DUKE POWER COMPANY

TOPICAL REPORT

QUALITY ASSURANCE PROGRAM

DUKE-1-A

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TABLE 17.0-1

Standard, Requirement or Guide	Conformance Status	Remarks
Regulatory Guide 1.58 Rev 1 - Qualification of Nuclear Power Plant Inspection, Examination and Testing Personnel	Alternative	RG 1.58 incorporates ANSI N45.2.6-1978 for both construction and operation. Duke nondestructive examination personnel will meet the qualification requirements of both SNT-TC-1A-1975 and SNT-TC-1A-1980. Duke operational/functional testing personnel will meet the requirements of ANSI N18.1-1971 rather than ANSI N45.2.6. Also, Duke's 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. 9
Regulatory Guide 1.64 Rev (2) - Quality Assurance Requirements for Design of Nuclear Power Plants	Adopted with Clarification	RG 1.64 Rev (2) Incorporates ANSI N45.2.11-1974. 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 competent to perform the verification. Advance justification for such use shall be documented and signed by the supervisor's management, with copy submitted to the Quality Assurance Department.
Regulatory Guide 1.74 - Quality Assurance Terms and Definitions	Conforms	RG 1.74 Incorporates ANSI N45.2.10-1973. Some definitions used by Duke 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 Duke Program conforms to RG 1.88 except the records storage facilities have a minimum 3-hr fire rating.
Regulatory Guide 1.94 Rev (1) - Quality Assurance Requirements for Installation, Inspection, and Testing of Structural Concrete and Structural Steel during the construction phase of nuclear power plants	Alternative	RG 1.94 Rev (1) Incorporates ANSI N45.2.5-1974. Duke program for McGuire and Catawba conforms to ANSI N45.2.5-1974 except the length of bolts shall be flush with the outside face of the nut.
Regulatory Guide 1.116 Rev (0-R) - Quality Assurance Requirements for Installation, Inspections, and Testing of Mechanical Equipment and Systems	Conforms	RG 1.116 Rev (0-R) Incorporates ANSI N45.2.8-1975

TABLE 17.0-1

Standard, Requirement or Guide	Conformance Status	Remarks
Regulatory Guide 1.123 Rev (1) - Quality Assurance Requirements for control of Procurement of Items and Services for Nuclear Plants	Conforms	RG 1.123 Rev (1) Incorporates ANSI N45.2.13-1976
Regulatory Guide 1.144 Rev (1) - Auditing of Quality Assurance Programs for Nuclear Power Plants	Alternative	RG 1.144 incorporates ANSI N45.2-12, (1977). Duke Program conforms to ANSI N45.2.12-1977 for internal/external audits except Section 4.4.6 for external audits. In lieu of making recommendations for correcting program deficiencies and distributing audit reports to the audited organization, we will identify to the audited organization the results of the audits including identified deficiences. Also, the re-evaluation may be extended to 15 months as described in Section 17.1.7.1.1. 9
Regulatory Guide 1.146 Rev (0) - Qualification of QA Program Audit Personnel for Nuclear Power Plants	Conforms	RG 1.146 Incorpoates ANSI/ASME N45.2.23-1978.
10CFR50, Appendix B - Quality Assurance Criteria for Nuclear Power Plants	Conforms	-------
10CFR50.55a - Licensing of Production and Utilization Facilities (ASME Boiler and Pressure Vessel Code, Section XI - Rules for Inservice Inspection of Nuclear Reactor Coolant Systems)	Conforms	10CFR50.55a Specifies ASME Section XI code dates. The Duke program conforms to 10CFR50.55a with the specific editions and addenda of Section XI specified in the Duke Power Inservice Inspection Plan for each station.
10CFR50 - Operators Licenses	Conforms	-------
10CFR55, Appendix A - Requalification Programs for Licensed Operators of Production and Utilization Facilities	Conforms	-------
10CFR50.55(e) - Conditions of Construction Permits	Conforms	-------

The audit team concludes with a post audit conference between the audit team and responsible 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 days of the post audit conference, the Quality Assurance Manager, Audit Division issues the report to the responsible management with copies sent to the Vice-President of the audited department and the Corporate Quality Assurance Manager.

Within thirty days after receipt of the audit report, responsible management replies in writing to the Quality Assurance Manager, Audit Division, describing corrective action and an implementation schedule. When necessary, after receipt of the management reply, the audit team performs a reaudit to verify implementation of corrective action. The reaudit is documented. The Quality Assurance Manager, Audit Division documents the close of the audit with a letter to the responsible management. All correspondence, checklists, and reports related to the audit are placed in the quality assurance file.

17.1.18.3 Corporate Audit

Corporate audits are initiated and directed by the Executive Vice-President, Engineering, Construction, and Production Group. This audit is performed every 12 months on the Quality Assurance Department which is responsible for the functions listed in Table 17.1-4. 9

The Executive Vice-President, Engineering, Construction, and Production Group 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 audit is determined by the Executive Vice-President, Engineering, Construction, and Production Group and the audit team. In each a review of Departmental Quality Assurance audits is included. The audit is performed with preapproved 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 Executive Vice-President, Engineering, Construction, and Production Group and the Corporate Quality Assurance Manager.

The Executive Vice-President, Engineering, Construction, and Production Group determines the need for corrective action and reaudit. Necessary corrective action and reaudit are performed as required for Departmental Quality Assurance audits.

All correspondence, checklists, and reports related to the audit are placed in the quality assurance file.

17.1.18.4 Vendors

Vendor quality assurance programs require a system of periodic and planned internal and subvendor audits conducted by persons not directly involved in the activity being audited. The vendor quality assurance programs are

17.2.12 CONTROL OF MEASURING AND TEST EQUIPMENT

The Station Manager has responsibility to assure the required accuracy of tools, gauges, instruments, radiation measuring 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. 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 device is traceable by unique identification to the applicable calibration records. | 9 | 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.

However, 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. The Quality Assurance Department verifies implementation of the calibration program through periodic surveillance.