

**Bellefonte Nuclear Plant, Units 3 & 4
COL Application
Part 2, FSAR**

CHAPTER 17
QUALITY ASSURANCE

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CHAPTER 17

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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.

BLN COL 17.5-1 Tennessee Valley Authority (TVA) is responsible for the establishment and execution of BLN COL 17.5-1 quality assurance program requirements during the design and construction phases of Bellefonte Nuclear Plant Units 3 and 4. TVA may delegate and has delegated to others, such as NuStart Energy Development, LLC, and Enercon Services, Inc., the work of establishing and executing the quality assurance program, or any parts thereof, but retains responsibility for the quality assurance program.

Effective during COL application development, through and until COL issuance, the NuStart Energy Development, LLC (NuStart) Quality Assurance (QA) program, defines the QA program requirements for design activities. Construction activities at Bellefonte are not planned before the COL is issued.

NuStart was created in part for the purpose of demonstrating the licensing process defined by 10 CFR Part 52. NuStart consists of multiple utilities including the Tennessee Valley Authority (TVA). NuStart contracted with Enercon Services, Inc. to develop the Bellefonte Nuclear Plant Units 3 and 4 COL application, including site characterization activities. The process of collection, review and analysis of specific data for site characterization was performed under the Enercon Quality Assurance Program and is described in the “Enercon Quality Assurance Project Planning Document” (**Reference 201**). NuStart maintains oversight of the activities performed under the COL application contract. TVA maintains oversight under its existing 10 CFR Part 50, Appendix B program, as described in “Tennessee Valley Authority Nuclear Quality Assurance Plan,” TVA-NQA-PLN89-A (**Reference 204**). TVA oversight is provided through its review and approval of the “NuStart Energy Project Instruction-Quality Assurance Plan” (**Reference 202**), by conducting QA audits and surveillances of NuStart 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 NuStart and contractors to respond to NRC requests for additional information.

Implementation of the applicable portions of the “Quality Assurance Program Description” (QAPD) discussed in **Section 17.5** begins at COL Issuance. The program establishes the QA program requirements for the remaining portion of

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the design and construction phases and for operations; however, full implementation of the Operations related requirements will be no later than as indicated in [Table 13.4-201](#).

The TVA Bellefonte Units 3 and 4 safety related design activities conducted under the program described in FSAR [Section 17.1](#) are performed in conformance with Regulatory Guide 1.28, Revision 3. This is the only identified applicable quality assurance related Regulatory Guide for the program in place prior to COL receipt.

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17.2 QUALITY ASSURANCE DURING THE OPERATIONS PHASE

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

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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.

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17.4 DESIGN RELIABILITY ASSURANCE PROGRAM

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

STD SUP 17.4-1 The quality assurance requirements for non-safety related SSCs within the scope of D-RAP is in accordance with the Quality Assurance Program Description (QAPD), Part III.

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STD DEP 1.1-1 17.5 QUALITY ASSURANCE PROGRAM DESCRIPTION - NEW LICENSE APPLICANTS

BLN COL 17.5-1 The Quality Assurance Program in place during the design, construction, and
STD COL 17.5-2 operations phases is described in the QAPD, which is maintained as a separate
STD COL 17.5-4 document. This QAPD is incorporated by reference (see [Table 1.6-201](#)). This
STD COL 17.5-8 QAPD is based on NEI 06-14A, "Quality Assurance Program Description"
([Reference 203](#)).

Conformance statements for QA-related Regulatory Guides (including Regulatory Guides 1.28, 1.30, 1.33, 1.38, 1.39, 1.94, and 1.116) are provided in [Appendix 1AA](#). While many Regulatory Guide positions can be identified as applicable to the scope of work identified and addressed by the DCD and others can be identified as applicable to the scope of work identified and addressed by the COLA, some QA guidance related positions could be accomplished by either scope of work and thus be addressed in either the DCD or the COLA. These positions are primarily dependent on who performs the work. The DCD conformance statement indicates an exception to apply NQA-1. The COLA identifies an exception to apply NQA-1. Per [DCD Section 17.3](#), WEC work performed up to March 15, 2007 applied a 1991 version of the standard. A 1994 version of the standard is applied for work performed after that date by WEC. If the work is performed under the applicant's COL program, the 1994 version of NQA-1 identified in the COLA QAPD is applied. Thus, DCD scope (identified in [DCD Appendix 1A](#)) and "remaining scope" differentiate the application of the guidance identified in these Regulatory Guides.

BLN COL 17.5-1 The QAPD is the TVA Bellefonte Units 3 and 4 Quality Assurance Program Description.

BLN COL 17.5-1
STD COL 17.5-2 [Table 13.4-201](#) provides milestones for operational quality assurance program
STD COL 17.5-4 implementation.
STD COL 17.5-8

BLN 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

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 205), with the following supplemental information. See Table 1.6-201.

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

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)

STD SUP 17.6-2 Condition monitoring of underground or inaccessible cables is incorporated into the maintenance rule program. The cable condition monitoring program incorporates lessons learned from industry operating experience, addresses regulatory guidance, and utilizes information from detailed design and procurement documents to determine the appropriate inspections, tests and monitoring criteria for underground and inaccessible cables within the scope of the maintenance rule (i.e., 10 CFR 50.65). The program takes into consideration Generic Letter 2007-01.

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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.

BLN COL 17.5-1 This COL Item is addressed in **Sections 17.1** and **17.5**.

STD COL 17.5-2 This COL Item is addressed in **Section 17.5**.

STD COL 17.5-4 This COL Item is addressed in **Section 17.5**.

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.

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201. Enercon Services, Inc., "Enercon Quality Assurance Project Planning Document," QAPPD-NUSTART-001, Revision 4, April 17, 2007.
 202. NuStart Energy, LLC., "NuStart Energy Project Instruction – Quality Assurance Plan," PI-009.
 203. Nuclear Energy Institute, Technical Report NEI 06-14A, "Quality Assurance Program Description," Revision 7, July 2009.
 204. Tennessee Valley Authority, Nuclear Quality Assurance Plan, TVA-NQA-PLN89-A.
 205. 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.
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