CHAPTER 17

QUALITY ASSURANCE

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# CHAPTER 17

# QUALITY ASSURANCE

## 17.1 QUALITY ASSURANCE DURING THE DESIGN AND CONSTRUCTION PHASES

This section of the referenced DCD is incorporated by reference with the following departures and/or supplements.

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Progress Energy, Inc (Progress Energy). is responsible for the establishment and execution of quality assurance program requirements during the design, construction and operations phases of the Levy Nuclear Power Plant Units 1 and 2. Progress Energy may and has delegated to others as described below the work of establishing and executing the quality assurance program, or any parts thereof, but retains responsibility for the quality assurance program.

LNP COL 17.5-1

Effective during the COL application development through COL issuance, the Quality Assurance Program Description defined in the Shearon Harris Nuclear Power Plant Unit 1 FSAR (current revision)(Reference 201) identifies the quality assurance requirements that will be in effect until the Quality Assurance Program Description (QAPD) discussed in Section 17.5 becomes effective. Progress Energy will implement these quality assurance requirements through NGGM-PM-0030, Quality Assurance Plan for New Nuclear Plant Development and Construction Activities (Reference 202). This plan defines the interface between the Nuclear Plant Development organization and the existing quality assurance program implementing processes and procedures.

Progress Energy procured the COL application development and site characterization services in accordance with the quality assurance requirements identified in the Shearon Harris Nuclear Power Plant Unit 1 FSAR (current revision)(Reference 201), as implemented through NGGM-PM-0030 (Reference 202) and existing procedures from three companies that formed the Joint Venture Team; Sargent & Lundy LLC; Worley Parsons Group, Inc.; and CH2M HILL Inc. Each company was contracted to perform their assigned tasks in accordance with the requirements of their own Quality Assurance Program (References 203, 204, and 205) that had been reviewed and approved by Progress Energy for the conduct of safety-related work. The process of collection, review, and analysis of specific data for site characterization was performed under the CH2M HILL Quality Assurance Program as described in the Nuclear Business Group Quality Manual, NBG-QA-02-00 (Reference 205).

Progress Energy maintains oversight of the Joint Venture Team activities performed in support of the COL application development contract in accordance with the quality assurance program requirements that satisfy 10 CFR 50 Appendix B defined in the Shearon Harris Nuclear Power Plant Unit 1 FSAR (current revision)(Reference 201) and implemented through NGGM-PM-0030,

Quality Assurance Plan for New Nuclear Plant Development and Construction Activities (Reference 202). Progress Energy oversight of the COL development activities is provided through conducting Quality Assurance audits and surveillances of the Joint Venture Team activities and processes, and by direct participation in COL development activities, including providing site-specific applicant input and review of COL application content, signing the COL application as the applicant at submittal, and working directly with the Joint Venture Team to respond to NRC requests for additional information.

The quality assurance program applied to the development of the AP1000 design is described in Section 17.3 of the DCD which is incorporated by reference.

The design and construction of the proposed AP1000 units would be a service procured by Progress Energy. This service would be performed in accordance with the supplier's quality assurance program that was evaluated and accepted by Progress Energy. Progress Energy would maintain oversight of these design and construction activities in accordance with the quality assurance program requirements of the Shearon Harris Nuclear Power Plant Unit 1 FSAR (current revision)(Reference 201) or the QAPD described in Section 17.5, depending on when these activities were performed.

Thirty days following the issuance of the LNP 1 and 2 COL, or prior to the initiation of quality related activities following COL issuance, whichever is later, Progress Energy will implement the Progress Energy, Inc. Quality Assurance Program Description Topical Report NGGM-PM-0033 discussed in Section 17.5 and provided in Part 11 of the COLA. The applicable portions of the QAPD will be utilized for activities related to the design, construction and operational phases for the new nuclear units. As stated in FSAR Table 13.4-201, full implementation of the operations phase requirements will begin no later than 30 days prior to the fuel load.

## 17.2 QUALITY ASSURANCE DURING THE OPERATIONS PHASE

This section of the referenced DCD is incorporated by reference with no departures or supplements.

## 17.3 QUALITY ASSURANCE DURING DESIGN, PROCUREMENT, FABRICATION, INSPECTION, AND/OR TESTING OF NUCLEAR POWER PLANT ITEMS

This section of the referenced DCD is incorporated by reference with no departures or supplements.

## 17.4 DESIGN RELIABILITY ASSURANCE PROGRAM

STD SUP 17.4-1 This section of the referenced DCD is incorporated by reference with the following departures and/or supplements.

The quality assurance requirements for non-safety related SSCs within the scope of DRAP is in accordance with the Quality Assurance Program Description (QAPD), Part III.

STD DEP 1.1-1

# 17.5 QUALITY ASSURANCE PROGRAM DESCRIPTION – NEW LICENSE APPLICANTS

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LNP COL 17.5-1
STD COL 17.5-2
STD COL 17.5-4
STD COL 17.5-8

The Quality Assurance Program in place during the design, construction, and operations phases is described in the QAPD, which is maintained as a separate document. The QAPD is incorporated by reference. This QAPD is based on NEI 06-14A, "Quality Assurance Program Description," which was approved by the NRC in Reference 206.

The QAPD is the LNP 1 and 2 Quality Assurance Program Description.

Table 13.4-201 provides milestones for operational quality assurance program implementation.

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LNP COL 17.5-1

The Quality Assurance Program in place prior to implementation of the QAPD is described in Section 17.1.

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STD DEP 1.1-1

# 17.6 MAINTENANCE RULE PROGRAM

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STD SUP 17.6-1

This section incorporates by reference NEI 07-02A, "Generic FSAR Template Guidance for Maintenance Rule Program Description for Plants Licensed Under 10 CFR Part 52," (Reference 207), with the following supplemental information. See Table 1.6-201.

Table 13.4-201 provides milestones for maintenance rule program implementation.

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The text of the template provided in NEI 07-02A is generically numbered as "17.X." When the template is incorporated by reference into this FSAR, section numbering is changed from "17.X" to "17.6."

STD SUP 17.6-1

Descriptions of the programs listed in Subsection 17.6.3 of NEI 07-02A are provided in the following FSAR chapters/sections:

The maintenance rule program (Section 17.6)

The quality assurance program (Section 17.5)

Inservice inspection program (Sections 5.2 and 6.6)

Inservice testing program (Section 3.9)

The technical specifications surveillance test program (Chapter 16)

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STD DEP 1.1-1

## 17.7 COMBINED LICENSE INFORMATION ITEMS

Section 17.5 of the referenced DCD is incorporated by reference with the following departures and/or supplements.

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LNP COL 17.5-1

This COL Item is addressed in Sections 17.1 and 17.5.

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STD COL 17.5-2

This COL Item is addressed in Section 17.5.

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STD COL 17.5-4

This COL Item is addressed in Section 17.5.

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STD COL 17.5-8

This COL Item is addressed in Section 17.5.

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STD DEP 1.1-1

## 17.8 REFERENCES

Section 17.6 of the referenced DCD is incorporated by reference with the following departures and/or supplements.

201. Shearon Harris Nuclear Power Plant Unit 1 Final Safety Analysis Report (current revision), Docket Number 50-400.

202. Progress Energy Program Manual NGGM-PM-0030, Quality Assurance Plan for New Nuclear Plant Development and Construction Activities.

203. Sargent & Lundy (S&L) LLC, Nuclear Quality Assurance Program, Topical Report SL-TR-1A.

204. WorleyParsons Resources & Energy, Nuclear Quality Manual, NQM-01.

205. CH2M HILL Quality Assurance Program, Nuclear Business Group Quality Manual NBG QA-02-00.

206. U.S. Nuclear Regulatory Commission, “Final Safety Evaluation Report for Technical Report NEI 06-14A “Quality Assurance Program Description,” Rev. 4, ML072200084, July 2007.

207. Nuclear Energy Institute, “Generic FSAR Template Guidance for Maintenance Rule Program Description for Plants Licensed Under 10 CFR Part 52,” NEI 07-02A, Revision 0.