination (NDE) personnel

   b. QC inspection p

   c. Receipt inspection personnel

Conformance with Regulatory Guide 1.58 is addressed in Site Specific Attachment C, Table C17-1.

2. The fourth paragraph of Section 1.2 requires that the Standard be imposed on personnel other than DEP employees. The applicability of the Standard to suppliers and contractors will be documented and applied, as appropriate, in the procurement documents for such suppliers and contractors.

3. Section 1.4 titled Definitions: Definitions in this Standard which are not included in ANSI N45.2.10 will be used; definitions which are included in ANSI N45.2.10 will be used as clarified in CP&L commitment to Regulatory Guide 1.74.

4. Section 2.5 titled Physical: DEP will implement the requirements of this Section with the stipulation that, where no special physical characteristics are required, none will be specified. The converse is also true: if no special physical requirements are stipulated by DEP, none are considered necessary. DEP employees receive an initial physical examination to assure satisfactory physical condition; however, only the following listed personnel will receive an annual (± 2 months) examination:

   a. NDE personnel

   b. QC inspection personnel

   c. Receipt inspection personnel

This annual examination shall consist of the near visual acuity using the standard Jaeger's type chart or equivalent test.

5. Section 3 titled Qualifications: Only personnel performing NDE (such as LP, MT, UT, & RT) will be grouped in levels of capability and certified as such. Personnel performing inspection will be certified for inspection, review and evaluation of inspection data, and reporting of inspection and test results.

6. Section 3.5 titled Education & Experience Recommendations: DEP will certify individual inspectors through training and experience to requirements appropriate to the specific assignment; however, except for NDE, personnel will not be classified by levels of capability. The training and experience requirements will be directed toward qualifying personnel for specific inspection and testing operations.

In the UFSAR, Replace with:
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Conformance with Regulatory Guide 1.58 is addressed in Site Specific Attachment C, Table C17-1.

Regulatory Guide 1.64	QUALITY ASSURANCE REQUIREMENTS FOR THE DESIGN OF NUCLEAR POWER PLANTS ~~(OCTOBER 1973)~~
~~ANSI Standard N45.2.11-1974~~	~~QUALITY ASSURANCE REQUIREMENTS FOR~~ THE DESIGN OF NUCLEAR POWER PLANTS

Those areas of the QA Program for HBR 2 applicable to design or modification of the plant are in accordance with the applicable guidance of ANSI N45.2.11-1974, with the following exception:

a) Section 1.4 titled Definitions: Definitions in this standard which are not included in ANSI N45.2.10 will be used; definitions which are included in ANSI N45.2.10 will be used as clarified in CP&L commitment to Regulatory Guide 1.74.

In the UFSAR, Replace with:
Conformance with Regulatory Guide 1.64 is addressed in the description of the Quality Assurance Program incorporated by reference in Chapter 17.

Conformance with Regulatory Guide 1.64 is addressed in Site Specific Attachment C, Table C17-1.

Regulatory Guide 1.74	QUALITY ASSURANCE TERMS AND DEFINITIONS ~~(FEBRUARY, 1974)~~
~~ANSI Standard N45.2.10-1973~~	~~QUALITY ASSURANCE TERMS AND~~ DEFINITIONS

~~The quality assurance terms and definitions of ANSI N45.2.10-1973 and Regulatory Guide 1.74 are being complied with for use in describing and implementing the Robinson 2 QA Program.~~

In the UFSAR, Replace with:
Conformance with Regulatory Guide 1.74 is addressed in the description of the Quality Assurance Program incorporated by reference in Chapter 17.

Conformance with Regulatory Guide 1.74 is addressed in Site Specific Attachment C, Table C17-1.

Regulatory Guide 1.88 — REQUIREMENTS FOR COLLECTION, STORAGE, AND MAINTENANCE OF QUALITY ASSURANCE RECORDS FOR NUCLEAR POWER PLANTS

ANSI Standard N45.2.9-1979

In the UFSAR, Replace with:
Conformance with Regulatory Guide 1.88 is addressed in the description of the Quality Assurance Program incorporated by reference in Chapter 17.

As documented in CP&L Letter to the NRC dated March 23, 1993, HBR is no longer committed to Regulatory Guide 1.88 "Collection, Storage, and Maintenance of Nuclear Power Plant Quality Assurance Records," August 1974.

The requirements for collection, storage, and maintenance of hardcopy and microfilmed copies of QA records at HBR will be in accordance with ANSI N45.2.9-1979 and UFSAR Section 17.3, subject to the following:

1. Section 1.5 titled Referenced Documents: CP&L's commitment to other documents referenced in this standard shall be as stated in our commitment to that document.

2. Section 5.4 Item 2 "Records shall be firmly attached in binders or placed in folders or envelopes for storage in steel file cabinets or on shelving in containers." HBR complies with this requirement except for periods when records are in the receipt process.

3. Section 5.6 states: "Records shall be stored in facilities constructed and maintained in a manner which minimizes the risk of damage or destruction from the following:

   a. Natural disasters such as winds, floods, or fires.
   b. Environmental conditions such as high and low temperatures and humidity.
   c. Infestation of insects, mold, or rodents."

   Records are stored in permanent and temporary facilities as follows:

   1) One hour UL-rated fireproof file cabinets are utilized for temporary storage of hardcopy records. These file cabinets are located at work locations throughout the plant and will contain the records until the records are transmitted to the appropriate Document Control Center. Records being processed in Document Control Centers will be stored in fireproof cabinets when they are not being processed and until they are sent to the vault. In addition, records that are generated and authenticated electronically are afforded protection as described in N45.2.9-(1979) prior to conversion to permanent storage media.

   2) Permanent storage of QA records will be in the plant vault constructed to meet the requirements of this ANSI standard, and via electronic means which also meet applicable provisions of this standard, in addition to those delineated below.

   3) Selected records may be stored off-site by a QA Records Storage supplier provided that supplier meets the applicable sections of this ANSI standard.

Conformance with Regulatory Guide 1.88 is addressed in Site Specific Attachment C, Table C17-1.

4. Section 6.2 states: "Storage systems shall provide for retrieval of information in accordance with planned retrieval times based upon the record type."

   Retrieval of records at HBR is via a random access computer system using key words and document identification numbers, or through a manual index for records completed prior to 1982. The manual system is keyed to Plant Systems.

5. Section 7.3.3 states: "Various regulatory agencies have requirements concerning records that are within the scope of this Standard. The most stringent requirements shall be used in determining the retention period."

   HBR will continue to adhere to the recommendations of Appendix A of ANSI N45.2.9-1974, or with the most stringent requirement with respect to records retention.

In the UFSAR, Replace with:
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Conformance with Regulatory Guide 1.88 is addressed in Site Specific Attachment C, Table C17-1.
The change includes the addition of a standard exception for handling of Electronic Records in Table 17-1 at Regulatory Guide 1.88. The standard exception was approved by NRC safety evaluation dated May 26, 2015 to Duke Energy Carolinas, ADAMS Accession No. ML15138A347

Regulatory Guide 1.94	QUALITY ASSURANCE REQUIREMENTS FOR INSTALLATION, INSPECTION, AND TESTING OF STRUCTURAL CONCRETE AND STRUCTURAL STEEL DURING THE CONSTRUCTION PHASE OF NUCLEAR POWER PLANTS (~~APRIL 1976~~)
~~ANSI Standard N45.2.5-1974~~	~~SUPPLEMENTARY QUALITY ASSURANCE REQUIREMENTS FOR INSTALLATION, INSPECTIONS, AND TESTING OF STRUCTURAL CONCRETE AND STRUCTURAL STEEL DURING THE CONSTRUCTION PHASE OF NUCLEAR POWR PLANTS~~

The original specification requirements, applicable guidance contained in Regulatory Guide 1.94, or acceptable alternatives based on an engineering evaluation will be utilized in the event future structural work is to be performed which falls under the established requirements of the Robinson 2
QA Program.

Future field production welding acceptance criteria will be based on NCIG-01, "Visual Weld Acceptance Criteria for Structural Welding at Nuclear Power Plants," Revision 2, dated May 7, 1985, Prepared by the Nuclear Construction Issues Group (NCIG) for structural safety-related and non-safety related pipe, conduit, cable tray, duct, and equipment supports where welding is specified to be in accordance with AWSD1.1.

~~This will be implemented through appropriate RNP specifications.~~

In the UFSAR, Replace with:
Conformance with Regulatory Guide 1.94 is addressed in the description of the Quality Assurance Program incorporated by reference in Chapter 17.

Conformance with Regulatory Guide 1.94 is addressed in Site Specific Attachment C, Table C17-1.

Regulatory Guide 1.116 — QA REQUIREMENTS FOR INSTALLATION, INSPECTION, AND TESTING OF MECHANICAL EQUIPMENT AND SYSTEMS (~~JUNE, 1976~~)

~~ANSI Standard N45.2.8-1975~~

In the UFSAR, Replace with:
Conformance with Regulatory Guide 1.116 is addressed in the description of the Quality Assurance Program incorporated by reference in Chapter 17.

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Regulatory Guide 1.116, June, 1976, endorses ANSI N45.2.8-1975. HBR 2 does not commit to Regulatory Guide 1.116 but does endorse parts of ANSI N45.2.8-1975 as described below.

Within the context of the established QA Program, the applicable guidance contained in ANSI N45.2.8-1975 will be utilized in relation to mechanical maintenance or modification with the following exception:

a) Section 1.4 titled Definitions: Definitions in this standard which are not included in ANSI N45.2.10 will be used; definitions which are included in ANSI N45.2.10 will be used as clarified in CP&L commitment to Regulatory Guide 1.74.

b) Section 1.5 titled Referenced Documents: CP&L's commitment to other documents referenced in this standard shall be as stated in our commitment to that document.

c) Section 2.8 titled Measuring and Test Equipment: CP&L will implement the applicable portions of this section as follows:

The status of portable items of measuring and test equipment and reference standards shall be identified by use of tags, stickers, labels, routing cards, computer programs, or other suitable means for the date recalibration is due or the frequency of recalibration. These items are in a calibration program which requires recalibration on a specified frequency or, in certain cases, prior to use.

Instrumentation and electrical equipment in the categories listed below shall be in a calibration program. This program provides, by the use of status cards, computer schedules, or tags, for the date that recalibration is due and indicates the status of calibration. The identity of person(s) performing the calibration is provided on the calibration documents.

1) Instruments installed as listed in the Technical Specifications,

2) Installed instrumentation used to verify Technical Specification parameters, and

Conformance with Regulatory Guide 1.116 is addressed in Site Specific Attachment C, Table C17-1.

3) Installed safety-related instruments and electrical equipment that provide an active function during operation or during shutdown; i.e., not a device being designated safety-related solely because the instrument is an integral part of a pressure retaining boundary.

d) Section 6 titled Data Analysis and Evaluation states in part, "Procedures shall be established for processing inspection and test data and their analysis and evaluation." At H. B. Robinson 2 data processing procedures per se have not been developed; instead, test data are recorded, processed, and analyzed in accordance with procedures and instructions in appropriate functional areas; e.g., maintenance, startup.

In the UFSAR, Replace with:
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Conformance with Regulatory Guide 1.116 is addressed in Site Specific Attachment C, Table C17-1.

Regulatory Guide 1.123 — QUALITY ASSURANCE REQUIREMENTS FOR CONTROL OR PROCUREMENT OF ITEMS AND SERVICES FOR NUCLEAR POWER PLANTS (July, 1977)

ANSI Standard N45.2.13

In the UFSAR, Replace with:
Conformance with Regulatory Guide 1.123 is addressed in the description of the Quality Assurance Program incorporated by reference in Chapter 17.

HBR 2 does not commit to Regulatory Guide 1.123; however, the applicable guidance contained in ANSI N45.2.13-1974, Draft 2, Rev. 4, and ANSI N18.7-1976 will be utilized in relation to procurement of items and services performed under the established requirements of the HBR 2 QA Program.

When purchasing commercial-grade calibration services from calibration laboratories that have been accredited by NVLAP or A2LA, the procurement documents are not required to impose a quality assurance program consistent with ANSI N45.2-1971. In such cases, accreditation may be accepted in lieu of the purchaser imposing a QA Program consistent with ANSI N45.2-1971, provided the following are met:

1. The accreditation is to ANSI/ISO/IEC 17025.
2. The accrediting body is either NVLAP or A2LA.
3. The published scope of accreditation for the calibration laboratory covers the needed measurement parameters, ranges, and uncertainties.
4. The purchase documents impose additional technical and administrative requirements, as necessary, to satisfy Progress Energy's QA Program and technical requirements including the requirement for the calibration certificate/report to include identification of the laboratory equipment/standards used.
5. The purchase documents require reporting as-found calibration data when calibrated items are found out-of-tolerance.

When purchasing commercial-grade calibration services from an NVLAP or A2LA accredited calibration laboratory, verification that the supplier's accreditation meets the following shall be performed and documented:

1. The accreditation is to ANSI/ISO/IEC 17025.
2. The accrediting body is either NVLAP or A2LA.
3. The published scope of accreditation for the calibration laboratory covers the needed measurement parameters, ranges, and uncertainties.

Conformance with Regulatory Guide 1.123 is addressed in Site Specific Attachment C, Table C17-1.

The exception for purchase of Commercial Grade Calibration services is replaced with standard Exception in Table 17-1 at Regulatory Guide 1.123. The standard exception continues to use the SE to Arizona Public Services Company dated Sept 28, 2005, but is updated to reflect NRC clarification in Letter ML100130016.

Regulatory Guide 1.144 — AUDITING OF QUALITY ASSURANCE PROGRAMS FOR NUCLEAR POWER PLANTS (JANUARY 1979)

ANSI Standard N45.2.12-1977

In the UFSAR, Replace text with:
Conformance with Regulatory Guide 1.144 is addressed in the description of the Quality Assurance Program incorporated by reference in Chapter 17.

DEP will follow the requirements and recommendations of Regulatory Guide 1.144 and ANSI N45.2.12 with the following clarifications:

1. DEP will follow the requirements and recommendations of Regulatory Guide 1.144 paragraphs C.1, C.2, C.3.a.2, C.3.b, and C.4. Our position on paragraph C.3.a.1 is as follows:

   Audits of operational phase activities, as outlined in UFSAR Section 17.3, "RNP Quality Assurance Program Description", shall be performed at the frequencies specified therein.

   When purchasing commercial-grade calibration services from a NVLAP or A2LA accredited calibration laboratory, the accreditation process and accrediting body may be credit
   acceptab lity
   assuranc
   licensee w of
   the supp ll
   include,

   a. T
   b. T
   c. T the needed measurement parameters, ranges, and uncertainties.

Conformance with Regulatory Guide 1.144 is addressed in Site Specific Attachment C, Table C17-1.

The portion of exception 1 addressing purchase of Commercial Grade Calibration services is replaced with standard Exception in Table 17-1 at Regulatory Guide 1.123. The standard exception continues to use the SE to Arizona Public Services Company dated Sept 28, 2005, but is updated to reflect NRC clarification in Letter ML100130016.

2. DEP will comply with the last paragraph of Section 4.4 of ANSI N45.2.12 concerning issuing audit reports with the following clarification: “Audit reports shall be issued within thirty working days after the last day of the audit. The last day of an audit shall be considered to be the day of the post-audit conference. If a post-audit conference is not held because it was deemed unnecessary, the last day of the audit shall be considered to be the date the post-audit conference was deemed unnecessary as documented in the audit report.”

3. ANSI N45.2.12 Paragraph 4.3. 1, Preaudit Conference: DEP will comply with the requirement of this paragraph by inserting the word "Normally" at the beginning of the first sentence. This clarification is required because, in the case of certain unannounced audits or audits of a particular operation or work activity, a preaudit conference might interfere with the spontaneity of the operation or activity being audited. In other cases, persons who should be present at a preaudit conference may not always be available. Such lack of availability should not be an impediment to beginning an audit. Even in the above examples, which are not intended to be all inclusive, the material set forth in Paragraph 4.3.1 will normally be covered during the course of the audit.

4. ANSI N45.2.12 Paragraph 4.3.3, Post Audit Conference: DEP will substitute and comply with the following paragraphs: "For all external audits, a post audit conference shall be held with management of the audited organization to present audit findings and clarify misunderstandings. Where no adverse findings exist, this conference may be waived by management of the audited organization. Such waiver shall be documented in the audit report. For all internal audits, unless unusual operating or maintenance conditions preclude attendance by appropriate managers/supervisors, an audit exit shall be held with managers/supervisors. If there are no adverse findings, management of the audited organization may waive the audit exit. Such waiver shall be documented in the audit report."

In the UFSAR, Replace with:
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5. ANSI N45.2.12 Paragraph 4.4, Reporting:

   a. This paragraph requires that the audit report be signed by the audit team leader which is not always the most expeditious route for the audit report to be issued as soon as practical. DEP will comply with Paragraph 4.4 as clarified to read:

      "An audit report shall be signed by the audit team leader or the leader's supervisor in the absence of the audit team leader. In cases where the audit report is not signed by the audit team leader due to the leader's absence, the record copy of the report must be signed by the audit team leader upon return . The report shall not require the audit team leader's review/concurrence/signature if the audit team leader is no longer employed by DEP at the time audit report is issued. The audit report shall provide:"

   b. DEP will comply with subparagraph 4.4.3 clarified to read: "Supervisory level personnel with whom significant discussions were held during the course of preaudit (where conducted) , audit, and post audit (where conducted) activities.

   c. Subparagraph 4.4.6 requires audit reports to include recommendations for corrective actions.DEP may choose not to comply with this requirement. Instead, DEP audit reports are required to document findings.

Conformance with Regulatory Guide 1.144 is addressed in Site Specific Attachment C, Table C17-1.

Regulatory Guide 1.146 QUALIFICATION OF QA PROGRAM AUDIT PERSONNEL FOR NUCLEAR POWER PLANTS ~~(REVISION 0) (AUGUST, 1980)~~

~~ANSI Standard N45.2.23-1978~~

In the UFSAR, Replace with:
Conformance with Regulatory Guide 1.146 is addressed in the description of the Quality Assurance Program incorporated by reference in Chapter 17.

HBR 2 shall comply with NRC Regulatory Guide 1.146, Revision 0, which endorses ANSI N45.2.23-1978, with the following exceptions:

1. Section 1.4 titled Definitions: Definitions in this Standard which are not included in ANSI N45.2.10 will be used; definitions which are included in ANSI N45.2.10 will be used as clarified in CP&L commitment to Regulatory Guide 1.74.

2. Section 2.2 titled Qualification of Auditors: Subsection 2.2.1 references an ANSI B45.2, which will be assumed to be N45.2. CP&L will comply with an alternate subsection 2.2.1 which reads:

   Orientation to provide a working knowledge and understanding of the DEP QA program, including the Regulatory Guides and ANSI standards included in the program, and DEP procedures for performing audits and reporting results.

3. Section 4.1 titled Organizational Responsibility: DEP will comply with this Section with the substitution of the following sentence in place of the last sentence in the Section.

   NOS Management or the Audit Team Leader shall, prior to commencing the audit, assign personnel who collectively have experience or training commensurate with the scope, complexity, or special nature of the activities to be audited.

4. Section 5.3 titled Updating of Lead Auditors' Records: DEP will substitute the following sentence for this Section:

   Records for each Lead Auditor shall be maintained and updated during the annual management assessment as defined in Section 3.2 (as clarified).

5. Section 5.4 titled Record Retention: DEP will substitute the following sentence for this section.

   Qualification records shall be retained as required by the DEP QA Program.

Conformance with Regulatory Guide 1.146 is addressed in Site Specific Attachment C, Table C17-1.

Conformance with Regulatory Guide 1.146 is addressed in Site Specific Attachment C, Table C17-1.

6. Section 2.3.4 titles F
sentence. Prospect
implement the audit process and effectively lead an audit team. This process is
descri documentation of
the res l Auditor shall
have participated in at least two Nuclear Oversight audits within a one-year period
preceding the individual's effective date of qualification. Upon successful
demonstration of the ability to effectively implement the audit process and effectively
lead audits, and having met other provisions of section 2.3 of ANSI/ASME N45.2.23-
1978, the individual may be certified to lead audits.

In the UFSAR, Delete this paragraph.
Retain Station Blackout on this page.

Regulatory Guide 1.155 STATION BLACKOUT

HBR2 complies with the intent of NRC Regulatory Guide 1.155. In developing the Station Blackout (SBO) Coping Analysis (Document 8S19-P-101), the guidance of NUMARC 87-00 has been applied. The NUMARC 87-00 methodology has been utilized, with specific exceptions in areas including: (1) evaluation of the effects of loss of ventilation, and (2) evaluation of the containment isolation capability. The analytical method applied and the results of these analyses are documented in SBO Coping Analysis 8S19-P-101.

CHAPTER 17

17.0 QUALITY ASSURANCE

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CHAPTER 17
QUALITY ASSURANCE

TABLE OF CONTENTS

Section 17.1 and its subsections remain in the UFSAR. They should be identified as "Historical"

CHAPTER 17
QUALITY ASSURANCE

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CHAPTER 17
QUALITY ASSURANCE

TABLE OF CONTENTS (continued)

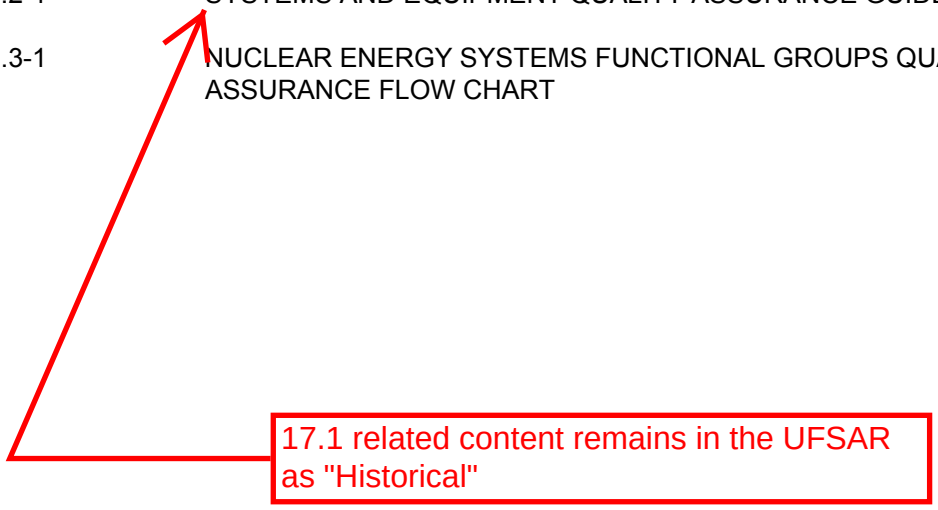
In the UFSAR, Section 17.3 subheadings will be deleted

TABLE OF CONTENTS (continued)

In the UFSAR, Subheadings will be deleted

CHAPTER 17
QUALITY ASSURANCE

LIST OF TABLES



CHAPTER 17
QUALITY ASSURANCE

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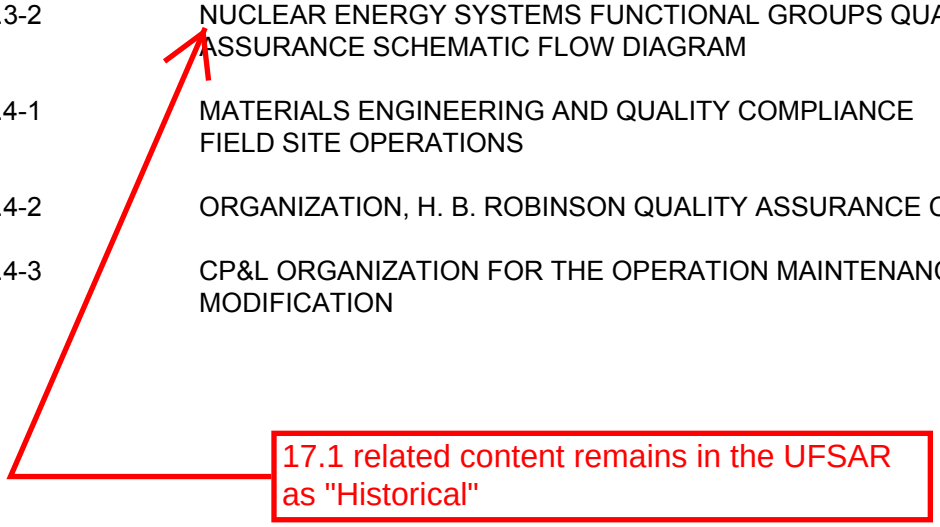

17.3 RNP Quality Assurance Program Description

~~17.3.1 Management~~

17.3.1.1 Methodology

17.3.1.1 Except as noted

It is the policy of Duke Energy Progress, Inc. (DEP) to operate and maintain nuclear power plants without jeopardy to its employees or to the public health and safety.

The Quality Assurance (QA) Program Manual (NGGM-PM-0007) promulgates the 10 CFR 50 Appendix B QA Program. This manual and revisions are approved by the Executive Vice President - Nuclear Generation / Chief Nuc

The Second paragraph from the UFSAR is covered generically in Second paragraph of 17.3.1.1. The standard documentation does not spell out the QA Program Manual, instead using generic term of "implementing procedures." Approval level for procedures is addressed in 17.3.1.3 as indicated in Standard Review Plan.

The QA Program and implementing proced
operation, maintenance, modification, and r
organizations responsible for operating and
procedures define responsibilities and auth
accomplishment of activities for the operati
structures, systems, and components and requires appropriate verification of conformance to established requirements. A list or system identifying items and activities to which this program applies is maintained at each nuclear plant or work location. Controls and responsibilities for maintaining this list or system are prescribed in procedures.

The QA Program and implementing procedures shall be used and updated as necessary to assure that the Company's nuclear generating units are managed such that they will be operated and maintained in a safe manner.

Deviations from the
Executive Vice Pres

Content of the fifth UFSAR paragraph is not carried forward. The deleted paragraph stated "Deviations from the QA Program shall be permitted only upon written authority from the Executive Vice President - Nuclear Generation Group/ CNO." Compliance with the QA Program is mandatory. Intentional deviations are not permitted under normal operating conditions.

The QA Program is
responsibility for qua
levels of quality and
involved with plant performance to ensure the plant is operated in a safe, reliable, and efficient manner. The Nuclear Oversight (NOS) Department evaluates the performance and effectiveness of plant programs, processes, personnel, and the line organization's self-assessment. The activities of the NOS are intended to detect deficiencies in the desired levels of performance and quality, communicating these conditions to the Senior Vice President-Nuclear Generation

In the UFSAR, Replace the content of section 17.3 with:

The description of the Quality Assurance Program is contained in the Duke Energy Corporation Topical Report Quality Assurance Program Description Operating Fleet, DUKE-QAPD-0001-A. That Topical Report follows the format and content guidance of NUREG-0800 Section 17.3 except it is based on ANSI N18.7-1976 in lieu of ANSI/ASME NQA-1 and NQA-2.

Topical Report DUKE-QAPD-0001-A is incorporated by reference into the UFSAR.

& Chief Nuclear Officer and other appropriate Vice Presidents responsible for the assessed organizations, ensuring adequate action is taken to correct and eliminate these conditions.

17.3.1.2 Organization

17.3.1.2 The reference to the organization description from UFSAR Section 13.1 is replaced with a generic organization description in the QAPD Section 17.3.1.2. UFSAR Section 13.1 is NOT affected by this change.

The DEP organization responsib 1 of the UFSAR and in implementing ogram refers to the production organiza Generation / Chief Nuclear Officer.

17.3.1.3 Responsibility

17.3.1.3 1p

The primary responsibility for quality performance, including the identification and effective correction of problems potentially affecting the safe and reliable operation of the Company's nuclear facilities, resides with the line organization.

17.3.1.3 2p

The managers of functions involving nuclear fuel, engineering, and operations shall assure that their personnel are adequately trained for their jobs and they have the experience and education required to carry out their assigned responsibilities. These managers shall ensure that adequate resources and procedures are available for correctly implementing the work activities to support this program.

17.3.1.3 3p

Independent inspections are conducted to verify specific critical quality attributes. Individuals performing these inspections have access to necessary information to ensure that activities and equipment meet established acceptance criteria.

17.3.1.3 4p

The Nuclear Oversight Department is responsible for monitoring and assessing activities that are performed by the line organization for, or in support of, the Robinson Nuclear Plant and Nuclear Generation. These activities include those performed at the individual plant sites, corporate offices, and other Nuclear Generation locations. The Nuclear Oversight Department independently monitors and assesses the Company's nuclear programs on a continuing basis. As part of this continuing assessment process, the Nuclear Oversight Department performs audits to verify that applicable elements of the quality assurance and other regulatory required programs have been developed, documented and effectively implemented in accordance with specified requirements. These evaluations are performance based with emphasis on the quality of the end product.

17.3.1.3 2p supplemented by 17.3.3.3.6, Independent audit of QA Functions.

The Executive Vice President - Nuclear Generation & Chief ...onsible for ensuring that the results and effectiveness of NOS and its p...ing its assigned objectives are regularly evaluated at a frequency n...s with exceptions as allowed in Section 1.8. This will be accomplis...ndent assessment of NOS with the results reported directly to the S... Nuclear Generation & Chief Nuclear Officer. This assessment will focus on the results and effectiveness of NOS performing activities described in 17.3.3.3.3, including Robinson Nuclear Plant Nuclear Oversight Section, will include an evaluation to assure that NOS is functioning as an independent organization. It will also determine the effectiveness and independence of NOS personnel in rotational assignments into and out of NOS.

17.3.1.3 4p, except the frequency is omitted, updates are provide with the completion of audits

On an approximately quarterly basis, a periodic briefing of NOS activitie... potential findings and recommendations, shall be presented to the Exec... Nuclear Generation & Chief Nuclear Officer. The Vice President Nuclea...e access to corporate management up to and including the Executive Vic... Generation & Chief Nuclear Officer to resolve any quality or nuclear safety related concerns if the concerns cannot be resolved satisfactorily at a lower management level.

17.3.1.2.2

17.3.1.4 Authority

The program and procedures require that the authority and duties of persons and organizations performing activities affecting quality functions be clearly established and delineated in writing and that these individuals and organizations have sufficient auth... freedom to:

Content retained in C17.3.1.4 as site specific amplification of 17.3.1.4 generic text. Content is also addressed in 17.3.1.2.2 responsibilities of NOS

1. Identify quality, nuclear safety, and performance problem...

2. Order unsatisfactory work to be stopped and control further processing, delivery, or installation of nonconforming material.

3. Initiate, recommend, or provide solutions for conditions adverse to quality.

4. Verify implementation of solutions.

17.3.1.5 Personnel Training and Qualification

17.3.1.5 1p

Both on-site and off-site personnel within the DEP organization and contract personnel, who perform activities affecting quality (implement elements of the QA Program) shall be indoctrinated and trained such that they are knowledgeable and capable of performing their assigned tasks.

17.3.1.5 2p

Training programs and reviews ensure that proficiency of personnel performing activities affecting quality is achieved and maintained by training (formal & on-the-job training), examining, and/or certifying, as appropriate.

17.3.1.5 4p

Personnel training and qualification records are to be maintained in accordance with plant procedures.

Personnel within the Operating organization performing duties of a licensed operator are indoctrinated, trained, and qualified as required by 10CFR55.

17.3.1.5 5p

17.3.1.6 Corrective Action

17.3.1.6 1p

The primary goal of the DEP corrective action program is to improve overall plant operations and performance by identifying and correcting root causes of equipment and human performance problems. Part of this effort is directed toward encouraging individuals to voluntarily report events, near misses, and potential problems. It is the policy of DEP to seek improvement in each nuclear plant's performance as well as in the performance of supporting Departments.

17.3.1.6 2p

Management will emphasize to all levels in the organization the importance of identifying and effectively correcting situations that can adversely affect human and equipment performance. An important aspect of this program is the assignment of qualified personnel to accurately evaluate equipment/human performance problems, implement appropriate corrective actions, and verify corrective action adequacy.

17.3.1.6 3p

Management is responsible for fostering a positive environment that encourages the self-identification of adverse conditions and trends.

The program requires that an evaluation of adverse conditions such as conditions adverse to quality, nonconformances, failures, malfunctions, deficiencies, deviations, and defective material and equipment is conducted to determine need for co

Content retained in C17.3.1.6 as site specific amplification of 17.3.1.6.

Conditions adverse to quality are identified through inspections, assessme
and review of documents.

The program requires corrective action to be initiated to preclude recurren
conditions adverse to quality.

Procedures require follow-up reviews, verifications, inspections, etc., to be
proper implementation of corrective action and to close out the corrective a

The program outlines the methodology for resolution of disputes involving
safety issues arising from a difference of opinion between identifying perso
groups.

Significant conditions adverse to quality are reported to appropriate manag
evaluation.

Periodic review and evaluation of adverse trends are performed by manage

Content retained in C17.3.1.6 as site specific amplification of 17.3.1.6.

17.3.1.7 Regulatory Commitments

17.3.1.7 1p

The operation of nuclear plants shall be accomplished in accordance with the U.S. Nuclear Regulatory Commission (NRC) Regulations specified in Title 10 of the U.S. Code of Federal Regulations.

17.3.1.7 2p

The operation of the Company's nuclear power plants shall be in accordance with the terms and conditions of the facility operating license issued by the NRC.

17.3.1.7 3p

The program and procedures are designed to ensure compliance with the NRC Regulatory Guides and ANSI Standards applicable to the operations phase and to which RNP is committed. The commitment to comply or exceptions for DEP to follow are presented in Section 1.8 in this UFSAR. The requirements of this section (17.3) may provide additional exceptions to these regulatory guides and codes and standards.

The Nuclear Regulatory Commission shall be notified of changes to the QA Program description in accordance with 10 CFR 50.54(a)(3).

17.3.1.7 4p

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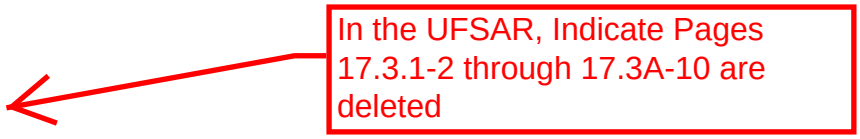


17.3.2 Performance/Verification

17.3.2.1 Methodology

17.3.2.1 1p thru 4p

Personnel performing work activities are responsible for achieving the acceptable level of quality.

Personnel performing verification activities are responsible for verifying the achievement of acceptable quality.

Work is accomplished and verified using instructions, procedures, or appropriate means that are of a detail commensurate with the activity's complexity and importance to safety.

Criteria that define acceptable quality are specified in procedures and/or other documents, and verification, when required is performed against these criteria.

17.3.2.2 Design Control

17.3.2.2 3p

Procedures define requirements for the control of design activities associated with modifications of items that are safety-related.

17.3.2.2 1p

Design changes are subject to appropriate controls which were applicable to the original design. DEP may designate an organization to make design changes other than the organization which prepared the original design. In any case, DEP will assure that the organization has access to pertinent background information, including an adequate understanding of the requirements and intent of the original design, and that the organization has demonstrated competence in applicable design areas.

17.3.2.2 5p

Measures shall be taken to assure that the design selected to accomplish a necessary or desirable change does not create "new" problems in off-normal modes of operation or in adjacent inter-tied systems.

17.3.2.2 5p

Design changes made to the plant are accomplished in a planned and controlled manner in accordance with written, approved procedures. These procedures include provisions, as necessary, to ensure that:

1. Design documents (such as specifications, drawings, procedures and instructions) reflect applicable regulatory, performance, quality, and quality verification requirements and design bases. These documents are checked for accuracy and completeness by qualified individuals and reviewed to assure that documents are prepared in accordance with procedures.

17.3.2.2 5p

2. There is adequate review of the suitability of materials, parts, equipment, and processes which are essential to the safety-related functions of structures, systems, and components.

3. Materials, parts, and equipment which are commercial grade items or which have been previously approved for a different application are evaluated for suitability prior to selection.

4. Design documents and procedures are controlled to reflect design modifications and "as-built" conditions.

5. Internal and external design interfaces between organizations participating in modification activities are adequately defined and controlled, including the review, approval, release, and distribution of design documents and revisions.

17.3.2.2 5p

The above controls are applied as necessary to such aspects of design as reactor physics; seismic, stress, thermal, hydraulic, radiation, and accident analyses; compatibility of materials; and accessibility for inservice inspection, maintenance, and repair.

17.3.2.2 7p

Any errors or deficiencies found in the design process or the design itself are documented and corrected, as outlined in the applicable Department's corrective action program procedures.

17.3.2.2 8p

Following completion of the design change/modification, controlled design change information is made available to affected personnel.

17.3.2.2 8p

Training, on design changes/modifications that affect the operation of the plant, is provided to affected plant operating personnel.

17.3.2. Design Verification

17.3.2.3

Procedures require that the adequacy of design changes be verified by the performance of design reviews, alternate calculations, or qualification testing. The control measures specified in the plan for control of design verification activities are as follows:

1. Personnel responsible for design verification do not include the original designer or the designer's immediate supervisor unless the immediate supervisor is the only one capable of verifying the design.

17.3.2.3

2. Procedures identify the positions or organizations responsible for design verification and define their authority and responsibility. Procedures also provide guidelines as to the method of design verification to be used. Unless otherwise specified, design verification is performed by the method of independent design reviews and includes verification that Safety Analysis Report (SAR) commitments have been addressed.

3. Qualification tests to verify the adequacy of the design are performed using the most adverse specified design conditions.

4. Design changes are reviewed to assure that design parameters are defined and that inspection and test criteria are identified.

5. Design verification is completed prior to relying upon the component, system or structure to perform its function.

17.3.2.4 Procurement Control

17.3.2.4 1p

Duke Energy Progress, Inc. maintains a program for supplier evaluation, results of supplier evaluation, surveillance of suppliers, supplier furnished records, certificates of conformance, effectiveness of supplier quality control, and the purchase of spare or replacement parts.

17.3.2.4 2p

Procedures define requirements for the control of procurement documents and ensure that purchased material and services are of acceptable quality.

Potential contractors and suppliers are evaluated by Vendor and Equipment Quality Unit personnel prior to award of a procurement contract when needed to assure the contractor's or supplier's capability to comply with applicable technica

Retained as Site Specific in C17.3.2.4
This content essentially duplicates portions of ANSI N45.2.13.

Procurement documents, such as purchase specificati

1. Technical, administrative, regulatory, and repor nd component identification requirements, drawing standards, test and inspection requirements, ar

2. Identification of the documentation to be prepar applicable) to DEP for review and approval. Th necessary, inspection and test records, qualific documentation.

Retained as Site Specific in C17.3.2.4
This content essentially duplicates portions of ANSI N45.2.13.

3. Identification of those records to be retained, controlled, and those delivered to the purchaser prior to use or insta

17.3.2.5 3p

Receipt inspections are performed by qualified inspectors in accordance with procedures to assure that:

1. Materials, equipment, or components are properly identified and correspond with associated documentation.

2. Inspection records or certificates of conformance attesting to the acceptance of materials, equipment, and components are completed and are available prior to installation or use.

3. Materials, equipment, and components are inspected and judged acceptable in accordance with predetermined inspection instructions prior to installation or use.

4. Items not meeting applicable requirements are identified and controlled until proper disposition is made.

17.3.2.4 5p

Appropriate controls and provisions have been included in procurement procedures for selection, determination of suitability for the intended use, evaluation, receipt, and quality evaluation of commercial grade items to ensure that these items will perform satisfactorily in service.

Procurement documents require suppliers to operate in accordance with QA programs which are compatible with the applicable requirements of DEP's QA Progr their services are utilized in support of plant activities.

Retained as Site Specific in C17.3.2.4

17.3.2.5 Procurement Verification

17.3.2.5 1p

DEP procurement documents are prepared, reviewed, approved, and controlled in accordance with procedures to assure that requirements are correctly stated, inspectable, verifiable, and controllable, and there are adequate acceptance/rejection criteria. Procurement documents are reviewed by personnel knowledgeable in applicable technical and quality requirements, and documentary evidence of that review and approval is retained and available for verification.

17.3.2.6 Identification and Control of Items

17.3.2.6 1p

Procedures require spare or replacement parts to be subject to QA program controls, codes and standards, and technical requirements which ensure they are ded service.

17.3.2.6 1p

Items accepted or released are identified as to their inspection status prior to forwarding them to a controlled storage area or releasing them for installation or further work. (Bulk items will not require individual accept tags; however, status of unacceptable bulk items will be so indicated).

Procedures require that materials, parts, and components be identified and controlled to prevent the use of incorrect or defective items. These procedures also require that identification of items be maintained either on the item in a manner that does not a the item, or on records traceable to the item.

C17.3.2.6 Retained as Site Specific

Procedures implementing these requirements provide for the follo

1. Verification that items received at the plant are properly ide the appropriate documentation, such as drawings, specific manufacturing and inspection documents, nonconformanc reports.

2. Verification of item identification consistent with the DEP ir traceable to documentation which identifies the proper uses or applications of the item.

17.3.2.6 5p

Consumables utilized in safety-related structures, systems and components are subject to appropriate controls as described in procedures.

17.3.2.7 Handling, Storage, and Shipping

17.3.2.7 1p

Procedures define requirements for the control of the handling, storage, and shipping of safety-related items. These procedures require measures to be taken to ensure special handling, storage, cleaning, packaging, shipping, and preservation requirements are established to control these activities in accordance with design and specification requirements to preclude damage, loss or deterioration by environmental conditions such as temperature or humidity.

Provisions are established to control the shelf life and storage of chemicals, reagents, lubricants, and other consumable materials.

C17.3.2.7

17.3.2.8 Test Control

17.3.2.8 1p

Procedures define requirements for test programs when required and require

that items be tested to demonstrate that they will perform satisfactorily in service.

17.3.2.8 2p

Modifications, repairs, and replacements are accomplished in accordance with the original design and testing requirements or acceptable alternatives.

Test procedures incorporate or reference the following, as required:

C17.3.2.8 Retained as site specific

1. Instructions and prerequisites for performing the test,

2. Use of proper test equipment,

3. Mandatory inspection hold points,

4. Acceptance criteria

Test results are documented, evaluated, and their acceptabili
responsible individual or group.

When the acceptance criteria is not met, affected areas are to be retested or evaluated, as appropriate.

17.3.2.9 Measuring and Test Equipment Control

17.3.2.9 2p

Procedures define requirements for the control of measuring and test equipment used. These procedures include requirements to establish procedures for the calibration technique and frequency, maintenance, and control of measuring and test equipment.

17.3.2.9 3p

Inspections and test devices are selected to assure accurate measurement (i.e., to overcome inherent inaccuracies associated with environment, human error, equipment, etc.).

17.3.2.9 2p a.

Measuring and test equipment (M&TE) is identified and traceable to the calibration test data.

Measuring and test instruments are calibrated at specified intervals (or immediately before and after use) based upon one or more of the following:

17.3.2.9 2p b.

1. Technical Specifications

2. Required accuracy

3. Intended use

4. Frequency of usage

5. Stability characteristics

6. Other conditions affecting measurement

7. Manufacturer's recommendations

17.3.2.9 2p b.

17.3.2.9 2p c.

Status of calibration for measuring and test equipment is provided through the use of tags, stickers, labels, routing cards, computer programs, or other suitable means. The status indicators indicate the date recalibration is due or the frequency of recalibration.

17.3.2.9 2p j.

Portable measuring and test equipment are calibrated by standards at least four times as accurate as the portable measuring and test equipment, unless limited by the state of the art.

Special tools such as torque wrenches, calipers, and micrometers are calibrated to be at least as accurate as the application(s) for which it is used, using standards which accurate as the special tool being calibrated.

C17.3.2.9 site specific requirements on accuracy of calibration standards

Installed measuring and test instruments are calibrated by instruments at le the installed, unless limited by the state of the art.

Reference and transfer standards are traceable to nationally recognized sta national standards do not exist, provisions are established to document the calibration.

17.3.2.9 2p e.

Measures are required to be taken and documented to determine the validity of previous inspections and test results, if the measuring and test equipment is found to be out of calibration.

17.3.2.10 Inspection, Test, and Operating Status

17.3.2.10 1p

Procedures define requirements for the identification and control of the inspection, test, and operating status of safety-related structures, systems, and components.

These procedures include the application, removal, and verification of inspection ar stamps, or other status indicators as appropriate.

C17.3.2.10

17.3.2.10 1p, 2p

Measures are established for indicating the operating status of structures,

systems, and components. These measures include the use of che[illegible]rams, logs, stickers, tags, labels, record cards, and test records to indicate the acceptable operating status of installed equipment. Installed equipment which, if operated, could cause damage to other equipment/systems or to personnel is tagged to indicate its non-operational status and to prevent inadvertent use.

17.3.2.10 1p, 2p

17.3.2.10 4p

Selected plant procedures and subsequent revisions receive separate technical review to ensure required inspections, tests, and other critical operations are included.

Altering the sequence of required tests, inspections, and safety-related operations can only be accomplished by methods outlined in procedures.

C17.3.2.10

17.3.2.11 Special Process Control

17.3.2.11 1p, 2p

Procedures define requirements for the control of special processes, such as welding, heat treating, and nondestructive examination.

Procedures require that special processes be performed by qualified personnel using proper equipment and in accordance with written qualified procedures. These personnel and procedures are to be qualified in accordance with applicable codes, standards, and specifications as described in procedures. Qualification records of special process procedures and personnel performing special processes are maintained and available for verification.

17.3.2.12 Inspection

17.3.2.12

Procedures define requirements for an inspection program to verify conformance to performance and quality requirements specified for those activities and services.

Inspections are performed by personnel who are not directly responsible for performing or supervising the activity being inspected. Inspection personnel are qualified in accordance with applicable codes and standards, and their qualifications and certifications are maintained current.

Inspections are performed in accordance with procedures or other documents which provide for the following:

1. Identification of individuals or groups responsible for performing the inspections

17.3.2.12

2. Identification of characteristics and activities to be inspected

3. Acceptance criteria

4. Inspection techniques

5. Recording the results of the inspection, review of the results, and identification of the inspector

6. Indirect control by monitoring of processing methods, equipment, and personnel when direct inspection is not possible

Procedures identify inspection holdpoints, beyond which work may not proceed until inspected.

17.3.2.12

When acceptance criteria are not met, the condition will be documented in accordance with the applicable department's corrective action program procedures and reinspected or evaluated, as appropriate.

17.3.2.12

Modification, repairs, and replacements are inspected in accordance with the original design and inspection requirements or acceptable alternatives.

17.3.2.13 Corrective Action

The primary goal of the DEP corrective action program is to improve overall plant operations and performance by identifying and correcting root causes of equipment a performance problems.

C17.3.2.13 retained as site specific.

Procedures define requirements for a corrective action program that char ng at or supporting the nuclear plants with the responsibility to identify adver (including conditions adverse to quality).

Procedures include requirements for verification of the acceptability of the ms by reinspection and/or testing in accordance with the original inspection o or by an accepted alternative inspection and testing method.

Conditions that require rework/repairs are identified through the use of ma request forms.

17.3.2.14 Control of Documents

17.3.2.14 1p

Procedures define requirements for the development, review, approval, issue,

17.3.2.14 1p

use, revision, and control of documents. These procedures define the scope of which documents are to be controlled.

Procedures require the identification of those individuals or organizations responsible for reviewing, approving, and issuing documents and revisions thereto

17.3.2.14 4p

Changes to documents are reviewed and approved by the same organization that per the original review and approval or by other designated qualified responsible organiza

C17.3.2.14

Controlled documents are to be distributed to and used by the person performing the activity in accordance with plant procedures.

17.3.2.14 3p

17.3.2.14 2p

A document control system has been established to identify the current revision number of instructions, procedures, specifications, and drawings.

17.3.2.14 2p

Superseded documents are controlled to prevent inadvertent use.

17.3.2.15 Records

17.3.2.15 1p

The program requires that sufficient records be maintained to provide documentary evidence of the quality of items and the accomplishment of activities affecting quality.

17.3.2.15 2p

Procedures define requirements for the identification, collection, and storage of quality assurance records.

17.3.2.15 7p

Records are identifiable and retrievable through the use of indexes and filing systems, which are required by the program.

17.3.2.15 8p

Procedures are required to be developed to indicate responsibilities and retention periods.

The structures in which certain records are maintained are designed to prevent destruction, deterioration, or theft. These structures ensure protection against destruction by fire, flooding, theft, and deterioration by the environmental conditions of tempera

C17.3.2.15

~~17.3.3 Assessment~~

17.3.3.1 Methodology

17.3.3.1 except as noted

The overall objective at DEP is to encourage ownership, involvement, and dedication by each individual supporting the Nuclear Generation Group. This involves continually and aggressively looking for ways to improve the overall performance and safety at each plant. This approach of identifying and correcting conditions early requires active support by management and employees.

A process of assessment is an attitude by personnel that the DEP Nuclear Generation Group is improving on a continual basis. This process, along with an effective corrective action program, ensures that conditions are identified early, corrected promptly and effectively before becoming significant quality or safety problems.

Personnel responsible for carrying out the assessment functions, including safety committee activities, nuclear safety reviews, verifications, self-assessment and independent assessments, are cognizant of day-to-day activities, events, and have necessary experience to act in a management advisory function.

Nuclear Oversight Section Directors/Managers, Superintendents, and Independent Review Engineers, separately, will hold periodic, but not less frequently than semi-annual (
scheduling flexibility), peer review meetings to share and exchange information am
These meetings will allow the use of designated alternates to attend.

C17.3.3.1
Site specific meeting

Assessment activities are accomplished using processes or procedures of a detail needed to accomplish the function based on complexity and importance to safety.

The managers of functions that support the Nuclear Generation Group are responsible for ensuring that self-assessment activities and processes are implemented within their functions on a continuing basis.

17.3.3.2 Self-Assessment

17.3.3.3
The content of 17.3.3.2 and 17.3.3.3 for independent assessments are merged in new section 17.3.3.3.

It is the management expectation
assess their end product. Adverse conditions iden
are reported and resolved in accordance with the c

~~Self-Assessment activities are not necessarily a documented activity and personnel performing self-assessment do not require any special training and/or qualifications beyond that required to hold their present position.~~

17.3.3.2.1 Line organization ← 17.3.3.1 3p, 4p

Each individual, work group, and manager should be aware of areas that may need improvement.

Members of the line organization are charged with the responsibility to continually evaluate their activities and use each opportunity to achieve higher standards of quality and improved performance.

Self-assessment activities focus on how well the integrated quality assurance program is working and is to identify conditions that hinder the organization from achieving its safety, quality, and performance goals and standards.

17.3.3.2.2 Nuclear Oversight ← 17.3.3.3 The content of 17.3.3.2 and 17.3.3.3 for independent assessments are merged in new section 17.3.3.3.

The Nuclear Oversight (NOS) Depar areas, along with the line organization management, to de rmance are being achieved. Individuals assigned thes ant or corporate support organization, as appropriate, to improve implementation of DEP's Nuclear Generation Group programs and processes to support safe and reliable operation.

In promoting self-assessment, the functions of NOS are to:

1) Independently assess the self-assessment and corrective action implementation process of the line organization,
2) Ensure that "lessons learned" are shared among the plants and support organization, and
3) Facilitate the use of industry peer evaluators to identify industry best practices.

NOS performs these functions by evaluating the self evaluation implementation of each of the major functional areas of maintenance, operations, engineering, environmental and chemistry, radiation protection, and procedures, once every 24 months (+ appropriate scheduling flexibility). NOS teams may include peers from other DEP plants and from the nuclear utility industry, as appropriate, to lend expertise to the assessment.

NOS will, by procedure, evaluate for each assessed functional area:

1) The effectiveness of the self evaluation program,

2) The ability to incorporate lessons learned from within DEP, as well as industry events, and

3) The corrective action implementation programs.

To facilitate exchange of information among organizations, the Nuclear Ove Directors/Managers and Superintendents will hold separate periodic group m than semi-annually (+25% for scheduling flexibility) as stated in 17.3.3.1.

C17.3.3.1 site specific meeting

Written Nuclear Oversight evaluations, including the results and recommended corrective actions, will be reported to senior management.

17.3.3.3 Independent Assessment

17.3.3.3

The Nuclear Oversight Department is responsible for conducting independent assessments of functions and activities affecting the nuclear programs at Duke Energy Progress locations as delineated in Section 17.3.1.3. The Nuclear Oversight Department independently monitors and assesses the Company's nuclear programs on a continuing basis. As part of this continuing assessment process, the Nuclear Oversight Department performs audits to verify that applicable elements of the quality assurance and other regulatory required programs have been developed, documented and effectively implemented in accordance with specified requirements. In this section, the words assess, assessment, and their various word forms are used generically to indicate the act of evaluating the performance of the line organization.

17.3.3.3.1 Organization

17.3.3.3.1

Personnel performing independent assessment activities are generally as Oversight from the line and other organizations on a rotational basis for tw assignments. Since these personnel are full-time assessors during this tim ave no direct responsibilities in the areas being assessed. However, on an exc personnel in Nuclear Oversight may provide assistance to the line organiz ting in emergency preparedness activities, ad hoc committees or analyzing technical issues, if such assistance is deemed to be in the overall best interest of safety and is approved in advance by Nuclear Oversight Section management. In addition, subject matter experts from the line organizations may be utilized to add specific technical expertise to the assessment team or a specific audit team. When supporting a specific audit team, the subject matter experts will work under the direction of the audit team leader and will not be assessing any functions associated with their normal job assignment at the audited site.

C17.3.3.3.1 site specific rotational positions

Selection of assessment personnel is based on experience and/or training that establishes that their qualifications are commensurate with the complexity or special nature of the area being assessed. The process for qualification of personnel to perform audits and assessments is established in procedures.

17.3.3.1 1p

The Vice President - Robinson Nuclear Plant and the Executive Vice President – Nuclear Generation & Chief Nuclear Officer are responsible for ensuring that an environment exists for a strong self-assessment program at the Robinson site and within Nuclear Generation, respectively. Nuclear Oversight includes auditors assigned responsibility for the independent audits of the Robinson Nuclear Plant. The Vice President - Robinson Nuclear Plant, working with the Vice-President - Nuclear Oversight, also ensures that assessment assigned from line and other organizations on a rotational basis to the RNP ght organization.

C17.3.3.3.1

Personnel performing assessments, including audits, shall have access to records, procedures, and personnel to gather data.

17.3.3.3.2 Assessment process 17.3.3.3.2

The independent assessment process includes gathering data, analyzing data, focusing on selected issues and identifying deficiencies to desired performance. The results of independent assessments are communicated to management in a manner that causes action to correct deficiencies and develop action to prevent recurrence. In addition, this process should evaluate corrective measures adopted to eliminate the deficiencies identified.

Data is gathered using performance based techniques during:

1. Observations of work activities (including line organization self-assessment activities);

2. Interviews;

3. Reviews of documents to gather information (including the use of NRC, INPO, and other agency evaluations);

4. Nuclear Safety Review activities;

5. Team independent audits; and,

6. Analysis of plant data and reports (including adverse condition reports etc.).

Audits are an independent assessment activity performed to verify that applicable elements of the quality assurance and other regulatory required programs have been developed, documented and effectively implemented in accordance with specified requirements. As such audits involve planning activities to identify the organizations to be evaluated, the characteristics to be focused on during the audit, and the applicable acceptance criteria. Independent Audit activities are selected with flexibility based on various factors. These factors include but are not limited to: importance to safety and reliability, Nuclear Oversight independent assessments of site work activities, time since last audit, plant management perspective, outside agency audits, and problem areas identified from industry and Duke Energy experience.

Preparation activities may include a review of performance data, relevant documentation, previous assessment data, industry experience, team member experience, and management input. These activities enable the team to focus on issues which may impact safety and reliability when analyzing data.

Assessments are scheduled on the basis of the status and safety importance of the activities or processes being performed. The schedule is flexible and dynamic to allow assessment to be changed depending on plant conditions, events, or issues raised by senior management. Audits are scheduled per the following section.

~~17.3.3.3.3~~ ~~Nuclear Oversight Audit Program~~

17.3.3.3.3

Nuclear Oversight audits will be performance based and will be scheduled based on plant performance and importance to safety but at a frequency not to exceed twenty-four months, except as allowed in Section 1.8. These audits shall encompass:

17.3.3.3.7 addresses extension policy

1. The conformance of facility operation to provisions contained within the Tech Specifications and applicable license conditions;

2. The performance, training and qualifications of the Nuclear Generation staff supporting the Robinson Nuclear Plant;

3. The results of actions taken to correct deficiencies occurring in facility equipment, structures or systems that affect nuclear safety; or method of operation that affect nuclear safety;

4. The performance of activities required by the Operational Quality Assurance Program to meet the criteria of Appendix B, 10 CFR 50 for activities performed by the Nuclear Generation Department and the Supply Chain Department staff supporting the Robinson Nuclear Plant;

5. Any other area of nuclear generation considered appropriate by responsible management;

6. The Radiological Environmental Monitoring Program and the results thereof;

7. The OFFSITE DOSE CALCULATION MANUAL and implementing procedures; and,

8. The PROCESS CONTROL PROGRAM and implementing procedures for processing and packaging of radioactive wastes.

Audits of activities prescribed by the Code of Federal Regulations will be performed at the frequencies prescribed by the applicable regulation. These audits shall encompass:

17.3.3.3.3.1

1. Emergency Preparedness (per 10 CFR 50.54(t));

2. Security (per 10 CFR 50.54(p)); and,

3. Radiation Protection (per 10 CFR 20.1101c).

C17.3.3.3.3.1 RP audit site specific content

17.3.3.3.4 Deleted in Revision 22

17.3.3.3.5 Results

17.3.3.3.4 (except as noted)

Adverse conditions are reported in accordance with the applicable department's corrective action program procedure or by formal correspondence between responsible levels of management.

Independent audit results are communicated to line management to allow for timely action to address potential problems or recognize strengths and superior performance.

Independent assessment results are documented and reviewed with management personnel responsible for the areas assessed.

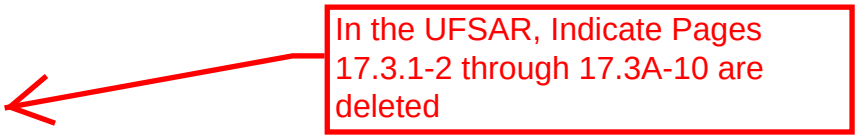
Results of independent assessments, special investigations, and analysis of data will be provided to the Nuclear Oversight Management for review. A periodic briefing of Nuclear Oversight activities, along with potential issues and recommendations, shall be presented to the Executive Nuclear Operating Officer, the Senior Nuclear Officer.

The periodic briefing is deleted here. 17.3.1.3, 4th paragraph addresses this.

Follow-up is accomplished to assure that corrective action is taken as a result of the audit and that deficient areas are reaudited, when necessary, to verify implementation of adequate corrective actions.

In the UFSAR, Indicate Pages 17.3.1-2 through 17.3A-10 are deleted

QA Program
Relocated Technical Specifications Requirements



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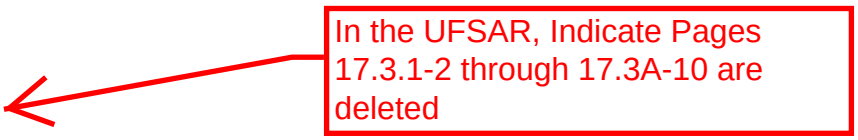

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1.0 Review and Audit

1.1 Procedures, Tests, and Experiments

C17.3.4.1 contains 1.1 Procedures, Tests, and Experiments

1.1.1 The procedures established, implemented, and maintained for the Qua Program for effluent and environmental monitoring use guidance from 4.15. HBR 2 is not committed to specific guidance within Regulatory G specific revision to the Regulatory Guide.

1.1.2 Temporary changes to procedures, tests, or experiments may be appr members of the plant staff, at least one of whom holds a Senior Reacto License if such change does not change the intent of the original proce experiment. Temporary changes shall be documented and, within 21 d temporary approval, be reviewed in accordance with paragraphs 1.1.3, and incorporated as a permanent change or deleted.

1.1.3 A 10 CFR 50.59 review shall be prepared for all procedures, tests, and covering the activities identified in Technical Specification 5.4.1 and pr affect nuclear safety, with the exception of those procedures exempt fr 10 CFR 50.59 in accordance with NEI 96-07, Revision 1, as endorsed Guide 1.187, November 2000. The 10 CFR 50.59 review shall include determination of whether or not the procedure, test, or experiment is a facility as described in the FSAR, involves a change to the Technical S requires a license amendment in accordance with 10 CFR 50.59(c)(2). constitutes a first review and may be accomplished by the individual wh document.

1.1.4 Prior to approval, a second 10 CFR 50.59 review shall be performed o tests, or experiments that affect nuclear safety. This review shall be pe individual other than the individual who was the original preparer.

1.1.5 Following the 10 CFR 50.59 review, procedures, tests, and experiment changes thereto (other than editorial or typographical) that affects nucl have been determined neither to involve a license amendment in acco CFR 50.59(c)(2), nor a change to the Technical Specifications, shall be implementation by the Manager of the functional area affected by the p and experiments and permanent changes thereto as previously design General Manager - Robinson Nuclear Plant.

The individual approving the procedure, test, or experiment or change other than those who performed the required reviews.

The Plant General Manager - Robinson Nuclear Plant or other designa approving the review activities of the 10 CFR 50.59 review shall assure reviewers collectively possess the background and qualifications to all necessary and important to the specific review. To assure that the indi for the 10 CFR 50.59 review are qualified and have the background ne General Manager - Robinson Nuclear Plant shall approve and

maintain a list of qualified persons. Included in this list will be individuals
the first and second reviewer whose expertise may be necessary during t
assure that the reviewers collectively possess the background and qualifi
disciplines necessary and important to the specific review. The list will inc
disciplines for which each person is qualified.

1.1.6 Those procedures, tests, or experiments and changes thereto that require
amendment, or involve a change to Technical Specifications, shall be revi
Plant Nuclear Safety Committee and submitted to the NRC for approval p
implementation. All such procedures, tests, or experiments and changes
reviewed by the Nuclear Oversight Section prior to implementation.

1.1.7 Procedures, tests, or experiments, which constitute a change to the facilit
in the UFSAR, shall also be reviewed by the RNP Nuclear Oversight Sect
reviews may be conducted after plant management approval, and implem
proceed prior to completion of the review

C17.3.4.1 contains 1.1 Procedures, Tests, and Experiments

1.2 Modifications

1.2.1 A 10 CFR 50.59 review shall be prepared for all modifications that affect nu
The analysis shall include a written determination of whether or not the mo
change in the facility as described in the UFSAR, involves a change to the
Specifications, or requires a license amendment in accordance with 10 CF
This analysis constitutes a first party safety review and may be accomplish
individual who prepared the modification.

1.2.2 Prior to approval, a second 10 CFR 50.59 review shall be performed on all
that affect nuclear safety. This review shall be performed by a qualified inc
than the individual who was the original preparer.

1.2.3 The individual approving these modifications shall be other than those who
the required reviews.

1.2.4 The Plant General Manager - Robinson Nuclear Plant or other designated
approving the review activities of the 10 CFR 50.59 review shall assure tha
reviewers collectively possess the background and qualifications in all of th
necessary and important to the specific review. To assure that the individu
for the 10 CFR 50.59 review are qualified and have the background neces
General Manager - Robinson Nuclear Plant shall approve and maintain a li
persons. Included in this list will be individuals in addition to the first and s
reviewers whose expertise may be necessary during the review to assure t
reviewers collectively possess the background and qualifications in the dis
necessary and important to the specific review. The list will include the dis
which each person is qualified.

C17.3.4.2 contains 1.2 Modifications

1.2.5 Modifications that are determined to either require a license amendment in a[with 10 CFR 50.59(c)(2), or a change to the Technical Specifications, shall b[by the Plant Nuclear Safety Committee and submitted to the NRC for approv[implementation. All such modifications shall be reviewed by the RNP Nuclea[Section prior to implementation.

C17.3.4.2 contains 1.2 Modifications

1.2.6 Modifications which constitute changes to the facility as described in the FSA[be reviewed by the RNP Nuclear Oversight Section. This review may be con[after plant management approval, and implementation may proceed prior to [of review.

1.3 Technical Specifications and License Changes

C17.3.4.3 contains 1.3 Technical Specifications and License Changes

1.3.1 Each proposed Technical Specification or Operating License change for the 10 CFR 50 license and 7P-ISFSI license shall be reviewed by the Plant Nuclear Safety Committee and submitted to the NRC for approval. The 24P ISFSI Technical Specifications and License are processed by Transnuclear, Inc., and will only be reviewed by the Plant Nuclear Safety Committee if a plant specific safety issue is identified.

1.4 Review of Technical Specifications Violations

C17.3.4.4 contains 1.4 Review of Technical Specifications Violations

1.4.1 All violations of Technical Specifications shall be investigated and a report prepared that evaluates the event and that provides recommendations to prevent recurrence. Such reports shall be reviewed by the Plant Nuclear Safety Committee and approved by the Plant General Manager or his designee and submitted to the Vice President - Robinson Nuclear Plant and to the Manager – RNP Nuclear Oversight Section.

1.5 10 CFR 50.59 Review Qualification

C17.3.4.5 contains 1.5 10 CFR 50.59 Review Qualification

1.5.1 Individuals shall be designated by the Plant General Manager - Robinson Nuclear Plant for the 10 CFR 50.59 reviews of paragraphs 1.1.3, 1.1.4, 1.2.1, and 1.2.2.

1.5.2 These reviewers shall have a Bachelor of Science in engineering or related field or equivalent and two years related experience.

1.6 Plant Nuclear Safety Committee (PNSC)

C17.3.4.6 contains 1.6 Plant Nuclear Safety Committee (PNSC)

1.6.1.a As an effective means for the regular [operational safety, a Plant Nuclear Safety Committee (PNSC) is established.

1.6.1.b The committee shall function, through the utilization of subcommittees, audits, investigations, reports, and/or performance of reviews as a group, to advise the General Manager on all matters related to nuclear safety.

C17.3.4.6 contains 1.6 Plant Nuclear Safety Committee (PNSC)

1.6.2 The PNSC shall be composed of a Chairman and at least six (6) membe members shall be from the following functional areas:
Operations
Maintenance
Engineering
Radiation Control
Chemistry
Licensing/Regulatory Programs

1.6.3 The PNSC Chairman, alternate Chairmen, members, and alternate mem designated in writing by the Plant General Manager. Members shall be i are unit manager level or above from the site management organization. members shall, as a minimum, meet equivalent qualification criteria as sp Section 4.4 of ANSI N18.1-1971 for professional-technical personnel. Alt members for the Engineering and Licensing/Regulatory Programs functio have a minimum Bachelor's Degree in Engineering or Physical Sciences experience in their associated discipline. Alternate members for the Ope functional area shall, as a minimum, meet the qualification criteria of Sec ANSI N18.1-1971.

Alternate for the Maintenance or other functional areas, except for Instru Control, shall have a minimum of five years of experience in one or more which six months shall be in a nuclear power plant. A maximum of four y years experience may be fulfilled by related technical or academic trainin

1.6.4.a The quorum of the PNSC necessary for the performance of the activitie shall consist of the Chairman (or his designated alternate) and four me (including alternates).

1.6.4.b No more than two alternates shall be counted toward meeting the quor or participate as voting members of the PNSC at any one time.

1.6.5 The PNSC shall meet at least once per calendar month and as convened Chairman or his designated alternate.

1.6.6 The PNSC activities shall include the following:

a) Perform an overview of Technical Specifications 5.4.1 and section 1.2 to processes are effectively maintained.

b) Performance of special reviews, investigations, and reports thereon requ Manager – RNP Nuclear Oversight Section.

c) Annual review of the Security Plan and Emergency Plan.

d) ~~Perform reviews of paragraphs 1.1.6, 1.2.5, 1.3.1, and 1.4.1.~~

e) Perform review of all reportable events.

f) Review of facility operations to detect potential nuclear safety hazards.

g) Review of every unplanned on site release of radioactive material to the
including the preparation and forwarding of reports covering evaluation,
recommendations and disposition of the corrective action to prevent recu
Vice President - Robinson Nuclear Plant.

h) Review of changes to the Process Control Program and the Offsite Dose
Manual.

i) Review of major changes to radioactive liquid, gaseous, and solid waste
systems.

j) Review of changes to the CORE OPERATING LIMITS REPORT.

k) Annual review of the Fire Protection Program, including Program change

1.6.7 In the event of disagreement between the recommendations of the Plant
Committee and the actions contemplated by the General Manager, the c
determined by the General Manager to be more conservative will be follo
President - Robinson Nuclear Plant will be notified within 24 hours of the
and subsequent actions.

1.6.8 The PNSC shall maintain written minutes of each meeting that, at a mini
the results of all PNSC activities performed under the provisions of Secti
requirements; and copies shall be provided to the Vice President - Robinson Nuclear Plant and to the Manager – RNP Nuclear Oversight Section.

C17.3.4.6 contains 1.6 Plant Nuclear Safety Committee (PNSC)

1.7 Nuclear Oversight Section Independent Review Program

1.7.1 Function - RNP Nuclear Oversight Section shall function to provide indep
of plant changes, tests, and procedures. In addition, the independent rev
will verify that reportable events are investigated in a timely manner and
manner that reduces the probability of recurrence of such events and det
may not be apparent to a day-to-day observer.

1.7.2 Organization

1.7.2.1 The individuals assigned responsibility for independent reviews shall be
specific disciplines. These individuals shall collectively have the experien
competence required to review activities in the following areas:

a) nuclear power plant operations
b) nuclear engineering

C17.3.3.2 contains the site specific implementation of ANSI N18.7 section 4.3 Independent Review. C17.3.4.7 also provides reverence to C17.3.3.2 and this UFSAR section 1.7.

c) chemistry and radiochemistry
d) metallurgy
e) nondestructive testing
f) instrumentation and control
g) radiological safety
h) mechanical and electrical engineering
i) administrative controls
j) seismic and environmental
k) quality assurance practices
l) other appropriate fields

1.7.2.2 The Manager – RNP Nuclear Oversight Section shall have a bachelor's d engineering or related field and, in addition, shall have a minimum of ten related experience, of which five years shall be in the operation and/or de nuclear power plants.

1.7.2.3 The individuals performing independent safety reviews shall have a bach in an engineering or related field or equivalent and, in addition, shall have of five years' related experience.

1.7.2.4 An individual may possess competence in more than one specialty area. expertise is not available within Nuclear Oversight Section, competent inc from other DEP organizations or outside consultants shall be utilized in p independent reviews and investigations.

1.7.2.5 The documents submitted under paragraph 1.7.3 shall be reviewed by in meeting the requirements of paragraphs 1.7.2.1 and 1.7.2.3 to ensure all disciplines are encompassed. Multiple reviews will be conducted on docu where required to meet applicable disciplines of paragraph 1.7.2.1.

1.7.2.6 Independent safety reviews shall be performed by individuals not directly with the activity under review or responsible for the activity under review.

1.7.2.7 The Nuclear Oversight Section Independent Safety Review Program shal conducted in accordance with written, approved procedures.

1.7.2.8 Individuals who do not possess the formal educational requirements spec Sections 1.7.2.2 and 1.7.2.3 shall not be automatically eliminated where provide sufficient demonstration of their abilities. These other factors sha evaluated on a case-by-case basis and approved and documented by the President – Nuclear Oversight. The positive factors listed as follows may considered in making the evaluation of an acceptable alternative to the e requirements.

a. High school diploma or GED.

b. Academic and related technical training.

C17.3.3.2 contains the site specific implementation of ANSI N18.7 section 4.3 Independent Review. C17.3.4.7 also provides reverence to C17.3.3.2 and this UFSAR section 1.7.

c. Has or have held a license as a senior reactor operator at HBRSEP

d. Four years of additional experience in Nuclear Oversight or related f Quality Assurance, Performance Evaluation, or Nuclear Assessmen

e. Four years of supervisory or management experience.

f. Demonstrated ability to communicate clearly (orally and in writing).

g. Certification of academic ability and knowledge by corporate manag

h. Successful completion of the Engineer-In-Training examination.

i. Professional Engineer License.

j. Associate Degree in Engineering or related science.

C17.3.3.2 contains the site specific implementation of ANSI N18.7 section 4.3 Independent Review. C17.3.4.7 also provides reverence to C17.3.3.2 and this UFSAR section 1.7.

1.7.3 Review

RNP Nuclear Oversight Section shall perform reviews of the following:

a. Written safety evaluations of changes in the facility as described in the UFS changes in procedures as described in the UFSAR, and tests or experimen described in the UFSAR which are completed without prior NRC approval u provisions of 10 CFR 50.59(c)(1). These reviews are to verify that such cha or experiments do not involve a change in the Technical Specifications or a amendment pursuant to 10 CFR 50.59(c)(2). These reviews may be condu appropriate management approval, and implementation may proceed prior t of the review.

b. Proposed changes in procedures required by Technical Specifications, prop changes in the facility, or proposed tests or experiments, any of which invol in the Technical Specifications or a license amendment pursuant to 10 CFR prior to implementation.

c. Proposed changes to the Technical Specifications or Operating License for 50 License and the 10 CFR 72 7P-ISFSI License prior to implementation.

d. Violations, deviations, and reportable events, which require reporting to the writing, such as:

1. Violations of applicable codes, regulations, orders, Technical Specif license requirements, or internal procedures or instructions having s significance;

2. Significant operating abnormalities of deviations from normal or expe performance of plant safety-related structures, systems, or compone

3. Reportable events, as specified in 10 CFR 50.73.

e. Any other matter involving safe operation of the nuclear power plant that th RNP Nuclear Oversight Section deems appropriate for consideration or wh to the Manager – RNP Nuclear Oversight Section by the on-site operating c PNSC, or by other functional organizational units within DEP.

C17.3.3.2 contains the site specific implementation of ANSI N18.7 section 4.3 Independent Review.

1.7.4 Records

a. Results of Nuclear Oversight Section independent safety reviews shall be c and retained.

1.8 (Deleted) C17.3.4.8

1.9 Outside Agency Inspection and Audit Program ← 17.3.3.3.3.2

1.9.1 An independent fire protection and loss prevention inspection and audit shall be performed at least once per 24 months utilizing either qualified offsite person outside fire protection firm.

1.9.2 An independent fire protection audit shall be performed at least once per 36 r an audit team that must include an outside qualified, fire protection engineer. individual will be external to Duke Energy Progress, Inc. and meet education experience requirements listed for a Professional Member of the Society of F Protection Engineers.)

C17.3.3.3.3.2 contains site specific details for implementation C.17.3.4.9 provides references

2.0 Reportable Event Action

1.1 Each reportable event requiring notification per 10 CFR 50.72, shall be accordance with paragraph 1.6.6 and submitted to the Manager – RNP N Section, and the Vice President - Robinson Nuclear Plant.

1.2 Each reportable event requiring a Licensee Event Report per 10 CFR 50 reviewed in accordance with paragraph 1.6.6 and submitted to the Mana Nuclear Oversight Section, and the Vice President - Robinson Nuclear P

C17.3.4.10

3.0 Safety Limit Violation

3.1 The Following Actions shall be taken in the event a safety limit is violate

a. The safety limit violation shall be reported to the NRC Region II within Vice President - Robinson Nuclear Plant within 24 hours.

a. The Safety Limit Violation Report shall be submitted to the NRC, Vice Robinson Nuclear Plant, and the Manager – RNP Nuclear Oversight S days of the violation.

C17.3.4.11

4.0 Record Retention

17.3.2.15 list of typical records.
17.3.2.15 9p addresses retention.

4.1 The following records shall be retained for at least five

a. Records of facility operation covering time interval at each power level.

b. Records of principal maintenance activities, inspections, repair and replacement of principal items of equipment, related to nuclear safety.

c. Reportable Event Reports.

d. Records of surveillance activities, inspections and calibrations required by Technical Specifications.

e. Records of reactor tests and experiments.

f. Records of changes made to Operating Procedures.

g. Records of radioactive shipments.

h. Records of sealed source leak test and results.

i. Records of annual physical inventory of all source material of record.

4.2 The following records shall be retained until termination of the Facility License:

a. Record and drawing changes reflecting facility design modifications made to systems and equipment described in the Final Safety Analysis Report.

b. Records of new and irradiated fuel inventory, fuel transfers and assembly burnup histories.

c. Records of facility radiation and contamination surveys.

d. Records of radiation exposure for all individuals entering radiation control areas.

e. Records of gaseous and liquid radioactive material released to the environs.

f. Records of transient or operational cycles for those facility components designed for a limited number of transients or cycles.

g. Records of training and qualification for current members of the plant staff.

h. Records of in-service inspections performed pursuant to Technical Specifications and 10 CFR 50.55a(g).

i. ~~Records of Quality Assurance activities required by the QA program.~~

j. Records of review performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR 50.59.

k. Records of meetings of the PNSC.

l. Records of data results required by the Radiological Environmental Monitoring Program.

m. Records of Independent Reviews.

17.3.2.15 list of typical records.
17.3.2.15 9p addresses retention.

Attachment 6

Markup of the Duke Energy Carolinas QATR pages

60 Pages Follow

Key to Markup symbols

Text callout with arrows identifies content in standard text of the Body of the document. This text generally is in the form of a section number followed by indication of which paragraph addresses the content. for example "17.3.2.1 2p" indicates the content is reflected in the second paragraph of Section 17.3.2.1

Text box without arrow identifies content retained as site specific in Attachment D. This text is generally is in the form of a Site Specific Attachment section number followed by indication of which paragraph addresses the content. for example "D17.3.2.1 2p" indicates the content is reflected in Attachment D in the second paragraph of Section D17.3.2.1. In certain cases, this type box contains the justification for deleted content.

DUKE ENERGY CAROLINAS
TOPICAL REPORT
Quality Assurance Program

DUKE-1-A

ABSTRACT

Abstract is not retained. Pertinent content is addressed in 17.3 Introduction.

This topical report describes the Duke Energy Carolinas Quality Assurance Program (QAP) for the operational phase of its nuclear power plants. The report is organized like and is generally used for Chapter 17, "Quality Assurance" of each of the Duke Energy Carolinas nuclear station's Updated Final Safety Analysis Reports (UFSAR).

The Duke Energy Carolinas QAP conforms to applicable regulatory requirements such as 10CFR 50, Appendix B and to approved industry standards such as ANSI N45.2-1977 and ANSI N18.7-1976 and corresponding daughter standards, or to equivalent alternatives. The Duke Energy Carolinas QAP also conforms to the regulatory position of the NRC Regulatory Guides listed in Table 17-1 of this report with the exception of the clarifications, modifications, and alternatives stated therein.

The Duke Energy Corporation QAP Policy Statement, issued by the President and Chief Executive Officer, describes the corporate policy and assigns responsibility for implementation of the QAP.

Section 17, "Quality Assurance", Introduction describes the purpose of this report, provides definitions, and shows conformance to regulations, standards, and guides.

Section 17.3, "QAP Description" describes the QAP and organization for station operation.

Section 17.3, "QAP Description" follows the format of NUREG-0800, "Standard Review Plan For The Review of Safety Analysis Reports for Nuclear Power Plants", Section 17.3, "QAP Description," except that the Duke Energy Carolinas QAP is based on ANSI N18.7-1976 in lieu of ANSI/ASME NQA-1 and NQA-2.

The topical is intended to be a comprehensive up-to-date description of Duke Energy Carolinas QAP for nuclear power plants.

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The list of effective pages is no longer used. The entire document is revised at each new amendment rather than using a page change method for revisions.

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LIST OF AMENDMENTS

Number	Amendment Date	Number	Amendment Date
Original	March 1, 1974	38	August 17, 2010 (Reissue of Amendment 37 per NRC Safety Evaluation dated 08-17-10)
1	October 1, 1974 (Complete Revision)	39	September 30, 2011
2	February 14, 1975	40	September 30, 2013
3	November 22, 1976		
4	June 29, 1978		
5	July 14, 1981		
6	February 3, 1983		
7	June 22, 1984		
8	May 20, 1985		
9	July 30, 1985		
10	October 17, 1986		
11	November 12, 1987		
12	March 30, 1989		
13	April 18, 1990		
14	August 23, 1991		
15	August 7, 1992 (Complete Rewrite)		
16	June 16, 1994		
17	June 16, 1994		
18	December 12, 1994		
19	March 30, 1995		
20	June 29, 1995		
21	July 11, 1996		
22	November 1, 1997		
23	June 30, 1998		
24	January 5, 1999		
25	May 31, 1999		
26	September 13, 2000		
27	December 14, 2000		
28	June 21, 2001		
29	December 10, 2001		
30	July 31, 2002		
31	December 16, 2002		
32	June 03 , 2004		
33	July 29, 2004		
34	May 2, 2006		
35	May 31, 2007		
36	September 18, 2008		
37	January 28, 2010		

Summary of Changes

Changes since last NRC update at Amendment 39

Addressed for each attachment document revision record and transmittal letter but not retained in document.

Description of Change
Organizational description in Section 17.3.1 was revised to reflect changes resulting from the merger between Duke Energy and Progress Energy. Additional editorial changes were made throughout the document replacing the acronym “INOS” with “NOS” reflecting the new generic terminology.
Editorial change in Section 17.3.1 to replace the acronym DEC (“Duke Energy Carolinas” which constitutes the scope of applicability for this description of the QA Program) with Duke Energy. The organization description applies to the whole corporation.
Per PIP G-12-01565 revised definition section for Quality Control Inspector to remove reference to SNT-TC-1A. The commitment to the standards is documented in QATR commitment section, Table 17-1. Similar change is made on Page 17-37 to replace the standards with a reference to Table 17-1. Revised the text in section 17.3.2.14 to provide generic references to controlled nuclear department manual(s) rather that appearing to specifically require a "Nuclear Policy Manual." Org Description in Section 17.3.1.2.2 was revised to show the Site Eng Mgr reporting to Site VP instead of corporate engineering as had been approved in the Merger Organization (July 3, 2012 change to the QATR Amendment 39). Org Description in Section 17.3.1.2 revised to identify a senior executive position between the Chief Executive Officer and the Chief Nuclear Officer. The Chief Nuclear Officer (CNO) remains the corporate executive responsible for quality assurance (QA) and remains the highest level of management responsible for establishing Duke Energy Carolina's QA policies, goals, and objectives. The CNO has overall responsibility for Duke Energy's operating nuclear power plants. The CNO reports to a senior executive who is also responsible for the executives of Nuclear Plant Development, Nuclear Plant Decommissioning, and Project Management & Construction organizations. Definition of QA Condition 3 in Section 17.0 Introduction revised for clarity of application and consistency with Oconee LAR for application of NFPA-805. Org Description in Section 17.3.1.2.2 was revised to divide the Corporate Governance and Operations Support responsibilities approved in the Merger Organization (July 3, 2012 change to the QATR Amendment 39) among two executives.

17. QUALITY ASSURANCE

INTRODUCTION

17.3 Introduction 2p

Duke Energy Carolinas (DEC) maintains full responsibility for assuring that its nuclear power plants are designed, constructed, tested and operated in conformance with good engineering practices, applicable regulatory requirements and specified design bases and in a manner to protect the public health and safety. To this end DEC has established and implemented a Quality Assurance Program (QAP) which conforms to the criteria established in Appendix B to Title 10 Code of Federal Regulations (10CFR), Part 50, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants" published June 27, 1970 (35 F. R. 10499), amended September 17, 1971 (36 F. R. 18301), amended January 20, 1975 (40 F. R. 3210D), and amended August 28, 2007 (72 F. R. 49505).

17.3 Introduction 3p

This Topical Report is written in the format of a Safety Analysis Report (S "Quality Assurance", in accordance with Revision 2 of the Nuclear Regulatory Commission (NRC) Regulatory Guide 1.70, "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants - LWR Edition" and subsequent NRC guidelines. The QAP described herein is applicable to DEC nuclear power stations as referenced by Chapter 17 of each station's UFSAR.

17.3.1.1 3p requires each site to have a system for identifying items and activities to which the QAP applies.

This Topical Report describes the QAP for those systems, com which have been determined to be nuclear safety related (QA C QAP provides a method of applying a graded QAP to certain no components, items, and services. These are classified as QA C method involves defining a Quality Assurance (QA) "Condition" for each level of QA required. These will be designated as "QA Condition _____". The quality of systems, components, items, and services within the scope of QA Conditions 1, 2, 3, 4, and 5 is assured commensurate with the system's, component's, item's, or service's importance to safety. The following conditions have been defined.

D17.3 Introduction - 2p thru 6p. Attachment D Site Specific INTRODUCTION addresses the use of QA Conditions for Catawba, McGuire, and Oconee.

QA Condition 1 covers those systems and their attendant comp which have been determined to be nuclear safety related. Thes Safety Analysis Report applicable to each nuclear station. The entirety to systems, components, items, and services identified

QA Condition 2 covers those systems and their attendant comp important to the management and containment of liquid, gaseous, and solid radioactive waste.

QA Condition 3 covers those systems, components, items, and services which are important to fire protection in addressing 10 CFR 50.48.

QA Condition 4 covers those seismically designed/restrained systems, components, and structures whose continued functions are not required during and after the seismic event. The general scope of these systems, components, and structures, identified as Seismic Category II (SCII) are defined in Regulatory Guide 1.29, Seismic Design Classification.

QA Condition 5 covers those systems, components, items, and services which are important to the mitigation of design basis and other selected events as defined in applicable procedures and directives. QA Condition 5 only applies to Oconee Nuclear Station.

Quality assurance program requirements for Oconee, McGuire, and Catawba dry cask storage activities are performed in accordance with applicable 10CFR72.212 repor invokes the NRC approved 10CFR50 Appendix B QAP as described in this Topical Report.

D17.3 Introduction - 7p

This Topical Report also provides the basis for the control and performance of safety related and quality related activities associated with new DEC nuclear plants until QA Program Description specific to the new units and the associated implementing procedures are in place.

D17.3 Introduction - 8p

17.3 Introduction 7p

Subsequent changes to the DEC QAP shall be incorporated in this Topical Report. The Topical Report is intended to be a comprehensive up-to-date description of the D power plants.

17.3.1.7 addresses this

Any programmatic changes to the QAP that constitute a reduction in commitment will be submitted for review and acceptance prior to implementation. Significant organizational changes will be submitted as required by 10CFR50.54 (a) (3).

DEFINITIONS

17.3 Definitions Contains definitions necessary for updated QATR. Disposition of prior definitions is identified below.

The following definitions are applicable to terms used in this report. Terms used in this report which are not defined in this section are defined in ANSI N45.2.10, "Quality Assurance Terms and Definitions."

Approver - A eviews an activity for concept and conformity with codes and standards; t erson other than the originator or checker.

Deleted - not used

Audit (Internal) - An activity to determine through investigation the adequacy of, and adherence to, established procedures, instructions, specifications, codes, and other applicable contractual and licensing requirements, and the effectiveness of implementation.

See "Audit" in 17.3 Definitions

Basic Component – See QA Condition 1 in previous section.

Checker - A than the originator or approver, who is qualified in the area being checked an ponsibility to check the activity and/or all revisions for completene curacy.

Deleted - not used

Designer - ned the design.

Deleted - not used

Deficiency - Any condition considered to be adverse to quality including inadequacies of personnel, procedures, systems, methods, or items.

17.3 Definitions

Documents - A rial information describing, defining, specifying, reporting, or certifying activ , procedures, or results. Examples of documents are drawings, specifications, instructions and procedures significant to the design, construction, testing, maintenance and operation of QA Condition 1 equipment and systems.

Deleted - not used

Engineering Change (Modification) - A planned change in plant design accomplished in accordance with the requirements and limitations of applicable codes, standards, specifications, licenses and predetermined safety restrictions.

17.3 Definitions

Engineering Change (EC) Revision - e a process by which field variations from design drawings and specifications a ermitted.

Deleted - not used

Hold Point - That point in the manufacturing, preparation, development, installation and construction, inspection, or testing process that requires witnessing or review by qualified personnel.

17.3 Definitions

Item - A sembly, including structure, system, subsystem, subassembly, compon ial.

Deleted - not used

Pre-award Survey - A documented activity performed in accordance with written procedures or checklists to verify, by examination and evaluation of objective evidence, that the QAP has been developed, documented, and implemented in accordance with specified requirements.

17.3 Definitions

Problem Investigation Process - A process used during the operation phase of nuclear stations that documents an occurrence, s nformance that resulted in other than expected equipment performanc n, or failure to operate within established limits.

Quality Assurance (QA) - The planned and systematic actions necessary to provide adequate confidence that a material, component, system or facility will perform satisfactorily in service. (Note: See Section 17, “Quality Assurance,” Ex ssurance" below for further explanation.)

QA Records - Those records which furnish documentary evidence of the quality of items and of activities affecting quality.

QA Requirements - Those inspection, test, examination, certification and documentation requirements which are imposed to provide objective evidence of the conformance of an item or activity to established design, engineering, s quirements.

Quality Control (QC) - s which provide a means to control and measure the physical characteristi ess or facility to established requirements.

Quality Control Inspector (Inspector) - Any indiv ements identified in Table 17-1 for Regulatory Guide 1.58 who perf tests or examinations.

Responsible Engineer - The engineer assigned responsibility for an item or service.

Revisions - Any additi tion or change.

Services - The performance by a supplier of activities such as calibration, design, investigation, inspection, nondestructive examination, software applications, and installation.

Supplier Audit - A documented activity performed in accordance with written procedures or checklists to verify, by examination and evaluation of objective evidence, that applicable elements of the QAP have been developed, documented and impl e with specified requirements.

Deleted - no longer used

17.3 Definitions

17.3 Definitions

Deleted - same as 45.2.10

See "Inspector" in 17.3 Definitions

Deleted - not necessary

17.3 Definitions

See "Audit" in 17.3 Definitions

EXPLANATION OF “QUALITY ASSURANCE”

17.3 Explanation of Quality Assurance

QA as used in this document includes: 1) the independent assurance activities associated with items and tasks critical to the safety and integrity of the facility and 2) quality verifications performed by the Internal and Procurement Quality audit functions and by the Nuclear Safety Review Board in Nuclear Generation. The QAP as defined above is not an alternative to good technical work. Rather, it is a system of controls to verify that quality is achieved. The QAP places the responsibility on line management of achieving and assuring quality in all areas of their operation. As defined, the Chief Nuclear Officer has been given the responsibility to develop and manage a QAP for the Corporation.

QA STANDARDS AND GUIDES

17.3 QA Standards and Guides
Also see D17.3 QA Standards and Guides

The DEC QAP conforms to Appendix B of 10CFR 50, as discussed in Section 17, “Quality Assurance.” The QAP also conforms to applicable NRC Regulatory Guides and approved ANSI Standards, or applicable alternatives. Table 17-1 addresses QAP conformance to the referenced regulatory and program guidance contained in NUREG-0800.

QAP conformance with the documents identified in Table 17-1 may, however, be modified contingent upon future NRC or ANSI action. For example, if a draft document is subsequently approved and issued or if an approved document is revised, provisions of the more recent issue

of such a document may be complied with in lieu of those contained in the version listed in Table 17-1, provided the more recent issue has been endorsed by the NRC. Also, formal regulatory actions of the NRC (e.g., issuance or amendment of a station's Facility Operating License) are considered to supersede the contents of Table 17-1, as applicable.

Table 17-1 Conformance of DEC's Program to Quality Assurance Standards, Requirements and Guides		
Standard, Requirement or Guide	Conformance Status	Remarks
Regulatory Guide 1.8 Rev (1-R) – Personnel Selection and Training	Alternative Site Specific see Table D17-2	RG 1.8 Rev (1-R) incorporates ANSI N18.1. The DEC QAP conforms to ANSI N18.1-1971 or as otherwise stipulated in the Technical Specifications
Regulatory Guide 1.26 Rev (3) – Quality Group Classifications & Standards for Water, Steam, and Radioactive-Wa Containing Components of Nuclear Plants	Alternative Site Specific see Table D17-2	The DEC QAP conforms to this Regulatory Guide except for additional details and directions noted in each station's UFSAR.
Regulatory Guide 1.28 Rev (2) – QAP Requirements (Design and Construction)	Conforms See Table D17-1	
Regulatory Guide 1.29 Rev (3) – Seis Design Classification	Site Specific see Table D17-2	The DEC QAP conforms to this Regulatory Guide except for additional details and directions noted in each station's UFSAR.
Regulatory Guide 1.30 Rev (0) – Quality Assurance Requirements for the Installation, Inspection and Testing of Instrumentation and Electric Equipment	Conforms See Table D17-1	RG 1.30 Rev (0) incorporates ANSI N45.2.4-1972 for both construction and operation
Regulatory Guide 1.33 Rev (2) – QAP Requirements (Operations)	Alternative See Table D17-1 Exception to proscriptive 2 year review of procedures in ANSI N18.7 section 5.2.15 has been revised to use the exception approved by NRC in 1995 for HB Robinson.	RG 1.33 Rev (2) incorporates ANSI N18.7-1976/ANS-3.2. The DEC QAP conforms to ANSI N18.7-1976 except the frequency of audits of selected aspects of operational phase activities is defined in Section 17.3.3, "Self Assessment" and the frequency for procedure review, as described in Section 17.3.2.14, "Document Control," is based on ANSI/ANS-3.2 (1994) with appropriate reviews performed when the need is identified by normal use, unusual incidents, engineering changes, or established quality programs. Review frequencies for Abnormal Procedures, Emergency Procedures, and Emergency Response Procedures shall not exceed six years. Procedures that have not been used for six years shall be reviewed prior to reuse. When purchasing commercial-grade calibration services from

Table 17-1 Conformance of DEC's Program to Quality Assurance Standards, Requirements and Guides		
Standard, Requirement or Guide	Conformance Status	Remarks
		certain accredited calibration laboratories, the procurement documents are not required to impose a QAP consistent with ANSI N45.2-1977. Alternate requirements described in the QA Topical Report for Regulatory Guide 1.123 may be implemented in lieu of imposing a QAP consistent with ANSI N45.2-1977. A person with nondestructive testing experience is not required on the Nuclear Safety Review Board (NSRB) as required by section 4.3.1 of ANSI N18.7-1976. The technical experience requirements for NSRB members were transferred from each site's technical specifications and did not include a person with nondestructive testing experience. The transfer of NSRB requirements from each site's Technical Specification to the QA Topical Report was approved by an SER dated October 22, 1998 for amendment 23. The independent review of Technical Specification changes and license amendments shall be performed by the Plant Operations Review Committee (PORC). NSRB review and approval of Technical Specification changes and license amendment changes is not required.
Regulatory Guide 1.36 Rev. (0) – Nonmetallic Thermal Insulation for Austenitic Stainless Steel	Site Specific see Table D17-2	The conformance to this Regulatory Guide will be as addressed in each station's UFSAR.
Regulatory Guide 1.37 Rev (0) – Quality Assurance Requirements for Cleaning of Fluid Systems and Associated Components of Water-Cooled Nuclear Power Plants	Conforms See Table D17-1	RG 1.37 Rev (0) incorporates ANSI N45.2.1-1973 for both construction and operation

Use of Commercial Grade Calibration Laboratory accreditation is addressed in standard exception in Table 17-1 at Regulatory Guide 1.123.

Table 17-1 Conformance of DEC's Program to Quality Assurance Standards, Requirements and Guides

Standard, Requirement or Guide	Conformance Status	Remarks
Regulatory Guide 1.38 Rev (2) – Quality Assurance Requirements for Packaging Shipping, Receiving, Storage and Hand of Items for Water-Cooled Nuclear Power Plants	Alternative See Table D17-1	RG 1.38 Rev (2) incorporates ANSI N45.2.2-1972. The DEC QAP conforms to ANSI N45.2.2-1972 except container markings all be marked on at least one side (A.3.9(1)) and shall be applied with waterproof ink or paint in characters of a legible size, and caps and plugs for pipe and fittings are required unless specified by Engineering, and off-site inspection, examination, and testing is monitored by personnel qualified to ANSI N45.2.12 in lieu of ANSI N45.2.6.
Regulatory Guide 1.39 Rev (2) – Housekeeping Requirements for Wate Cooled Nuclear Power Plants	Conforms See Table D17-1	RG 1.39 Rev (2) incorporated ANSI N45.2.3-1973 for both onstruction and operation. Personnel accountability for personnel entering housekeeping zones I, II, and III without materials shall be maintained by housekeeping logs or alternate methods such as radiation work permits, confined space permits, work requests or other accepted methods capable of assuring personnel accountability.
Regulatory Guide 1.54 Rev (0) – Quali Assurance Requirements for Protectiv Coatings Applied to Water-Cooled Nuc Power Plants	Site Specific see Table D17-2	Catawba has adopted the Regulatory Guide. McGuire and Oconee adopt portions of the Regulatory Guide and address alternatives which meet the intent of this Guide, in each respective station's UFSAR.
Regulatory Guide 1.58 Rev (1) – Qualification of Nuclear Power Plant Inspection, Examination and Testing Personnel	Alternative See Table D17-1	RG 1.58 Rev (1) incorporates ANSI N45.2.6-1978 for both construction and operation. DEC's nondestructive examination NDE) personnel will meet the qualification requirements of SNT-TC-1A and ANSI/SNT-CP-189 as governed by the applicable ASME Section XI requirement or other code requirement. Operational/functional testing personnel will meet the requirements of ANSI N18.1-1971 rather than ANSI N45.2.6. Also, Level I inspectors receive a minimum of 4 months experience as Level I before being certified as Level II, in lieu of one year experience recommended by ANSI N45.2.6. Inspectors are only assigned tasks for which they have been qualified.
Regulatory Guide 1.64 Rev (2) – Quality	See Table D17-1	64 Rev (2) Incorporates ANSI N45.2.11-1974. The use of

Table 17-1 Conformance of DEC's Program to Quality Assurance Standards, Requirements and Guides

Standard, Requirement or Guide	Conformance Status	Remarks
Assurance Requirements for Design of Nuclear Power Plants	Clarification	the originator's immediate supervisor for design verification shall be restricted to special situations where the immediate supervisor is the only individual capable of performing the verification. Advance justification for such use shall be documented and signed by the supervisor's management. And the frequency and effectiveness of the supervisor's use as design verifier are independently verified to guard against abuse. The supervisor will not be the design verifier on work for which he is the actual performer / originator.
Regulatory Guide 1.74 Rev (0) – Quality Assurance Terms and Definitions	Conforms	RG 1.74 Rev (0) Incorporates ANSI N45.2.10-1973. Some definitions used by DEC are worded differently than those in this standard; however, the general meanings are the same.
Regulatory Guide 1.88 Rev (2) - Collection, Storage, and Maintenance of Nuclear Power Plant Quality Assurance Records	Alternative	RG 1.88 Rev (2) Incorporates ANSI N45.2.9-1974. The DEC QAP conforms to RG 1.88 except the records storage facilities have a minimum 3-hour rating. A qualified Fire Protection engineer will evaluate record storage areas (including satellite records) to assure records are adequately protected from damage. The fire protection engineer shall be a graduate of an engineering curriculum of accepted standing and shall have completed not less than 6 years of engineering attainment indicative of growth in engineering competency and achievement, 3 years of which shall have been in responsible charge of fire protection engineering work. The DEC program for storage of records on optical disks meets the quality controls contained in NRC Generic Letter 88-18. DEC fully meets NIRMA Technical Guide (TG) 11-1998, Authentication of Records and Media, NIRMA TG 15-1998, "Management of Electronic Records," and NIRMA TG 16-1998, "Software Configuration Management and Quality Assurance" for managing quality assurance records in electronic media: NIRMA TG 21-1998, "Electronic Records Protection and

See Table D17-1

See Tables 17-1 and D17-1

See standard exception in Table 17-1 at Regulatory Guide 1.88 for Electronic records exceptions, which have been revised per approved change in NRC safety evaluation dated May 26, 2015 to Duke Energy Carolinas, ADAMS Accession No. ML15138A347

Table 17-1 Conformance of DEC's Program to Quality Assurance Standards, Requirements and Guides		
Standard, Requirement or Guide	Conformance Status	Remarks
		Restoration" - The data backup provisions in sections 5.4.2 and 5.4.4 are not being fully met. Until the backup requirements are met, dual storage or microfilm will be used for all QA Records.
Regulatory Guide 1.94 Rev (1) – Quality for Installation, Inspection, and Testing of Structural Concrete and Structural Steel During the Construction Phase of Nuclear Power Plants	Alternative See Table D17-1	RG 1.94 Rev (1) Incorporates ANSI program for McGuire and Catawba conforms to ANSI N45.2.5-1974 except the length of s shall be flush with the outside face of the nut. Paragraph 5.5 requires inspection of structural steel welding to be performed in accordance with the provisions of Section 6 of the AWS D1.1. Visual Weld Acceptance Criteria (VWAC) for Structural Welding at Nuclear Power Plants, NCIG-01, Revision 2, prepared by the Nuclear Construction Issues Group (NCIG) and accepted by the NRC in their letter to the NCIG dated June 26, 1985 may be used as an alternative to AWSD1.1 for non ASME Code structural weld inspections. (July 31, 2000 J M Farley SER)
Regulatory Guide 1.116 Rev (0-R) – Quality Assurance Requirements for Installation, Inspections, and Testing of Mechanical Equipment and Systems	Conforms See Table D17-1	RG 1.116 Rev (0-R) Incorporates ANSI N45.2.8-1975
Regulatory Guide 1.123 Rev (1) – Quality Assurance Requirements for control of Procurement of Items and Services for Nuclear Plants	Alternative See Tables 17-1 and D17-1 The exception for the use of commercial grade calibration laboratories has been revised to reflect NRC clarification in Letter ML100130016.	RG 1.123 Rev (1) Incorporates ANSI N45.2.13-1976. With respect to ANSI N45.2.13, Section 3.2, "Content of the Procurement Documents," Subsection 3.2.3, "QAP Requirement," DEC takes the following exception: When purchasing commercial-grade calibration services from calibration laboratories accredited by a nationally recognized accrediting body, the procurement documents are not required to impose a QAP consistent with ANSI N45.2-1977. Nationally-recognized accrediting bodies include the National Voluntary Laboratory Accreditation Program (NVLAP) administered by the National Institute of Standards and Technology (NIST) and other accrediting bodies recognized by NVLAP via a Mutual Recognition Arrangement (MRA). In such cases, accreditation

Table 17-1 Conformance of DEC's Program to Quality Assurance Standards, Requirements and Guides

Standard, Requirement or Guide	Conformance Status	Remarks
See Standard exception in Table 17-1 at Regulatory Guide 1.123 for The exception for the use of commercial grade calibration laboratories, which has been revised to reflect NRC clarification in Letter ML100130016.		may be accepted in lieu of the purchaser imposing a QA Program consistent with ANSI N45.2-1977, provided all the following are met: 1. The accreditation is to ANSI/ISO/IEC 17025. 2. The accrediting body is either NVLAP or an accrediting body recognized by NVLAP through MRA. (NVLAP or American Association for Laboratory Accreditation (A2LA)) 3. The published scope of accreditation for the calibration laboratory covers the needed measurement parameters, ranges, and uncertainties. Note: Well defined and documented measurement assurance techniques or uncertainty analysis may be used to verify the adequacy of the measurement process. If such techniques are not used, the collective uncertainty of the measurement standards shall not exceed 25% of the acceptable tolerance for each characteristic being calibrated. (This is typically referred to as the four-to-one ratio.) 4. The purchase documents impose additional technical and administrative requirements, as necessary, to satisfy DEC QAP and technical requirements. As a minimum, the procurement documents shall require that the calibration certificate/report include identification of the laboratory equipment/standards used. 5. The purchase documents require reporting as-found calibration data when calibrated items are found to be out-of-tolerance.

Table 17-1 Conformance of DEC's Program to Quality Assurance Standards, Requirements and Guides		
Standard, Requirement or Guide	Conformance Status	Remarks
Regulatory Guide 1.143 Rev (1) – Design Guidance For Radioactive Waste Management Systems, Structures, and Components Installed in Light-Water-Cooled Nuclear Power Plants	Conforms Site Specific see Table D17-2	
Regulatory Guide 1.144 Rev (1) - Auditing of Quality Assurance Programs for Nuclear Power Plants	Alternative Site specific see D17-1 As noted at Regulatory Guide 1.123, the exception for the use of commercial grade calibration laboratories has been revised to reflect NRC clarification in Letter ML100130016. The revised exception is located in Table 17-1 at Regulatory Guide 1.123.	RG 1.144 Rev (1) incorporates ANSI N45.2-12, (1977). The DEC QAP conforms to ANSI N45.2.12-1977 for internal/external audits except Section 4.4.6. In lieu of making recommendations for correcting program deficiencies we will identify the deficiencies to the audited organization. For external audits, the results of the audit will be provided to the audited organization in lieu of the audit report. Also, the re-evaluation may be extended to 15 months and the triennial period as specified in the Reg. Guide may be extended by 3 months as described in Section 17.3.2.4, "Procurement Control." Additionally, the DEC QAP meets regulatory position C.3.b of this regulatory guide, as clarified by NRC Information Notice 86-21, Supplement 2. Internal Technical Audits shall require a response describing corrective action and implementation schedule as requested by the audit report but not to exceed sixty days of receipt of the audit report. The requirements of Section C.3.b(2) are accepted with the following interpretation: When purchasing commercial-grade calibrations services from calibration laboratories accredited by a nationally-recognized accrediting body, the accreditation process and accrediting body may be credited with carrying out a portion of the purchaser's duties of verifying acceptability and effective implementation of the calibration service supplier's QA program. Nationally-recognized accrediting bodies include National Voluntary Laboratory Accreditation Program (NVLAP)

Table 17-1 Conformance of DEC's Program to Quality Assurance Standards, Requirements and Guides		
Standard, Requirement or Guide	Conformance Status	Remarks
		administered by the National Institute of Standards and Technology (NIST) and other accrediting bodies recognized by NVLAP via a Mutual Recognition Agreement (MRA). In lieu of performing an audit, accepting an audit by another licensee, or performing a commercial-grade supplier survey, a documented review of the supplier's accreditation shall be performed by the purchaser. This review shall include, at a minimum, verification of the following: 1. The accreditation is to ANSI/ISO/IEC 17025. 2. The accrediting body is either NVLAP or an accrediting body recognized by NVLAP through MRA. (NVLAP or American Association for Laboratory Accreditation (A2LA)) 3. The published scope of accreditation for the calibration laboratory covers the needed measurement parameters, ranges, and uncertainties. Note: Well defined and documented measurement assurance techniques or uncertainty analysis may be used to verify the adequacy of the measurement process. If such techniques are not used, the collective uncertainty of the measurement standards shall not exceed 25% of the acceptable tolerance for each characteristic being calibrated. (This is typically referred to as the four-to-one ratio.)
Regulatory Guide 1.146 Rev (0) – Qualification of QA Program Audit Personnel for Nuclear Power Plants	Alternative See Table D17-1	The DEC QAP conforms to ANSI/ASME N45.2.23 – 1978 except Section 2.3.4. In lieu of prospective lead auditors participating in a minimum of five QA audits within a period of three years prior to date of certification, prospective lead auditors shall demonstrate their ability to effectively lead an audit team and shall have participated in at least one nuclear QA audit within one year preceding the individual's effective date of qualification. Upon

Table 17-1 Conformance of DEC's Program to Quality Assurance Standards, Requirements and Guides		
Standard, Requirement or Guide	Conformance Status	Remarks
		successful demonstration of the ability to lead audits, and having met the other provisions of ANSI N45.2.23-1978, the individual may be certified as being qualified to lead audits. This process is described in approved procedures which require documentation of the evaluation and demonstration of results.
Regulatory Guide 1.152 Rev (0) – Criteria For Programmatic Digital Computer System Software In safety-Related Systems of Nuclear Power Plants	Not applicable See Table D17-1	Regulatory Guide does not apply to plants prior to 11/85
Regulatory Guide 4.15 Rev (1) – Quali Assurance For Radiological Monitoring Program (Normal Operations) – Effluent Streams and the Environment	Site Specific see Table D17-2	Adopted at Oconee, McGuire, and Catawba via various site procedures that meet the intent of the Regulatory Guide.
Regulatory Guide 7.10 Rev (1) – Establishing QAPs For Packaging Used In The Transport of Radioactive Material	See Table D17-1	The DEC QAP conforms to the intent of this Regulatory Guide as ssed in each station's UFSAR.
Criteria 1 of Appendix A to 10CFR 50	Conforms	
10CFR 50, Appendix B – Quality Assurance Criteria for Nuclear Power Plants	Conforms	
10CFR 50.55a – Licensing of Production and Utilization Facilities (ASME Boiler and Pressure Vessel Code, Section XI - Rules for Inservice Inspection of Nuclear Reactor Coolant Systems)	Conforms	ies ASME Section XI Code dates. The DEC FR 50.55a with the specific editions and I specified in the In-service Inspection (ISI)
10CFR 55 – Operators Licenses	Conforms	
10CFR 55, Appendix A – Requalification Programs for Licensed Operators of Production and Utilization Facilities	Conforms	

Conformance with Regulations is not optional, therefore these statements are no longer addressed in Table 17-1 and 17-2

Table 17-1 Conformance of DEC's Program to Quality Assurance Standards, Requirements and Guides		
Standard, Requirement or Guide	Conformance Status	Remarks
10CFR 50.55(e) – Conditions of Construction Permits	Conforms	Conformance with Regulations is not optional, therefore these statements are no longer addressed in Table 17-1 and 17-2
10CFR 21	Conforms	
Regulatory Positions 2 & 4 of Branch Technical Position CMEB 9.5-1	Conforms Site Specific see Table D17-2	Fire protection controls are in accordance with the intent of ulatory positions 2 & 4 of Branch Technical Position CMEB -1 as stated in the Safety Evaluation Reports for the respective nuclear stations.
Generic Letter 89-02, NCIG-07.	See Table D17-1	-------

17.1 QA DURING DESIGN AND CONSTRUCTION

Deleted

17.2 OPERATIONAL QA

Deleted

(NOTE: Amendment 15 of this Topical Report reformatted the description of the QA Program to follow Standard Revision Plan Section 17.3, replacing the content of 17.1 and 17.2.)

Generic changes throughout -
"QA Condition 1" has been replaced with "Nuclear safety related"
The acronym "DEC" is spelled out to avoid confusion between Duke Energy Corporation and Duke Energy Carolinas (Catawba, McGuire, and Oconee).

17.3 QUALITY ASSURANCE PROGRAM (QAP) DESCRIPTION

17.3.1 MANAGEMENT

17.3.1.1 Methodology

1s is in 17.3.1.1 1p

The Chief Nuclear Officer is the corporate executive responsible for quality assurance (QA) and is the highest level of management responsible for establishing DEC's QA policies, goals, and objectives. The QAP Policy Statement, shown in Figure 17-1, assigns this responsibility and requires development of and compliance with procedures in atters. All organizations performing quality affecting activities are bou ment. The QAP has been developed in accordance with this Policy St als who constitute Nuclear Generation have full personal and corpo ssure that nuclear power plants are designed, constructed, tested and operated in a manner to protect the public health and safety. The comprehensive program to assure this begins with initial design and continues throughout the life of the station. The DEC QAP must assure that the necessary quality requirements for QA Condition 1 structures, systems, components and materials are achieved. All special equipment, environmental conditions, skills and processes that are determined to be QA Condition 1 will be provided within the scope of the QAP.

remainder of paragraph is in 17.3.1.1 2p

QA Condition structures, systems, and components are specified by approved design documents and directives.

17.3.1.1 3p

This program applies to the QA Condition 1 portions of the plant but may also be optionally applied, in whole or in part, to other selected items necessary for reliable operation. Section 17, "Quality Assurance" identifies those items currently included under the DEC QAP.

17.3.1.1 4p

17.3.1.2 Organization

17.3.1.2.1 Corporate Organization

17.3.1.2 Entire section

The President and Chief Executive Officer has overall responsibility for Design, Construction, Operation, and Decommissioning of generation and transmission facilities. Reporting to the President and Chief Executive Officer is the Group Executive responsible for nuclear operations, nuclear development and nuclear decommissioning, and project management. Reporting to this Group Executive is the Chief Nuclear Officer (CNO) who has the overall authority and responsibility for the QAP and Nucl includes the operation of the nuclear plants. Also reporting to the Presider Officer are Group Executives responsible for providing support to Nuclear Generation for the following: electrical transmission; electrical distribution; laboratory services; switchyard maintenance and technical support; support for the emergency response communications; Information Technology Services; and support of the Access Authorization, Fitness for Duty, and Fatigue Rule programs. The interfaces with organizations providing those activities are described in Section 17.3.1.2.3. As such, the attainment of quality rests with those assigned the responsibility of performing the activity. The verification of quality is assigned to qualified personnel independent of the responsibility for performance or direct supervision of the activity. The degree of independence varies commensurate with the activity's importance to safety.

The policies described in this document are implemented through departmental program manuals and procedures, and are, therefore, transmitted to all levels of management.

Organization charts for the Nuclear General Office Organizations and the Nuclear Site Organizations are shown in Figures 17-2 and 17-3 respectively.

17.3.1.2.2 Nuclear Generation

Nuclear Generation has direct line responsibility for all Duke Energy nuclear station operations. Nuclear Generation is responsible for achieving quality results during engineering, preoperational testing, operation, testing, maintenance and modification of the Corporation's nuclear stations and with complying with applicable codes, standards and NRC regulations. The functions of Nuclear Generation are directed by the CNO.

17.3.1.2 Entire section

The CNO formulates, recommends, and [illegible]cies, and programs related to the nuclear generation of electric power. Th[illegible]significant problems or occurrences relating to safety and QA through established administrative procedures and participates directly in their resolution, where necessary.

Nuclear Generation is organized into eight divisions. The activities of each division are directed by an executive who reports to the CNO. Three of those divisions are headed by the three executives of Nuclear Operations, which are discussed in the Nuclear Site description following the description of the Nuclear General Office. The remaining five divisions, which comprise the Nuclear General Office (NGO), are: Nuclear Engineering, Nuclear Major Projects, Nuclear Oversight, Organizational Effectiveness, and Corporate Governance and Operations Support.

a) Nuclear General Office

Nuclear Engineering

The executive for Nuclear Engineering reports to the CNO. Nuclear Engineering provides broad engineering leadership and technical support to the nuclear sites with emphasis on generic issues and consistent practices, providing expertise in safety assessment with technical support in the areas of risk assessment, radiological engineering, and safety analysis; fuel management with leadership and technical support in the areas of fuel supply, spent fuel management, reactor core mechanical and thermal hydraulic analysis; the fleet electrical and procurement engineering with technical support in the areas of procurement engineering, nuclear process systems, and electrical systems and analysis; and programs and components support in the areas of steam generator inspections and maintenance, engineering programs, component engineering, material failure analysis and materials science, equipment reliability, and ASME Code inspections and testing.

Nuclear Engineering provides record storage and document management services, technology planning, project control and technical support for information technology applications and systems such as equipment databases, applications, infrastructure, and plant process information systems.

Nuclear Major Projects

The executive for Nuclear Major Projects reports to the CNO. Nuclear Major Projects is responsible for contracts, engineering and management related to fleet and nuclear site major projects.

Nuclear Oversight

The executive for Nuclear Oversight (NOS) reports to the CNO. NOS provides oversight of the general office and nuclear sites with QA program audits, performance assessment, procurement quality supplier verification, and quality control. In addition, NOS provides an advisory function to senior management through the NSRB. NOS also provides oversight of Nuclear Development and Nuclear Decommissioning through QA program audits. The NOS executive has the authority and organizational freedom to: identify quality problems, initiate, recommend or provide solutions to quality problems through designated channels, verify the implementation of solutions to quality problems, and ensure cost and schedule do not

influence decision making involving quality. This includes full access to Nuclear Development and Nuclear Decommissioning and all levels of management up to and including the Chief Executive Officer.

The NOS executive is delegated primary ownership of the department QA program description and is responsible for day-to-day administration of the program and resolution of QA issues.

If significant quality problems are identified, NOS personnel have the authority to stop work as discussed in Section 17.3.1.4 pending satisfactory resolution of the identified problem.

Also reporting to the executive for Nuclear Oversight is Employee Concerns, which investigates concerns identified through the Corrective Actions Programs to determine their validity and initiate corrective actions. Employee Concerns also promotes the Safety Conscious Work Environment (SCWE) Program and is sensitive to SCWE concerns during investigations performed.

17.3.1.2 Entire section

Nuclear Training

The executive for nuclear training reports to the CNO. The responsibilities of this organization include training and leadership development.

Corporate Governance and Operations Support

The executive for Corporate Governance and Operations Support reports to the CNO. Corporate Governance and Operations Support provides assistance to help improve overall fleet performance. This centralized organization includes Protective Services (Security and Access Services); Nuclear Support Services; Organizational Effectiveness; Regulatory Affairs; Emergency Preparedness; Performance Improvement; and Operations Support.

b) Nuclear Site Organization

There are three executives of Nuclear Operations, each reporting directly to the CNO and located in the NGO; one responsible for Oconee and Robinson nuclear stations; one responsible for Catawba and McGuire nuclear stations; and one responsible for Brunswick and Shearon Harris nuclear stations.[1] Reporting to each executive are the Site executives for the respective nuclear station.

Reporting to the Site executive for each nuclear station is a Nuclear Plant Manager who is assigned the direct responsibility for the safe operation of the facility including operations, maintenance, work management, radiation protection, and chemistry. The qualification requirements for the Nuclear Plant Manager are in accordance with the provisions of ANSI N18.1 as presented in each station's UFSAR. Also reporting to the Site executive is an Organizational Effectiveness manager, who is responsible for regulatory affairs, emergency preparedness, performance improvement, human performance, environmental services, and health and safety; a site Engineering manager; and a Site Training manager. Each Site executive also has a Security manager and a Major Projects manager matrixed to provide services to the site.

[1] The inclusion of the names of former Progress Energy nuclear station... in the DEC Quality Assurance Program Topical Report does not mean thi... nuclear stations. The applicable Quality Assurance Program is describ... Topical provides the description) in Chapter 17 of the (U)FSAR for eac...

Footnote is no longer needed with QAPD consolidation into a single topical report.

17.3.1.2.3 Department Interfaces

Departmental interfaces are identified in QAP manuals. Quality related activities performed by departments other than Nuclear Generation are identified by and conducted in accordance with approved departmental interface agreements. The following are generic descriptions of those other corporate departments and the services they provide. These generic organizations are referred to, as appropriate, within this document; however, approved departmental interface agreements establish and define the applicability of the QAP to the services they provide:

17.3.1.2 Entire section

Corporate Communications

Corporate Communications provides support for the nuclear site emergency response organization.

Environmental Health and Safety

Environmental, Health and Safety provides environmental and laboratory support services.

Nuclear Finance

Nuclear Finance provides support for the nuclear sites in the areas of financial planning.

Human Resources

Nuclear Protective Services within the Nuclear Corporate organization now performs the actions previously provides by Human resources.

Human Resources provides support for the nu for Duty (FFD), and Fatigue Rule programs.

Information Technology

Information Technology provides a variety of services and technical support to Nuclear Generation for information technology applications and systems such as equipment databases, applications, and infrastructure.

Customer Operations

Customer Operations provides electrical transmission, distribution and switchyard engineering, as well as providing electrical maintenance and testing support.

Nuclear Supply Chain

Nuclear Supply Chain provides procurement services, storage, inventory control, and receipt inspection/testing.

17.3.1.3 Responsibility

17.3.1.3 1p 2s

The individuals who constitute Nuclear Generation have full personal and corporate responsibility to assure nuclear power plants are designed, constructed, maintained, tested and operated in a manner to protect the public health and safety; and to assure the effectiveness of the QAP.

17.3.1.3 5p

Corporate audits are initiated and directed by the CNO. This audit is performed biennially to assess the adequacy of the QAP. This audit is discussed in greater detail in Section 17.3.3.2.4, "Corporate Audit."

17.3.1.3 2p

Appropriate procedures are developed, approved by the responsible implementing manager, issued for use, and used at the location where the prescribed activity is performed, where appropriate. Sufficient personnel are available and trained with necessary resources prior to performing activities that affect quality.

17.3.1.4 Authority

17.3.1.4
1s is in 1p,
2s is in 2p,
remainder in 3p

Anyone involved in quality activities in the Duke Energy authority and responsibility to stop work if they discover deficiencies performing QA and quality control functions have the authority and respons actory work and to assure the item/activity is controlled to prevent further processing, delivery, installation, or use until authorized by appropriate management. If a member of the group performing the work disagrees, they are instructed to take the matter to their management. The disagreement may either be resolved at this level or at any level up to and including the Chairman, President and Chief Executive Officer.

17.3.1.5 Personnel Training and Qualification

Content retained in D17.3.1.5 as amplification of generic training description in 17.3.1.5.

A training program is established for each nuclear stati lop and maintain an organization qualified to be responsibl inspection, maintenance, engineering changes and other technical aspects of the nuclear station involved. The program is formulated to provide the required training based on individual employee experience and intended position. The program is in compliance with NRC licensing requirements, where applicable. The training program is such that trained and qualified operating, maintenance, work control, engineering, inspection, testing, technical support and supervisory personnel are available in necessary numbers at the times required. In all cases, the objectives of the training program shall be to assure safe and reliable operation of the station.

The training program is kept current to reflect station engineering changes and changes in procedures. A continuing effort is used after a station goes into commercial operation for training of replacement personnel and for periodic retraining, reexamining, and/or recertifying as required to assure that personnel remain proficient. Personnel receive formal orientation training in basic QA policies and practices.

Personnel receive additional formal training, as appropriate, which addresses specific topics such as NRC regulations and guides, QA procedures, auditing and applicable codes and standards. Special training of personnel in QA related matters, particularly new or revised requirements, is conducted as necessary. Training and qualification records are maintained for each employee. Documentation of formal training includes the objectives, content of the program, attendees, and date of attendance.

17.3.1.6 Corrective Action

17.3.1.6
content addressed in expanded section. Added references for "Aging Management"

DEC has established a corrective action process whereb s adverse to quality are promptly identified, controlled, and administered to correct the problem and its cause rather process also provides for trending of problems to detect adverse trends in quality performance, including reporting of results to appropriate levels of management. This process is discussed in Section 17.3.2.13, "Corrective Action."

17.3.1.7 Regulatory Commitments

17.3.1.7 - Table 17-1 has been split into two tables. Section expanded.

The DEC QAP commits to applicable QA regulations, co Table 17-1, Conformance of DEC QAP to Quality Assurance Standards, Requirements and Guides.

Policy Statement moved to front of document and updated.

QUALITY ASSURANCE PROGRAM
POLICY STATEMENT

Duke Energy Corporation (DEC) designs, procures, constructs and operates its nuclear plants in a manner that ensures the health and safety of the public and workers. These activities are performed in compliance with the requirements of the Code of Federal Regulations (CFR), the applicable Nuclear Regulatory Commission (NRC) Facility Operating Licenses, and applicable laws and regulations of the state and local governments.

The applicable Quality Assurance Program (QAP) is the Quality Assurance Program Description (QAPD) contained or referenced in each nuclear plant's (Updated) Final Safety Analysis Report and the associated implementing documents. Together they provide for control of DEC activities that affect the quality of safety-related nuclear plant structures, systems, and components (SSCs) and include all planned and systematic activities necessary to provide adequate confidence that such SSCs will perform satisfactorily in service. The QA Program may also be applied to certain equipment and activities that are not safety-related, but support safe plant operations, or where other NRC guidance establishes program requirements.

The QAPD is the top-level policy document that establishes DEC's overall philosophy regarding achievement and assurance of quality. Implementing documents assign detailed responsibilities and requirements and define the organizational interfaces involved in conducting activities within the scope of the QAP. Compliance with the QAP is mandatory for individuals involved directly or indirectly with its implementation.

DEC personnel have authority commensurate with their responsibility, including the authority to stop work that does not conform to established requirements. This stop work authority may be exercised in accordance with established nuclear system procedures.

Date 8-6-13

Lynn Good
President and CEO
Duke Energy

Quality Assurance Program Policy Statement updated with Amendment 40

Figure 17-1. Duke Energy Corporation Quality Assurance Policy Statement

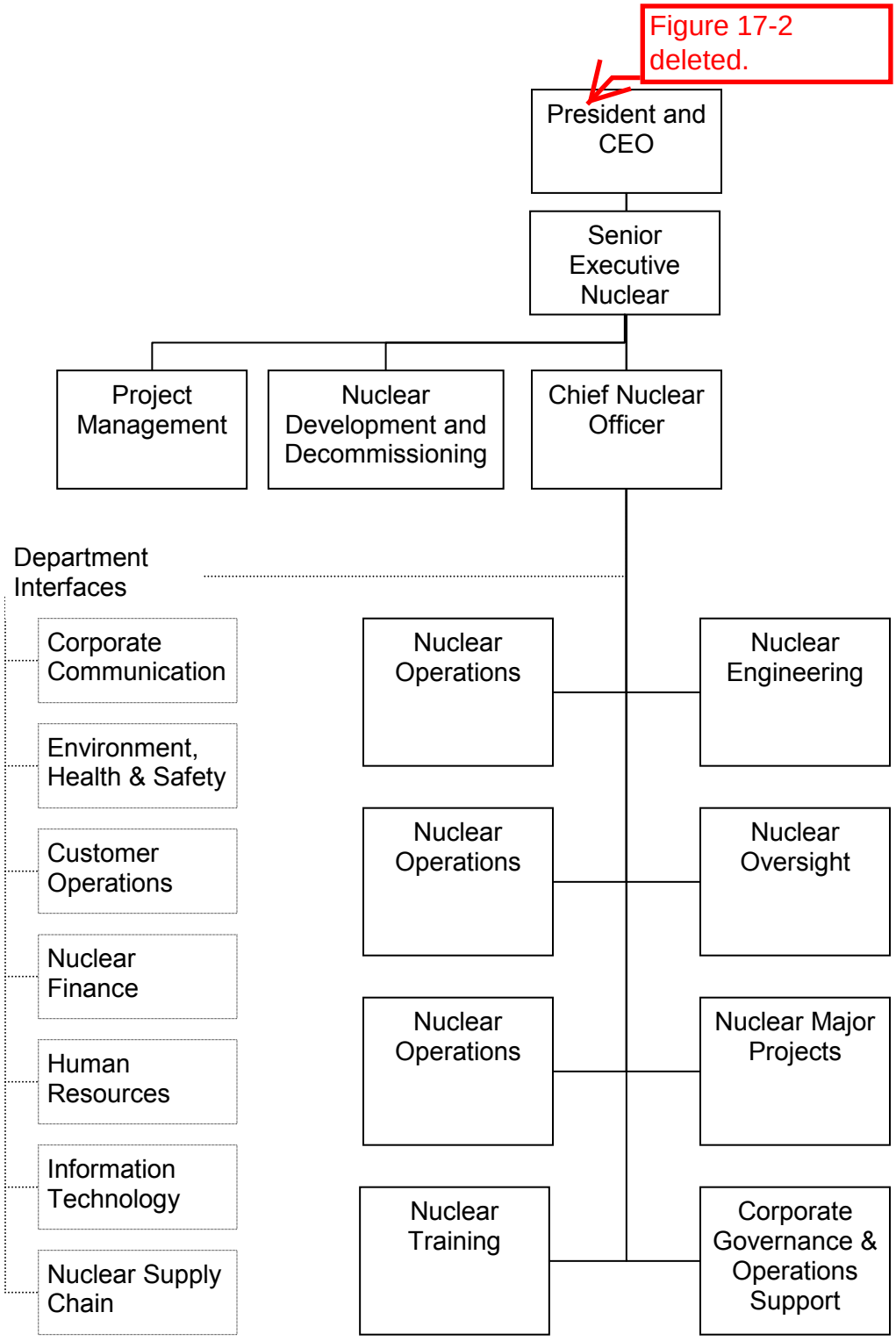
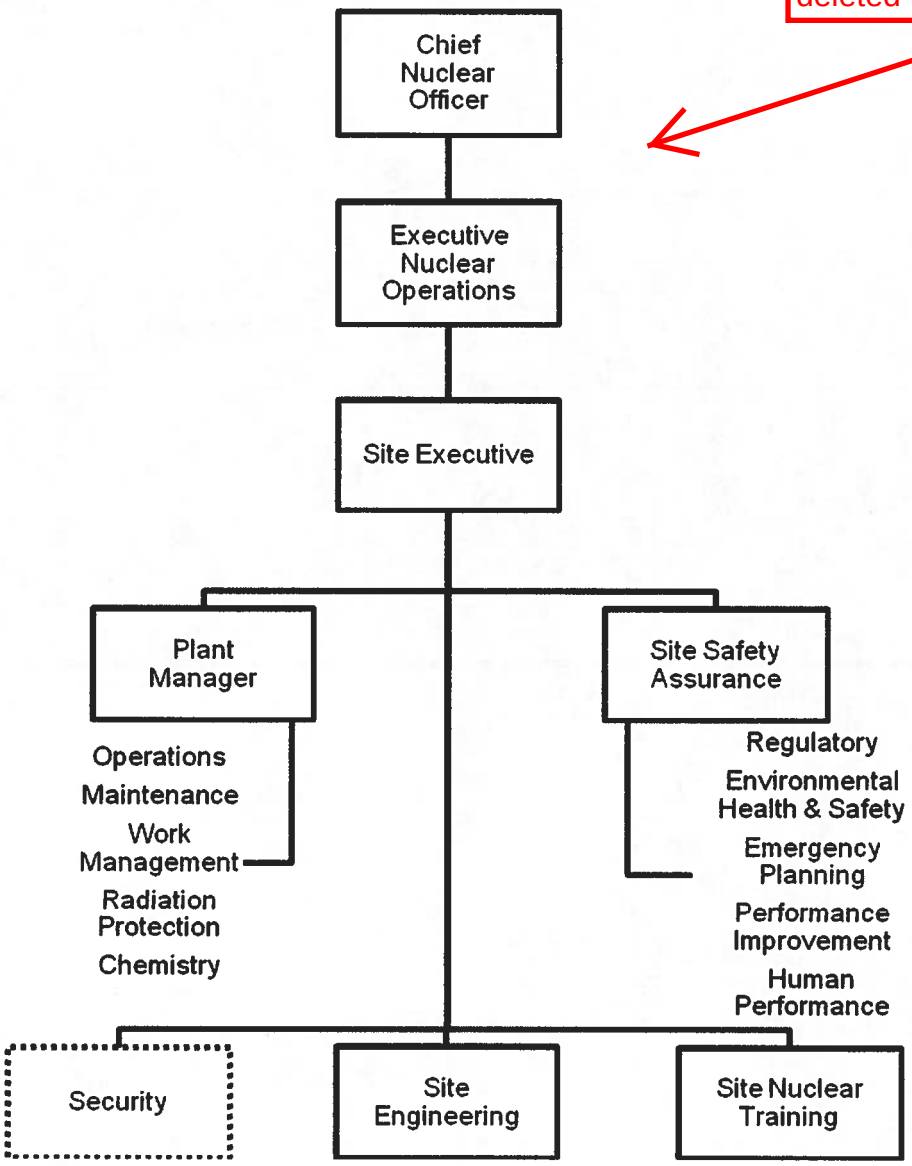


Figure 17-2. Corporate and Offsite Organization

Figure 17-3 deleted



Nuclear Site Organization updated with Amendment 40

Figure 17-3. Nuclear Site Organization

17.3.2 PERFORMANCE/VERIFICATION

17.3.2.1 Methodology

17.3.2.1 four paragraphs.
Also 17.3.1.3 2p identifies manager responsibility for procedure approval.

The DEC QAP is described in various corporati ctions necessary to implement the requirements of the organization responsible for the activity. These procedures and instructions may be contained in manuals, station procedures and directives, administrative instructions and/or other documents. These documents identify the criteria to determine acceptable quality for the activity being performed. On-site implementation of procedures and work instructions is the responsibility of the Site Vice President. Verification of quality against these documents is performed by means of inspections, tests, audits, and reviews. Procedures for such inspections, audits and reviews are developed and approved by the responsible implementing manager.

The program receives on-going review and is revised as necessar effectiveness.

Paragraph retained in D17.3.2.1

17.3.2.2 Design Control

17.3.2.2 1p

In order to provide for the continued safe and reliable operation of a nuclear station's QA Condition 1 structures, systems and components, design control measures commensurate with those applied to the original design are implemented during the operational phase to assure that the quality of such structures, systems and components is not compromised by engineering changes.

17.3.2.2 3p

DEC has assigned the responsibility for design activities during the operational phase of nuclear stations to Nuclear Generation.

17.3.2.2 2p

The QAP establishes procedures and instructions for implementation and assurance of design control during the operational phases for QA Condition 1 items. These procedures and instructions assure the design is performed in accordance with approved criteria, and that deviations and nonconformances are controlled.

17.3.2.2 4p

Each QA Condition 1 design document, such as a calculation, specification, or drawing, is prepared by a knowledgeable individual who specifies and includes the appropriate codes, standards, SAR commitments, and other design input within the design documents. The preparer notes any deviations or changes from such standards within t package. Each design document is then checked by another individua discipline and is reviewed for concept and conformity with applicable c other design inputs (as specified within the design documentation pack approved by the individual having overall responsibility for the design f specification is made to assure incorporation of necessary QA informa process is documented.

Content beginning with "Each design" describing Design Verification was retained as site specific amplification. See D17.3.2.2 1p

17.3.2.2 4p

Prior to the release of any QA Condition 1 design document, it is reviewed to assure coordination of disciplines. If the document clearly involves no coordination with the other disciplines, this review may be waived by the sponsor, with documented concurrence by the other disciplines.

17.3.2.2 5p

In order to assure proper interface control, the responsibilities of the various individuals/organizations involved in engineering changes are formally identified. The assignment of responsibility for the evaluation and design of a particular engineering change to a specific individual/organization is documented. Also, the written instructions addressing the

control of engineering changes address the communication of information between involved individuals/organizations and, where appropriate, require documentation of such communications.

17.3.2.2 5p

For each proposed engineering change, the individual/organization assigned responsibility for evaluation and design of the engineering change considers the following in the design of the engineering change:

a) Necessary design analyses, e.g., physics, stress, thermal, hydraulic, accident, etc.

b) Compatibility of materials.

c) Accessibility for operation, testing, maintenance, inservice inspection, etc.

d) Necessary installation and periodic inspections and tests, and acceptance criteria therefore.

e) The suitability of application of materials, parts, components, and processes that are essential to the function of the structure(s), system(s) and/or component(s) to be modified.

17.3.2.2 6p

Final approval prior to implementation of each station engineering ch Nuclear Station Manager or the Manager of Engineering; or for the Nuclear Station Manager by the Operations Superintendent, the Maintenance Superintendent, the Work Control Superintendent, or the On-Duty Emergency Coordinator as previously designated by the Nuclear Station Manager. Engineering changes are then executed in accordance with approved checklists, instructions, procedures, drawings, etc., appropriate to the nature of the work to be performed. These checklists, instructions, procedures, drawings, etc. include criteria for determining the acceptability of the engineering change.

17.3.2.2 7p

Errors and deficiencies noted in the design of an engineering change are corrected by means of an EC Revision. The control measures applied to each such EC Revision are equivalent to the control measures applied to the engineering change originally. Each EC Revision and the review and approval thereof, is documented.

17.3.2.2 8p

Prior to an engineering change being declared operable and returned to service, all procedures governing the operation of the engineering change are reviewed and revised as necessary. If the engineering change significantly alters the function, operating procedure, or operating equipment, then additional training is administered as necessary.

17.3.2.2 9p

Adequate identification and retrievable documentation of station engineering changes is retained for the life of the station.

Computer programs are controlled in accordance with appropriate department procedures whereby programs are certified to demonstrate their applicab

D17.3.2.2 - Retained as site specific.

17.3.2.3 Design Verification

17.3.2.3

During the check and review of design documents, particular emphasis is placed on assuring conformance with applicable codes, quality standards, SAR design commitments, and other design input. The individuals assigned to perform the check and review of a QA Condition 1 document have full authority to withhold approval of the document until every question concerning the work has been resolved. If required, the matter can be carried up to the Chief Nuclear Officer by individuals in Nuclear General Office or to the Site Vice President by individuals in Site Engineering for resolution. The checker verifies calculations by checking or by alternate computations. Analytical models, theories, examples, tables, codes, computer programs, etc., used as bases for design must be referenced in the design document and their

application verified during check and review. Model tests, when required, to adequacy of concept or design are reviewed and approved by the responsibl tests used for design verification must meet all the requirements of the desig Computer programs are controlled in accordance with the applicable QA Ma programs are certified to demonstrate their applicability and validity.

content retained in D17.3.2.3

Design verification may consist of reviews, alternate calculations, and/or qualification testing. Design reviews are intended to verify the correctness of design inputs, logic, calculations, and analyses. Calculations by alternate methods provide assurance that, for instance, computer codes are performing as expected, and that no systematic error in calculation procedures exists. Qualification testing, when suitable, is guided by DEC's adoption of various which deal with qualification testing. Qualification testing will simulate the conditions that are expected to be encountered. Design verification is performed by qualified individuals in accordance with approved procedures which identify the responsibilities, features and pertinent considerations to be verified such as verification method, design parameters, acceptance criteria, and documentation requirements. Design verification is required to be completed before relying on the item to perform its function and before its installation becomes irreversible. The use of the originator's immediate supervisor for verification is: 1) restricted and justified to special situations where the immediate supervisor is the only individual capable of performing the verification 2) the need is individually documented and approved in advance by the supervisor's management and 3) the frequency and effectiveness of the supervisor's use as design verifier are independently verified to guard against abuse.

17.3.2.3

17.3.2.2 10p

The individual/organization assigned responsibility for evaluation and design of a engineering change performs an evaluation of the proposed engineering change. This evaluation provides the bases for whether or not the engineering change requires a license amendment. This evaluation is reviewed by an individual/group other than the individual/group performing the evaluation, but who may be from the same organization as the individual/group which performed the evaluation. This evaluation and the review thereof are documented.

Following completion of design and evaluation of an engineering change, the responsible individual/organization summarizes the engineering change design and id documents and information required for engineering change implementat such items as:

content retained in D17.3.2.3

a) A description of the engineering change.

b) References utilized in the evaluation and design of the engine necessary for the implementation of the engineering change.

c) Special installation instructions.

d) Operational, test, maintenance and inspection requirements.

e) Materials, parts and components required in order to impleme change.

f) Drawings revised and/or requiring revision.

g) UFSAR revision(s) and/or Technical Specifications amendmer

17.3.2.2 10p

h) Whether or not the engineering change requires a license ame

The reviews of the proposed engineering change, including applicable implementing procedures associated therewith, certify that QA requirements have been met and determine inspection requirements prior to implementation of the engineering change. Engineering changes which

QATR section 17.3.2.4 was revised to present the description for procurement of nuclear safety related items prior to the description of procurement of commercial grade items and services. Content was edited to remove duplication. This section provided detailed overview that repeated many requirements of ANSI N45.2.11 and ANSI N45.2.13. The content retained in site specific D17.3.2.4 has been simplified and resequenced.

are determined to require a license amendment are reviewed by the PORC and must be authorized by the NRC prior to implementation.

17.3.2.4 Procurement Control

17.3.2.4 3p

The DEC QAP requires the control of QA Condition 1 items or services purchased from a supplier, subsupplier, or consultant through appropriate processes and specific procurement documents. Pertinent provisions of 10CFR50, Appendix B are applied to these organizations. If a supplier is providing commercial-grade calibration services and is accredited by a nationally-

17.3.2.4 6p

~~accrediting~~ body as described in Table 17-1 for Regulatory Guides 1.123 and 1.144, a documented review of the supplier's accreditation by the purchaser may be used in lieu of inspections or tests following delivery or in-process surveillances during performance of the service. This review shall include, at a minimum, all of the following:

1. The accreditation is to ANSI/ISO/IEC 17025.
2. The accrediting body is either National Voluntary Laboratory Accreditation Program (NVLAP) or an accrediting body recognized by NVLAP through an MRA. (NVLAP or American Association for Laboratory Accreditation (A2LA))
3. The published scope of accreditation for the calibration laboratory covers the needed measurement parameters, ranges, and uncertainties.

   Note: Well defined and documented measurement assurance techniques or uncertainty analysis may be used to verify the adequacy of the measurement process. If such techniques are not used, the collective uncertainty of the measurement standards shall not exceed 25% of the acceptable tolerance for each characteristic being calibrated. (This is typically referred to as the four-to-one ratio.)

Sentence reiterated applicability of Table 17-1 identified standards as QA Requirements

The QAP supplements appropriately the ASME Code QA r
guides listed in Table 17-1, with the clarifications or alterna

Procurement of QA items is to the quality program requirements in effect at the time of purchase.

17.3.2.4 2p 2s

Nuclear Generation is responsible for the technical qualification of suppliers and control of the initial procurement of all QA Condition 1 items and services. Procurement requirements/specifications are prepared, checked, and approved by appropriat
forwarded to the Nuclear Supply Chain division, who prepares an inquiry and fo
approved suppliers. NOS-Procurement Quality is responsible for qualification o
programs.

Content addressed in D17.3.2.4 1p

17.3.2.4 3p

QA Condition 1 material, equipment and services procured as basic components may only be procured from qualified suppliers. Supplier qualification is accomplished by an NOS-Procurement Quality evaluation of the supplier QA program. An audit or pre-award
performed by NOS-Procurement Quality when required. The audit or pre-award su
carried out in accordance with a comprehensive audit checklist to determine the ab
supplier QA program and manual(s) to meet applicable criteria of 10CFR50, Appen
ASME Code when required, and any other codes and standards determined to be ~~appropriate~~ for the prospective scope of supply. The audit or survey includes a review of the supplier QA program manuals. The audit team prepares a formal audit report which states whether or not the supplier is qualified to supply the specific items or services. The audit report is reviewed and approved or disapproved by the NOS-Procurement Quality manager. Approved suppliers of basic components will then be included on the Qualified Supplier List. Technical qualifications are determined by engineering personnel. Commercial qualification is determined

D17.3.2.4 2p and 3p address this content

by the Nuclear Supply Chain division following evaluation of bids from qualified suppliers. Bid evaluation includes evaluation of the technical, quality and commercial qualifications of the prospective suppliers.

When QA Condition 1 basic components and services are procured from a supplier whose quality performance has not been verified by audit, additional assurance of p D17.3.2.4 3p be obtained by supplier surveillance, inspection or test.

The Manager, NOS-Procurement Quality may place a supplier on the Qualifi following review, approval and acceptance of an audit performed by another utility or joint utility audit team. Review of such third party audits shall ensure that items to be procured are within the audit scope and any unique plant quality and technical requirements are adequately addressed by such audits.

NOS-Procurement Quality will perform a documented on-going evaluation of each supplier in order to maintain the supplier on the Qualified Suppli The on-going evaluation of suppliers is retained in D17.3.2.5 as site specific amplification. will take into account (1) review of supplier-furnished conformance, nonconformance notices, and correctiv verifications, audits, and receiving inspections, (3) operating experience of identical or similar products furnished by the same supplier, and (4) results of audits from other sources (e.g., customer, ASME, or NRC audits). The results of the evaluations will be reviewed and appropriate corrective action will be taken. Adverse findings resulting from these evaluations will be periodically reviewed in order to determine if, as a whole, they result in a significant condition adverse to quality and to provide input to support supplier audit activities conducted by the licensee or a third party auditing entity. Additionally, suppliers will be re-evaluated by means of an audit at least triennially, if initial approval was by audit or survey. The triennial audit requirement may be extended by 3 months, from 36 to 39 months, with written approval of the Manager, NOS-Procurement Quality. Extensions would be on an infr The supplier audits are addressed in 17.3.3.3.5 and D17.3.3.3.5. such as: accommodating manufacturing schedules, synchronizing wi allowing time for implementation of supplier QA program changes.

Materials, parts and components shall be procured to specified technical and quality D17.3.2.4 4p requirements at least equivalent to those applicable to the original equipment by a properly reviewed and approved revision. As required by the applicable documents, suppliers furnish documentation which identifies the material and purchased and the specific procurement requirements met by the items. Also the applicable purchase documents, suppliers will provide documentation which identifies any procurement requirements which have not been complied with, together with a description of any deviations and repair records.

17.3.2.4 5p

When QA Condition 1 products/services are not supplied as a basic component and meet the definition of commercial grade, the item may be procured without the performance of a supplier qualification audit or the existence of a documented supplier QA program. These commercial grade items used in QA Condition 1 applications require evaluation, dedication and approval by Nuclear Generation personnel. Supplier selection for commercial grade items is the responsibility of the responsible engineering personnel. These items are subject to the same verification and checking process for suitability of application as other QA Condition 1 items.

Critical characteristics for the dedication of Commercial Grade Items are determined by Procurement Engineering or Nuclear Supply Chain technical sponsors and approved by the responsible engineering personnel based on the manufacturer's publis D17.3.2.4 7p the intended safety function for the items. Critical characteristics used dedication of commercial grade items are selected to provide reasonal items will meet their catalog or manufacturer specifications and will pe

safety functions in the intended applications. Verification of critical characteristic acceptability will be by manufacturer/supplier survey, source verification, receipt tests or inspections, or post installation testing. Historical data, when documented, will represent industry wide experience.

If verification of a critical characteristic is to be by supplier survey, NOS-P responsible for verifying the acceptability of the supplier control of the ide characteristic.

D17.3.2.4 8p

17.3.2.4 2p

Procurement of materials, parts, components and services associated with QA Condition 1 structures, systems, and components is controlled during the operational life of the station so as to assure the suitability for their intended service and that the safety and reliability of the station are not compromised.

17.3.2.4 1p and 17.3.2.5 1p

Procurement information for material and services associated with QA Condition 1 structures, systems and components is identifiably designated as such. The procurement requirements applicable to each item are determined by a cognizant individual. This determination is reviewed by another cognizant individual who may be from the same organization as the individual/group making the determination. Procurement information must include or reference other documents such that sufficient information is fully identified to specify the items being procured. Subsequent to preparation, procurement information is approved by the Procurement Engineering or Nuclear Supply Chain manager or designee who is qualified by experience and training for the function.

Procurement information for QA Condition 1 materials, parts and components is reviewed to assure that QA, technical and regulatory requirements including supplier documentation requirements are adequately incorporated into the purchase document(s). Significant to the content of such purchasing information are reviewed and approved in a manner consistent with the original.

D17.3.2.4 6p

17.3.2.5 2p

Where necessary, procurement documents require that QA Condition 1 materials, parts, and components be acquired from suppliers determined to be acceptable by NOS-Procurement Quality – see Section 17.3.3.2.3.2, “NOS-Procurement Quality.” Determination of acceptability requires that a supplier provide DEC the right of access to the supplier's facilities and records for inspection and audit.

17.3.2.5 last paragraph

Except for some commercial grade items each shipment of items p r must be accompanied by a certificate of conformance (or equivalent) which identifies the applicable procurement documents and item(s). The certificate and supplier documentation specifies that the item meets the procurement requirements and includes repair records and a description of any deviations. This documentary evidence must be on site (any location under the QA Program) and all procurement, inspection, and testing requirements satisfied before the item is placed in service or used.

17.3.2.5 last paragraph

Nuclear Generation personnel will review and approve this docum n conformance with procurement requirements.

17.3.2.5 Procurement Verification

17.3.2.5

17.3.2.5 1p

The approved procurement documents along with all quality and technical requirements are provided to the supplier by Nuclear Supply Chain. Procurement information is provided to the NOS-Procurement Quality section and the receiving location.

17.3.2.5 2p

As required by procurement criteria, in order to assure that material and equipment are fabricated in accordance with applicable requirements, supplier review, audit and surveillance are performed by the NOS-Procurement Quality section. The review, audit and surveillance

may include witnessing of tests, observation of fabrication checkpoints, and documentation review. Evaluation of overall supplier performance is performed at intervals and to a depth consistent with the item's or service's importance to safety, complexity, and the quantity and frequency of procurement.

17.3.2.4 2p

Procedures are established which implement the surveillance program for suppliers. This assures that items and services procured for use in nuclear QA Condition 1 applications are in compliance with applicable procurement requirements/specifications.

These procedures provide for surveillance of those characteristics or processes to be witnessed, inspected or verified. Surveillance activities assure that the supplier cor all quality requirements outlined in the procurement document(s). The surveillance becomes a part of the NOS-Procurement Quality section files. The surveillance rep has the authority and responsibility to stop work when the required quality standards are not met.

D17.3.2.5 3p

17.3.2.5 3p

Upon receipt, QA Condition 1 materials, parts and components are placed in a controlled, designated area and are subjected to a receipt inspection. This inspection is intended to determine whether or not each item received conforms with applicable procurement requirements. Such inspections and the subsequent determination of conformance or nonconformance are documented by means of reports, which are retained on file and as appropriate, by tags attached to the items. Until a determination of conformance is made, a QA Condition 1 material, part or component cannot be placed in service.

17.3.2.6 Identification and Control of Items

Deleted - content addressed in 17.3.1.2.3 Departmental Interfaces

Control of materials, parts, and components at nuclear sites is the ultimate responsibility of the Chief Nuclear Officer with responsibilities delegated to Nuclear Supply Chain.

17.3.2.6 2p

Identification requirements for materials, parts and components important to nuclear safety are stated in specifications, drawings and purchase documents. Specific identification requirements are as follows:

D17.3.2.6 highlighted content retained as site specific.

a) Materials, parts, components, assemblies, and subassemblies shall be i either on the item or records traceable to the item to show that only corr received, issued and installed.

b) Some components, such as pressure vessels are identifiable by namepl required by applicable codes, or DEC specifications. Materials, parts, a components are traceable from such identification to a specific purchase manufacturer's records and to QA records and documentation.

c) When required by procurement documents, materials are identified by h lot numbers which are traceable to the original material at receipt. Upon unique tracking number is assigned to provide traceability. When sever assembled, a list of parts and corresponding numbers is included in the documentation.

d) When required by specifications or codes and standards, identification c equipment with the corresponding mill test reports, certifications and oth documentation is maintained throughout the life of the material or equip unique tracking number.

e) Sufficient precautions will be taken to preclude identifying materials in a will affect the function or quality of the item being identified.

Control of material, parts and components is governed by approved procedures. Specific control requirements include:

D17.3.2.6 highlighted content retained as site specific.

- Nonconforming or rejected materials, parts, or components are identified to assure that they will not be inadvertently used.
- The verification of correct identification of material, parts, and components is required prior to release for assembling, shipping and installation.
- Upon receipt, procedures require that materials, parts or components undergo a receipt inspection to assure they are properly identified and that the supporting documentation is available as required by the procurement requirements/specifications. Items having limited shelf or service life are identified and controlled.
- Each organization which performs an operation that results in a change in the material, part or component is required to make corresponding revisions and/or additions to the documentation record as applicable.

17.3.2.6 4p

QA receipt inspection, materials, parts and components which are determined to be e are assigned an identifying designation such as a unique tracking number in order to aceability of each item. This traceability is maintained for QA Condition 1 items. In the t the identification of an item becomes lost or illegible, the item is considered rming and not utilized until proper resolution of the nonconformance. When a d item is subdivided, each subdivision is identified in accordance with the above ents. Where physical identification of an item is impractical or insufficient, physical separation, administrative controls or other appropriate means are utilized.

17.3.2.7 Handling, Storage, and Shipping

17.3.2.7 1p 2p

The QAP requires that QA Condition 1 materials, parts and components be handled, stored, issued and shipped in such a manner that the serviceability and QA traceability of an item is not impaired. Handling, storage and shipping of an item is in accordance with any special requirements identified in documents pertaining to the item. Such requirements may include special handling tools and equipment, special protective coverings and/or special protective environments. Items are to be marked or labeled to preserve the item's integrity and indicate the need for any special controls. Procedures identify predetermined requirements for handling, preservation, storage, cleaning, packaging, issuing and shipping and are utilized by suitably trained individuals.

Conforming QA Condition 1 materials, parts and components are stored in controlled segregated areas designated for the storage of such items. Inspections and performed on a periodic basis to assure that recommended shelf life of cher and other consumable materials is not exceeded. Hazardous items are sto environments with controls to prevent contamination of QA Condition 1 stru components.

D17.3.2.7 Site specific

17.3.2.7 1p 2p

Nonconforming items are identified, segregated, or otherwise controlled (e.g. by a conditional release) in such a manner as to preclude their inadvertent substitution for and use as conforming materials parts and components.

17.3.2.8 Test Control

17.3.2.8 1p 2p

The QAP addresses both preoperational and periodic (surveillance) testing. The program requires that such testing associated with QA Condition 1 structures, systems and components

demonstrate that they will perform satisfactorily in service. Testing activities are accomplished in accordance with approved, written procedures. Testing schedules are provided and maintained in order to assure that all necessary testing is performed and properly evaluated on a timely basis.

Test controls include requirements on the review and approval of test procedures, and on the review and approval of changes to such procedures, as discussed in Section 17.3.2.1 "Document Control." Also, specific criteria are established with regard to procedure co Examples of items which must be considered in the preparation and review of procedu include:

D17.3.2.8 - Site Specific

a) References to material necessary in the preparation and performance of th procedure, including applicable design documents.

b) Tests which are required to be completed prior to, or concurrently with, the testing.

c) Special test equipment required to perform the specified testing.

d) Limits and precautions associated with the testing.

e) Station, unit and/or system status or conditions necessary to perform the s testing.

f) Criteria for evaluating the acceptability of the results of the specified testing compatible with any applicable design specifications.

Test procedures contain the following information or require this information be docum

a) Requirements and acceptance limits contained in applicable design and ve documents.

b) Instructions for performing the test.

c) Test prerequisites such as calibrated instrumentation, adequate test equipr instrumentation including their accuracy requirements, completeness of the be tested, suitable and controlled environmental conditions, and provisions collection and storage.

d) Mandatory inspection hold points.

e) Acceptance and rejection criteria.

f) Methods of documenting or recording test data and results.

g) Provisions to assure test prerequisites have been met.

Requirements are also established for verification of test completion and for determini acceptability of tests results. Test results are reviewed and accepted by the testing or and the organization responsible for the item being tested. In the event that test result meet test acceptance criteria, a review of the test, test procedure and/or test results is conducted to determine the cause, required corrective action, and retest as necessary

In addition to the above periodic testing, after maintenance to, or modification of, QA C 1 structures, systems and components, other post maintenance testing, post modificat testing, or functional verifications are performed and documented as required to verify satisfactory performance of the affected items. Post maintenance/modification functior verifications are not subject to the requirements of periodic testing described above be they are acceptable good industrial practices that are simple and straightforward. Inclu

these tests are such items as diesel generators, reactor control rod systems, and leak testing of appropriate pressure isolation valves.

17.3.2.9 Measuring and Test Equipment Control

17.3.2.9

The organizations performing QA Condition 1 work activities have the responsibility to assure the required accuracy of tools, gauges, instruments, radiation measuring equipment, non-destructive testing equipment and other measuring and test devices affecting the proper functioning of QA Condition 1 structures, systems and components and that a program of control and calibration for such devices is provided. This program includes the following:

a) Devices are assigned permanent, identifying designations.

b) Devices are calibrated at prescribed intervals, and/or prior to use, against certified equipment having known, valid relationships to nationally recognized standards. The calibration interval for a device is based on the applicable manufacturer's recommendations. If experience dictates that the manufacturer's recommendations are not appropriate, the calibration interval is changed as necessary.

c) Devices that have been acceptably calibrated are affixed, where practical, with a tag, or tags, showing the date of calibration, the date the next calibration is due, an indication that the device is within calibration specifications and the identification of the individual who was responsible for performing the calibration. When attaching tags is not practical, the devic[illegible] calibration records.

Item c partially retained as site specific - D17.3.2.9

d) Devices which fail to meet calibration specifications are affixed with a tag, or tags, showing the date of rejection, the reason for rejection and the identification of the individual rejecting the device. "Accepted" and "Rejected" calibration tags are sufficiently different to preclude confusion between them.

e) Items and processes determined to be acceptable based on measurements made with devices subsequently found to be out of calibration are re-evaluated.

f) Devices stored under conditions which are in accordance with, or more conservative than, the applicable manufacturer's recommendations.

g) Devices are issued under the control of responsible personnel so as to preclude unauthorized use.

h) Devices are shipped in a manner that is in accordance with, or more conservative than, the applicable manufacturer's recommendations.

i) Records are maintained on each device which identify such items as the device designation and the calibration frequency and specifications. Records are maintained to reflect current calibration status.

j) As a rule, the calibration program achieves a minimum ratio of 4-to-1 calibration standard accuracy to measuring and test equipment accuracy unless limited by the state of the art; however, when an accuracy ratio of less than 4-to-1 is utilized, an evaluation of the specific case is made and documented.

Installed instrumentation is subject to the requirements of the Technical Specification and is not subject to the tagging requirements discussed in (c) and (d) above. [illegible] verifies implementation of the calibration program through periodic [illegible]

D17.3.2.9 - Final two paragraphs retained as site specific.

The basis for this exception on the installed Technical Specification required equipment is the Preventive Maintenance Periodic Testing (PMPT) program. This is a computerized scheduling program that automatically schedules PMPT using model work orders. When devices have been acceptably calibrated, the clock starts for the next calibration due date. The indication that the device is within calibration specifications and identification of the individual who was responsible for performing the calibration is documented within the calibration procedure for the device. If the device fails to meet calibration specifications, it will be repaired, replaced and/or engineering involvement will be requested to further evaluate. The PMPT program along with the calibration procedures address all the requirements in Topical Report Sections 17.3.2.9 c and d listed above. Therefore, there is no need to place tags on the devices to identify the calibration status.

17.3.2.10 Inspection, Test, and Operating Status

17.3.2.10

In order to assure that equipment status is clearly evident, and to prevent inadvertent operation, the QAP requires QA Condition 1 structures, systems and components which are in an other than operable status to be identified as such. This identification may be means of tags, labels, stamps or other suitable methods. Where appropriate, an independent verification of the correct implementation of such identification measures is performed. When tags, labels or stamps are utilized for the identification of equipment status, the issuance and removal thereof is documented in order to assure proper control of such identification measures. Also, procedures require that the operability of an item removed from operation for maintenance or testing be verified prior to returning the item to normal service.

Inspections and tests required by the written approved procedures which address work activities are infrequently, temporarily deferred. When such a deferral does occur, a discrepancy is considered to exist and documentation of the acceptable completion of the is not performed until the discrepancy is resolved.

D17.3.2.10

Proposed tests and experiments which affect station nuclear safety and ar the Updated Final Safety Analysis Report or Technical Specifications shall approved in a manner identical to that used for station procedures as desc 17.3.2.14, “Document Control.” These proposed tests and experiments sh knowledgeable individual/organization other than the individual/organizatio proposed tests and experiments.

Measures taken to identify equipment inspection and test status by Nuclear Generation personnel are controlled by Nuclear Generation.

Adequately addressed in 17.3.2.10

17.3.2.11 Special Process Control

17.3.2.11 1p

The Nuclear Station Manager is responsible for directing the organization and performance of the station's program for the control of special processes, and for assuring the necessary qualified personnel are available.

17.3.2.11 2p Also 17.3.1.3 addresses manager's responsibility for qualified personnel.

Nuclear Generation is responsible for furnishing qualified documentation of NDE.

The QAP contains or references procedures for the contro welding, heat treating, NDE, coatings, crimping, and cleaning. The program requires that approved, written procedures, qualified in accordance with applicable codes and standards, be utilized when the performance of such processes affect Condition 1 structures, systems, and components. The

D17.3.2.11 - 1st and last sentence of paragraph retained as site specific.

documented evidence of acceptable accomplishment of spec
procedures, equipment, and personnel.

17.3.2.11 3p Also 17.3.1.3 addresses manager's responsibility for qualified personnel.

Personnel performing such activities must be qualified in acc
standards. Adequate documentation of personnel qualifications is required prior to performance of the applicable special process. NDE personnel are certified to required codes and standards.

17.3.2.12 Inspection

17.3.2.12 1p

In order to assure safe and reliable operation, a program of inspections for QA Condition 1 structures, systems, and components is established at each nuclear station. Inspection procedures for those activities affecting QA Condition 1 structures, systems and components are established by Nuclear Generation personnel.

Independent inspections, examinations, measurements, observations, or tests of materials products or activities are conducted, where necessary, to assure qu
processed material or products is impossible or disadvantageous, ir g
processing methods, equipment, and personnel is provided. Both inspection and process monitoring are provided when control is inadequate without both.

D17.3.2.12

17.3.2.12 3p

Inspection procedures, instructions, and checklists contain the following information or require this information on inspection reports:

a) Characteristics to be inspected
b) Method of inspection
c) Measuring and test equipment information
d) Responsibility for the inspection
e) Acceptance or rejection criteria
f) Identification of required procedures, drawings, specifications, etc.
g) Signature or initials of inspector
h) Record of results of the inspection

Items c) and f) retained as site specific D17.3.2.12.

The personnel performing these inspections are examined and certified in their particular category. Current qualification and certification files are maintained for each inspector. NDE inspectors are certified in accordance with required codes and standards (
Regulatory Guide 1.58). Written procedures require the test and certificati
other categories such as Mechanical, Electrical, and Structural as describe
QA manual. For cases where inspectors will perform limited functions with
are tested and certified to those limitations. These inspectors are only allo
inspections specifically defined in this limited certification.

D17.3.2.12

For inspections of concrete containments, personnel fulfilling the role of Re
shall be a Registered Professional Engineer experienced in evaluating the
of structural concrete and knowledgeable of the design and construction c
criteria used in the design and construction of the concrete containment st
Responsible Engineer may also perform inspections as discussed in this section.

Certification procedures and certifications are approved by Nuclear Generation personnel responsible for these processes. These procedures comply with the requirements of applicable codes and standards.

17.3.2.12 2p

The inspection criteria for performing inspections are established from and standards applicable to the activity. Examples of activities subject

a) Activities specified by the ASME Code Section XI
b) Special processes
c) Modifications
d) Maintenance
e) Material Receipt

Inspection requirements for maintenance or engineering changes are equivalent to the original design and inspection requirements, or acceptable alternatives. Mandatory inspection hold points are included in the documents addressing the activities being performed, as necessary, and work does not proceed beyond such hold points until satisfactory completion of the required inspection, disposition of any item not meeting the acceptance criteria, and any required reinspection.

After inspection data is collected and reviewed by the inspector, the re reviewed by personnel designated to perform that QA function.

Inspection activities involving the supplier QAP are evaluated and appr Procurement Quality.

17.3.2.13 Corrective Action

Station personnel are responsible for the implementation of the QAP as it pertains to the performance of their activities. Specific to this responsibility is the requirement for informing the responsible supervisory personnel and/or for taking appropriate corrective action whenever any deficiency in the implementation of the requirements of the program is dete

Procedures require that conditions adverse to quality be corrected. In the case of significant conditions adverse to quality, the procedures assure that the cause of the condition is determined and action be taken to preclude repetition. Performance and verificatio are to:

a) Identify conditions that are adverse to quality.
b) Suggest, recommend, or provide solutions to the problems as appropria
c) Verify resolution of the issue.

Additionally, performance and verification personnel are to ensure that reworked, re replacement items are to be inspected and tested in accordance with the original in test requirements or specified alternatives.

For significant incidents occurring during operation where a safety limit is exceeded, or which could otherwise be related to the nuclear safety of the station, the Site Vice Pres notified and reports are generated. These reports:

a) Contain a summary description of the circumstances and information subject incident.
b) Contain an evaluation of the effects of the incident.
c) Describe corrective action taken or recommended as a result of the i

D17.3.2.12

17.3.2.12 6p

17.3.2.12 4p

D17.3.2.12

17.3.2.13 1p

17.3.2.13 2p

D17.3.2.13 Retained as site specific amplification.

D17.3.4.7, Reportable Event Action

d) Describe, analyze and evaluate any significant QA Condition 1 implications of the incident.

D17.3.4.7, Reportable Event Action

Such reports shall be reviewed by the Nuclear Station Manager (or for the Nuclear Manager by: 1) the Operations Superintendent, 2) the Maintenance Superintendent Work Control Superintendent, as previously designated by the Nuclear Station Man approved by the Manager, Safety Assurance. Such reports shall be provided to the President, the PORC, the NSRB, and the NRC as required by applicable regulation Outstanding corrective action commitments made with regard to such incidents are and periodically reviewed to assure that the identified corrective actions are properl and documented. An identified corrective action commitment is closed out upon wr notification by a cognizant, responsible individual or other written documentation, of satisfactory completion thereof. Closure of corrective action commitments which sp involve other Department(s) require written notification by the other Department(s) satisfactory completion thereof.

All violations of Technical Specifications, safety limit violations, and all other reporta shall be investigated and a report prepared which evaluates the occurrence and wh recommendations to prevent recurrence. Such reports and other special reviews a investigations shall be reviewed by a knowledgeable individual/organization other th individual/organization which prepared the report. Reports of safety limit violations reviewed by the Nuclear Station Manager and the Operations Superintendent. A knowledgeable individual/organization shall review every unplanned onsite release radioactive material to the environs and prepare reports covering evaluation, recom and disposition of the corrective action to prevent recurrence. All special reviews a investigations, and the preparation of reports thereon, shall be performed by a know individual/organization.

Electronic processes are used to track, trend, and to facilitate in the resolution of site Additionally, these electronic processes are used to measure and classify nuclear pe Identified problems are considered for generic implications. Monthly reports are proc electronically and are also provided directly to senior management and the NSRB.

D17.3.2.13

17.3.2.13 2p, 3p

Discrepancies revealed during the performance of station operation, maintenance, inspection and testing activities must be resolved prior to verification of the completion of the activity being performed. In the event of a significant malfunction of QA Condition 1 structures, systems, and components, the cause of the failure is evaluated and appropriate corrective action taken. Items of the same type are evaluated to determine whether or not they can be expected to continue to function in an appropriate manner. This evaluation is documented in accordance with applicable procedures.

QA Condition 1 materials, parts and components which are determined to be nonconforming are identified, segregated or otherwise controlled (e.g. by a conditional release) in such a as to preclude their inadvertent substitution for and use as conforming materials, parts components. The determination of an item's nonconformance is documented and is r file by Nuclear Generation and, as appropriate, by tags attached to the item. Nuclear Generation personnel are notified of any nonconformances identified in accordance w approved procedures.

D17.3.2.13

Nuclear Generation maintains a listing of the status of all nonconformance documents reports, when complete, identify the nonconforming material, part or component; appli inspection requirements; and the resolution, and approval thereof, of the nonconforma Provisions are established for identifying those personnel with the responsibility and a for approving the resolution of nonconformances. Until a determination of conformance is

made, a QA Condition 1 material, part or component cannot be placed in service. Ta
are placed on items to identify nonconformances are removed upon resolution.

Information relating to nonconforming materials, parts and components is analyzed b
Assurance to determine if any discernible trends which might affect quality exist. Wh
recurring nonconformances indicate possible supplier deficiencies, such information i
considered in evaluation of supplier acceptability by NOS-Procurement Quality.

Significant trends will be/are reported to appropriate levels of management.

D17.3.2.13

17.3.2.13 4p

17.3.2.14 Document Control

The policies and instructions governing activities associated with DEC's nuclear stations are
contained in appropriately controlled manuals, which identify the
performing these activities. These activities include measures t
documents such as, instructions, procedures, and drawings, an
prescribe all activities affecting quality. As identified in Sections
documents are developed and approved by the organization res
documents are controlled documents distributed electronically a
indices.

17.3.1.1, 17.3.1.3 and 17.3.2.1 establish that the QA Program is implemented through controlled documents approved by responsible management.

17.3.2.14 4p 5p

The station Facility Operating License and Technical Specifications are considered NRC controlled documents and are distributed within DEC by appropriately authorized personnel under the cognizance of the site manager responsible for regulatory affairs. Proposed changes to the station Facility Operating License or Technical Specifications shall be prepared in accordance with appropriate administrative controls by a knowledgeable individual/organization. Each proposed change shall be reviewed by a knowledgeable individual/organization other than the individual/organization that prepared the proposed change. Proposed changes to the station Facility Operating License and Technical Specifications shall be approved by the Nuclear Station Manager, or for the Nuclear Station Manager by a designated manager or corporate officer. Submittal cover letters for proposed changes to the station Facility Operating License and Technical Specifications shall be signed by an officer of Duke Energy Carolinas.

The Safety Analysis Reports are considered controlled documents an
letter from the Site Vice President or his designee.

17.3.2.14 5p

ver

The controlled policies and procedures, including the manuals listed be
requirements for the development, review, approval, issue, control, and use of manuals and procedures to implement the requirements contained within the Topical Report.

17.3.2.14 4p

The controlled policies and procedures also provide the governing procedures for the NOS organization, the PORC and the NSRB. The procedures governing NOS and the NSRB
activities are approved by the executive responsible for Nuclear Oversigh
responsibility of the Site Vice Presidents or designee.

This content addresses procedures that are subsets of the controlled policies and procedures - see 17.3.2.14 4p

The Nuclear Supply Chain Process Manual contains the policies and pro
nuclear procurement and supplier qualification. This manual imposes re
departments involved with procurement. This manual is controlled by int
Nuclear Supply Chain.

With regard to specific operational activities associated with QA Conditio
and components, it is required that such activities be accomplished in ac
procedures, instructions, drawings, and checklists, appropriate to the nat
being performed. As necessary, such documents identify equipment necessary to perform an activity, specify conditions which must exist prior to and during performance of an activity, and

include quantitative and/or qualitative acceptance criteria, compatible with a
specifications, for determining that the activity addressed is satisfactorily ac
the procedure will require independent verification by qualified personnel of the performance of
specific procedural steps. Examples of documents established concerning quality related
operational activities are:

17.3.2.14 Final Paragraph and list.

a) Preoperational Test Procedures
b) Periodic Test Procedures
c) Operating Procedures
d) Emergency Procedures
e) Maintenance Procedures
f) Instrument Procedures
g) Radiation Protection Procedures
h) Alarm Responses
i) Chemistry Procedures
j) Process Control Program Implementing Procedures
k) PORC Implementing Procedures
l) Abnormal Procedures
m) Emergency Response Procedures

Item a) deleted as it no longer is within scope of the operating fleet QA Program.

Procedures are reviewed for adequacy based upon: lessons learned from normal use, audits
unusual incidents (such as an accident, unexpected transient, significant ope
equipment malfunction), station engineering changes, the operating experien
cause analysis, or the corrective action program. The frequency of review for
Procedures, Emergency Procedures, and Emergency Response Procedures
six years. Procedures that have not been used for six years shall be reviewe
determine if changes are necessary or desirable. Reviews of procedures can
in several ways, including (but not necessarily limited to) documented step-b
procedure (such as occurs when the procedure has a step-by-step checkoff
or detailed scrutiny of the procedure as part of a documented training progra
exercise, or other such activity. A revision of a procedure can constitute a pr

Content replaced with administrative controls from implementation of the Robinson exception to ANSI N18.7 2 year procedure review requirement.

A knowledgeable individual/organization shall review changes to the Process Control Program,
Offsite Dose Calculation Manual, radiological effluent controls of the UFSAR, and radwaste
treatment systems. A knowledgeable individual/organization shall review
Program and implementing procedures. Changes to the Offsite Dose Cal
be reviewed for acceptability by either the Radiation Protection Manager o
Manager.

17.3.2.14 requires procedures for review, approval and issuance of controlled documents.

In addition to the above, files of drawings and supplier documents applicable to the station's
structures, systems and components are maintained at each nuclear station and are utilized, as
appropriate, in the performance of quality related activities.

17.3.2.14 2p

Station procedures which address activities associated with QA Condition 1 structures, systems
and components are subjected to a well-defined and established prep
approval process. This process includes the requirement that proced
knowledgeable individual/organization. This process also includes th
procedure be reviewed for adequacy by an individual/organization oth

Content repeats basic review and approval requirements for additional procedures.

individual/organization which prepared the procedure. As appropriate, such procedures are also reviewed by personnel from the Nuclear General Office, by other departments within the Corporation, by the NSRB, or by vendor personnel. Individuals responsibl reviews and reviews of changes to the radiological effluent controls of the accordance with this Section shall have been previously designated by the or direct reports, or Site Vice President or direct reports to perform such re minimum a high school diploma or equivalent and four years of technical experience. Review of environmental radiological analysis procedures shall be performed by the manager of the environmental laboratory, or designee. Each such review shall include a determination of whether or not additional, cross-disciplinary, review is necessary. If deemed necessary, such review shall be performed by the appropriate designated review personnel. Reviews performed in accordance with this Section shall be documented. Approvals shall be by the Site Vice President or his/her direct reports or one of their designees. Each procedure and changes thereto, shall be reviewed and approved prior to implementation. Temporary changes to procedures may be made provided: a) the intent of the original procedure is r the change is approved by two members of the plant management staff, at le holds a Senior Reactor Operator License on the affected unit; and c) the char an appropriate division manager, superintendent/manager, or one of their des reports within 14 days of implementation. For procedures which implement c environmental, technical, and laboratory activities, the above approval may b manager of the environmental laboratory, or designee. Maintenance, instrum modification procedures are reviewed by cognizant station personnel to deter inspections. Procedures developed and implemented for inspection identify the certifications, inspection methods, acceptance criteria, and provide means for documenting inspection results.

Content repeats basic review and approval requirements for additional procedures.

D17.3.2.14 3p addresses requirements for temporary changes to procedures.

In the case of station activities of a non-recurring nature, e.g., preoperational tests, only an original copy of an approved procedure is available for use. Such copies are controlled and are replaced whenever the procedure is superseded by a new issue. For activities which are of a recurring nature, e.g., surveillance testing, current original copies of approved procedures are maintained in a controlled manner. Copies of these original copies are then utilized in the performance of work activities. When such "working copies" involve the documentation of compliance with acceptance criteria contained in the procedure, the "working copy" of the procedure utilized is compared with the applicable original copy to assure validity. Station procedures administratively control and provide means to document this comparison. Such completed procedures are retained - See Section 17.3.2.15, “Records.” When recurring work activities do not involve documentation of compliance with acceptance criteria within the procedure, e.g., certain operating activities, issuance of the applicable "working copies" is controlled to assure that only current copies are available for use.

Drawings and supplier documents, as-built drawings and changes thereto, are normally received from Engineering for distribution and use. Distribution indices are established and utilized for such documents within each station in order to assure their proper distribution and use. A master file of drawings is maintained and a master index, updated regularly, is used to identify drawings, revisions, number of copies, and distribution. Design and procurement documents are maintained, controlled, and are updated, as necessary, by Engineering. As documents are received from Engineering all superseded copies shall be destroyed or clearly marked superseded.

A master copy of all controlled documents is maintained in the document control area of each station. Copies of controlled documents are distributed by station document control personnel utilizing a distribution index to assure proper distribution and use. Station line organizations may maintain the index of records for technical procedures under their organizational

responsibility. These station line organizations may directly issue control copies without issuance directly from Document Control personnel. Document Control personnel will review the index of records periodically for station line organizations that maintain an index and issue control documents in this manner. Controlled documents may also be provided to station personnel by use of an electronic medium. Reviews are performed regularly and documented to assure proper functioning of the control system.

17.3.2.15 Records

Each nuclear station is required to maintain adequate identifiab
Records may be stored in electronic media provided that the pr
data is documented in procedures that comply with applicable r
retention of records include (but are not limited to): microform, c
and magnetic media including videotape, computer tape, optica
Electronic records retention must be an integral component of t
approved by the management position responsible for Nuclear
The format used must be capable of producing legible, accurat
during the required retention period. Electronic approval and a
established to assure that only those persons authorized grant

Addressed in revised section, which incorporates and expands on the description of use of electronic media for storage and retrieval of QA Records.

Such records are managed in a controlled and systematic man
File Index. Access to, and use of, this file is controlled. Some r
generated by the Nuclear General Office and are retained at one of the nuclear stations.
Records required to be retained include:

a) QA Condition 1 preoperational testing records.
b) Records of engineering changes to station QA Condition 1 components described in the Updated Final Safety Analysi
c) Radiation monitoring records, including records of radiation surveys.
d) Personnel radiation exposure records.
e) Records of radioactive releases, shipments, and waste disp
f) Isotopic and physical inventory records of special nuclear r
g) Records of the qualifications, experience and training of ap personnel.
h) Current calibrations for measuring and test devices.
i) Copies of approved purchasing documents for items requir
j) Maintenance histories on QA Condition 1 instrumentation a and civil structures, systems, and components.
k) Records of special processes affecting QA Condition 1 stru components.
l) Copies of purchase specifications.
m) Operating records and logbooks covering time interval at e switchboard record, reactor operator logbook, and shift sup
n) Periodic testing records.

Listing of typical records is consolidated to remove redundancy that resulted from partial identification of records by the originating organization.

o) Records of inspections.

p) Copies of approved and of completed station procedures, and
including review and approval documentation.

q) Copies of audit reports received from the NOS-Audit section, a

r) Copies of drawings, design specifications, calculations, desig
documents.

s) Copies of reports of all reportable and other significant events.

t) Records of in-service inspections.

u) Records of quality control inspections.

v) Records such as vendor documentation packages and inspec
isometric drawings, welding records, etc. compiled during the
construction of a nuclear station.

w) Records of the qualifications of quality control and other appro

x) Records of off-site environmental surveys.

y) Records of special reactor tests or experiments.

z) Records of environmental qualification.

aa) Records of the service life of all snubbers, including the date a
life commences and associated installation and maintenance

ab) Records of the reviews performed for changes made to the Pr
Program, Offsite Dose Calculation Manual, and Radwaste Tre

ac) By-product material inventory records.

ad) Radioactive liquid effluent, gaseous effluent, and gaseous pro
instrumentation alarm/trip setpoints.

ae) Records of sealed source and fission detector leak tests and r

af) Records of annual physical inventory of all sealed source mat

ag) Records of new and irradiated fuel inventory, fuel transfers, ar
histories.

ah) Records of review performed for changes made to procedures
station structures, systems, and components; or reviews of tes
pursuant to 10CFR50.59.

ai) Records of secondary water sampling and water quality.

aj) Records of analyses required by the Radiological Environmen
that would permit evaluation of the accuracy of the analysis at
should include procedures effective at specified times and QA
these procedures were followed.

ak) Records of component cyclic or transient limits established for
system, reactor vessel, and secondary coolant system.

al) Records of reviews performed for changes made to Radiologic

Listing of typical records is consolidated to remove redundancy that resulted from partial identification of records by the originating organization.

am) Records of reviews performed on the Fire Protection Program procedures.

an) Calibration standard records and Measuring and Test Equipme calibration records.

Test, inspection, and NDE records for QA Condition 1 structures, systems, maintained by the station and contain the following:

a) A description of the activity performed.

b) The date and results of the activity.

c) Information relating to discrepancies identified with regard to the

d) An identification of the data recorder(s) or inspector(s) involved

e) Evidence of the completion, and verification thereof, of the activ

f) An identification of the acceptability of the results of the activity.

Records of activities within the purview of the NSRB are maintained. Thes

a) NSRB meeting minutes.

b) Audit reports for audits conducted under the cognizance of the N

Records of activities within the purview of NOS-Performance are maintaine include:

a) Records of assessments performed on station activities.

b) Records of special reviews and investigations.

c) Copies of special reports.

Records of activities within the purview of the PORC are maintained. Thes the meetings of the PORC for each site. These records include:

a) Identification of the chairperson for each meeting.

b) A listing of the PORC members present at each meeting.

c) A listing of others present at each meeting.

d) A summary of the items/issue(s) discussed during each meeting

e) The decisions/approvals reached by the PORC during each me

Records of activities within the purview of the Nuclear General Office are m records include:

a) Supplier audit reports and surveillances.

b) Audit reports of Duke Energy Corporation activities.

c) Audit and Supplier personnel qualification records.

d) NDE inspection personnel certification records.

e) Laboratory QA records.

Records for major station projects will be maintained at that station as appr records include:

a) Copies of procurement documents.

Listing of typical records is consolidated to remove redundancy that resulted from partial identification of records by the originating organization.

b) Copies of vendor documents.

Listing of typical records is consolidated to remove redundancy that resulted from partial identification of records by the originating organization.

Records of activities within the purview of the department interfaci
maintained by these departments in a manner similar to that desc
records or transferred to the station, as appropriate. These record

a) Laboratory QA records.
b) Environmental records.
c) Software requirements.
d) Software test plans.
e) Software test results.
f) Program/Module specifications and source codes.

Dry cask storage records pertaining to the design, fabrication, ere
and use of structures, systems, and components important to safe
the NRC terminates the license or Certificate of Compliance.

17.3.2.15

The retention times for the various QA records are in accordance with corporate retention policies. The development of these retention policies includes applicable requirements, including those of the Code of Federal Regulations, a station's Technical Specifications, established national codes and standards, and regulatory guidance as listed in Table 17-1. To the maximum extent practicable, records are stored such that they are protected from possible destruction by causes such as fire, flooding, theft, insects and rodents and from possible deterioration due to a combination of extreme variations in temperature and humidity conditions.

Record storage areas shall be evaluated by a qualified Fire Protection Engineer to assure the records are adequately protected from damage. The evaluation shall include
considerations as a minimum:

D17.3.2.15

a) Structural collapse.
b) Unprotected steel (suspended floor slab or roof).
c) Fire frequency of similar occupancies.
d) Quantities of combustible materials.
e) Ceiling height/Room configuration which would contribute to heat
f) Fire detection.
g) Fixed fire suppression systems.
h) On-site fire fighting organizations including available equipment.

This evaluation shall be documented for each record storage area (includes
locations).

17.3.3 SELF ASSESSMENT

17.3.3.1 Methodology

17.3.3.1

The Self-Assessment process encompasses internal and corporate audits, independent review committee activities, in-plant reviews, and other independent assessments. This process is to

confirm to management that activities affecting quality comply with the QAP and that the QAP has been implemented effectively. The assessment activities are performed in accordance with instructions and procedures by organizations independent of the areas being assessed. Organizations performing self-assessment activities are technically and performance oriented, with the primary focus on the quality of the end product and a secondary focus on procedures and processes.

Section retitled Independent Review

17.3.3.2 Assessment

17.3.3.2.1 Nuclear Safety Review Board

D17.3.3.2.1 Off-Site Independent Review Committee

The Chief Nuclear Officer appoints a Nuclea
nuclear safety review and audit backup to the normal operating organization.

The NSRB shall function to ensure independent review and audit of designated activities in the areas of: nuclear power plant operations, nuclear engineering, chemistry and radiochemistry, metallurgy, instrumentation and control, radiological safety, mechanical and electrical engineering, and administrative control and QA practices.

The Chair, members, and alternate members of the NSRB are appointed in writing by the Chief Nuclear Officer and shall have an academic degree in an engineering or physical science field; and in addition, shall have a minimum of 5 years
years shall be in one or more of the above area
without an academic degree in engineering or p
minimum of ten years experience in one of the above areas. The NSRB shall be composed of at least five members including the Chair, which constitutes a quorum. Alternate Chair/Members may replace Regular Members as necessary. Members of the NSRB may be from the Nuclear Generation, from other departments within the Corporation, or from external to the Corporation. A maximum of one member of the NSRB may be from the nuclear site staff for which a review is being conducted. Consultants shall be utilized as determined by the NSRB Chair to provide expert advice to the NSRB. Staff assistance may be provided to the NSRB in order to promote the proper, timely, and expeditious performance of its functions.

Highlighted text deleted - it duplicates ANSI N18-1 requirements.

The NSRB shall meet at least twice per calendar year. The NSRB shall ensure independent reviews of and provide oversight for the following items:

a) The evaluations for: (1) changes to procedures, equipment, or systems, and (2) tests or experiments completed under the provision of 10CFR50.59 to verify that such actions did not require a license amendment pursuant to 10CFR50.90;

b) Onsite safety review function (PORC).

c) Review reports that describe violations of Codes, regulations, orders, Technical Specifications, license requirements, or of internal procedures or instructions having nuclear safety significance;

d) Review reports that describe significant operating abnormalities or deviations from normal and expected performance of unit equipment that affect nuclear safety;

e) Review reports that describe reportable events;

f) Review reports that describe all recognized indications of an unanticipated deficiency in some aspect of design or operation of structures, systems or components that could affect nuclear safety; and

g) Review reports that describe QAP audits relating to station operations and actions taken in response to these audits.

Reviews may be conducted by an organizational unit, subgroup, or member of the NSRB. In either case the review body will collectively have requisite knowledge, experience, and competence to perform reviews in the above areas. Organizations/individuals/groups conducting these reviews will functionally report to the Chair of the NSRB.

The NSRB shall report to and advise the Chief Nuclear Officer on those areas of responsibility specified in Items (a) through (g) above.

Minutes of each NSRB meeting where a quorum is required to be present, shall be prepared, approved, and forwarded to the Chief Nuclear Officer and to the Site Vice Presidents within 30 days following each meeting.

17.3.3.2.2 Plant Operations Review Committee D17.3.3.2.2 On-Site review Committee

Each Site Vice President appoints a Plant Operations Review Committee (PORC) to review selected nuclear safety related issues. The PORC is composed of specified senior members of the site management team most responsible for the safe and reliable operation of the station. The PORC also reviews corrective actions for specified reportable events. The PORC shall review and recommend approval of items requiring NRC approval prior to station approval for implementation. The reviews shall include:

a) Proposed changes to procedures, equipment or systems which when evaluated under the provisions of 10CFR50.59 require a license amendment pursuant to 10CFR50.90;

b) Proposed tests or experiments which involve a license amendment pursuant to 10CFR50.90 as defined in 10CFR50.59; and

c) Proposed changes to the stations' Facility Operating Licenses, including Technical Specifications prior to implementation except in those cases where the change is identified to a previously proposed change.

In discharging its independent review responsibilities, PORC shall keep safety considerations paramount when opposed to cost or schedule considerations. Should a voting member have direct responsibility for the preparation or technical review of the item requiring PORC independent review, where a conflict of such considerations is likely, that member shall be replaced (to fill the quorum) by another voting member.

In discharging its independent review responsibilities the PORC shall provide meeting minutes that include a detailed description of items reviewed, key discussion points with questions/responses, and recommendation, including the basis for the determination made.

17.3.3.2.3 Independent Nuclear Oversight 17.3.3.3 Independent Assessment

The NOS executive provides guidance and support to section managers for the following functions: NOS-Audit, NOS-Procurement Quality, NOS-Inspection, and NOS-Performance. Responsibilities for NOS-Inspection, described in Section 17.3.2.12 with the other functions described below.

17.3.3.2.3.1 NOS-Audit 17.3.3.3.3 1p

The DEC QAP requires a comprehensive system of planned and periodic internal audits for all phases of station operations and supporting activities. 17.3.3.3.3 2p, 3p

All organizational units conducting QA activities are evaluated with a system of audits. These audits are performed to determine the effective implementation of all applicable criteria of 10CFR 50, Appendix B. Periodic audits of activities or records of processes (e.g., welding, maintenance, development of design, record management, or system testing), to verify

compliance and effectiveness of the implementation of the QAP are performed. Internal audits are initiated under the direction of the NOS-Audit manager. The NOS executive may initiate special audits or expand upon the scope of an existing audit. The scope of each audit is determined by the responsible Lead Auditor, under the direction of the NOS-Audit manager. Additionally, the scope of audits performed under the cognizance of the NSRB is reviewed by the NSRB staff. The lead auditor directs the audit team in developing checklists, instructions, plans and in the performance of the audit. The audit shall be conducted in accordance with checklists; the scope may be expanded upon by the audit team [illegible] or more persons comprise an audit team, one of whom shall be [illegible].

17.3.3.3.3 4p

Audits of site activities sh[illegible] These audits shall encompass:

Audit reports are sent to the off-site review committee. Highlighted sentence not needed.

a) The conformance of each nuclear unit's operation to provisions contained within the Technical Specifications and applicable Facility Operating License conditions;

b) The performance, training, and qualifications of the entire station staff;

c) The results of actions taken to correct deficiencies occurring in unit equipment, structures, systems, or method of operation that affect nuclear safety;

d) The performance of activities required by the QAP to meet the criteria of 10CFR50, Appendix B;

e) The Emergency Plan and implementing procedures;

f) The Security Plan and implementing procedures;

17.3.3.3.3 list, 17.3.3.3.3.1, and 17.3.3.3.3.2 cover this list of audit subjects (items g, h, and l are addressed Site Specific.

g) The Facility Fire Protection programmatic controls inclu[illegible] procedures;

D17.3.3.3.3.2 address items g and h

h) The fire protection equipment and program implementat[illegible]ed offsite license fire protection engineer or an outside inde[illegible] consultant. An outside independent fire protection consultant shall be used at least every third year;

i) The Radiological Environmental Monitoring Program and the results thereof;

j) The Offsite Dose Calculation Manual and implementing procedures;

k) The Process Control Program and implementing procedures for Solidification of radioactive wastes;

l) The performance of effluent and environmental monitoring activiti[illegible]

D17.3.3.3.3

m) Any other area of site operation considered appropriate by the NSRB or the Chief Nuclear Officer;

n) The acceptability of a representative sample of station procedures, including the effectiveness of the procedure review and revision program.

17.3.3.3.3 2p

Audits of selected aspects of operational phase activities are performed with a frequency commensurate with safety significance and in such a manner as to assure that an audit of all QA Condition 1 functions is completed within a period of two (2) years. Except when the audit frequency is specified by regulation, the following criteria for extending audit intervals apply:

1) Schedules shall be based on the month in which the audit starts.

17.3.3.3.7

2) A maximum extension not to exceed 25 percent of the audit interval shall be allowed (e.g., audits on a two year frequency shall not be extended beyond 30 months, audits on an annual frequency shall not be extended beyond 15 months).

3) When an audit interval extension greater than one month is used, the next audit for that particular audit area shall be scheduled from the original anniversary month rather than from the month of the extended audit.

The audit system is reviewed periodically and revised as necessary to assure coverage commensurate with current and planned activities.

17.3.3.3.4 and ANSI N45.2.12

The audit team concludes with a post-audit conference between the [illegible]sible management. The conference includes a brief discussion of audit results, including any deficiencies and recommendations. The audit results are documented in a report.

Within thirty (30) days of the post-audit conference, a report is issued to the responsible management with copies sent to the Vice President of the audited Site or department, the Chief Nuclear Officer and other management as appropriate.

Within thirty days after receipt of the audit report, responsible management replies in writing to the NOS-Audit manager, describing corrective action and an implementation schedule. The established electronic corrective action process may be used to convey this information. When necessary, after receipt of the management reply, a re-evaluation is made to verify implementation of corrective action. This re-evaluation is documented. The audit is closed with a letter to audit management. All pertinent correspondence, checklists, and reports related to the audit are filed.

Audit data are analyzed and the resulting reports on the effectiveness of the QAP, including any quality problems, are reported to management for review and assessment through periodic performance trend summaries. This data is also used to modify the audit schedule as necessary to assess potential weaknesses.

17.3.3.3.5

17.3.3.2.3.2 NOS-Procurement Quality

Supplier QA programs are evaluated and monitored by NOS-Procurement, to assure that QA requirements are met. Supplier QA programs require a system of periodic and planned supplier and sub-supplier audits conducted by persons not directly involved in the activity being audited.

DEC assures that supplier QA programs provide for surveillance, evaluation and approval of sub-supplier supplying items and services. This assurance is accomplis[illegible] supplier audits of sub-supplier as part of the pre-bid audit, by making sup[illegible] supplier work a criterion for supplier approval or disapproval, and by mak[illegible] surveillance of sub-supplier a requirement of the purchase requisition.

2p retained as site specific in D17.3.3.3.5

The NOS-Procurement Quality maintains surveillance and performs audits on suppliers' QA programs including the activities of their suppliers and sub-suppliers, to assure that operations are in compliance with specified QA requirements. In the case of an audit of a supplier, any deficiencies noted by the auditor are clearly outlined in writing and given to the supplier's QA organization, which takes appropriate steps to resolve the deficiencies.

A re-audit is performed, if appropriate, to verify the implementation of the corrective action.

17.3.3.3.2

17.3.3.2.3.3 NOS-Performance

NOS-Performance conducts assessments, observations or surveillances of specific activities, and processes on the basis of their impact and importance relative to safety. Assessments can be focused on areas most in need of improvement. An annual assessment of PORC

effectiveness shall be conducted at each site by NOS-Performance and the results shall be reported to appropriate management and the NSRB.

A documented plan or agenda identifies an assessment scope, requirements, assessment personnel, activities to be evaluated, organizations to be notified, applicable documents, and schedule.

An annual schedule for assessment activities at each nuclear site shall be established by NOS-Performance personnel and approved by the NOS-Performance manager. This schedule should be reviewed every six months to adjust for emerging trends and major changes in processes, procedures or personnel.
Experienced and qualified personnel perform assessments and are familiar with written procedures, standards, and processes applicable to the area being evaluated.
NOS-Performance personnel shall have sufficient authority to make the assessment process meaningful and effective and shall not have direct responsibilities in the areas to be assessed. They shall have access to plant activities and records necessary to fulfill their function.
An assessment team leader shall organize and direct assessments and ensure the team collectively has the required experience or training for the activities to be evaluated.

The assessment report shall be performed in accordance with approved procedures. The report shall include a description of the assessment scope, a summary of the results, and a description of each concern identified.

Assessment results are communicated to the appropriate site managerial level of the organization having responsibility for the area or activity assessed and are documented in the corrective action program. Concerns requiring prompt corrective action are reported immediately to the management of the audited organization and entered into the electronic corrective action program.

Assessment results are documented and periodic reports are provided to senior leadership at each site. Associated documentation is on file at the appropriate location. Personnel qualifications records for assessment personnel are established, maintained and reviewed.

17.3.3.2.4 Corporate Audit

Corporate audits are initiated and directed by the Chief Nuclear Officer. This audit is performed within a period of two years on the DEC QAP.

The Chief Nuclear Officer selects the audit team and appoints a team leader. The audit team consists of at least three qualified individuals, none of which is from the area audited.

The scope of the audit is determined by the Chief Nuclear Officer and the audit team. Each audit includes a review of internal audits performed by the NOS-Audit. The audit is performed with pre-approved checklists, instructions, or plans.

The audit team conducts a post-audit conference with the responsible management of the area audited to discuss the audit results, including deficiencies. The audit team prepares checklists and the audit report. The report is sent to the Chief Nuclear Officer.

The Chief Nuclear Officer and/or responsible management of the area being audited determines the need for corrective action and re-evaluation. Necessary corrective action and re-evaluation are performed as required.

All pertinent correspondence, checklists, and reports related to the audit are filed.

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