

February 6, 2008

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

Attention:

R. William Borchardt, Director

Office of New Reactors

Subject:

Duke Energy Carolinas, LLC

William States Lee III Nuclear Station - Project 742

Application for Combined License - Changes to Reflect Acceptance Review Revisions to the AP1000 Design Control Document (DCD)

Application for Amendment (Revision 16)

References:

- Westinghouse Letter WEC DCP/NRC 2066 dated January 11, 2008, "Transmittal of Proprietary Information, AP1000 Containment Recirculation and IRWST Screen Design"
- 2. Westinghouse Letter WEC DCP/NRC 2067 dated January 14, 2008, "AP1000 Piping DAC/Component COL Information Item 3.9-2 Acceptance Issue"
- 3. Westinghouse Letter WEC DCP/NRC 2068 dated January 11, 2008, "AP1000Technical Specifications I&C Bracketed Items Acceptance Issue"
- Westinghouse Letter WEC DCP/NRC 2071 dated January 14, 2008, "AP1000 COL Standard Technical Report Submittal of APP-GW-GLN-134, Revision 3 (TR 134)"
- 5. Westinghouse Letter WEC DCP/NRC 2070 dated January 14, 2008, "AP1000 COL Information Items 3.6-1 and 3.9-2 Acceptance Issue Corrections"
- 6. Tennessee Valley Authority Letter from Mr. Jack A. Bailey, Vice President, Nuclear Generation Development, to Mr. R. William Borchardt, Director, Office of New Reactors, USNRC, Dated January 14, 2008, "Bellefonte Nuclear Plant (BLN) Changes to Reflect Acceptance Review Revisions to the AP1000 Design Control Document (DCD) Application for Amendment (Revision 16)"

The purpose of this letter is to describe the changes that will be made to the Duke Energy Carolinas, LLC (Duke) application for a combined license for the William States

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Lee III Nuclear Station (Lee Nuclear Station) Units 1 and 2. These changes conform the Lee Nuclear Station application to DCD Revision 16 as recently revised by Westinghouse Electric Corporation. Westinghouse described its proposed changes to DCD Revision 16 in reference letters 1, 2, 3, 4, & 5, above.

As a result of Westinghouse's changes to the DCD contained in the above referenced letters from Westinghouse Electric Corporation to the NRC, Duke is providing the enclosed information to address conforming changes to the Lee Nuclear Station application in support of the ongoing acceptance review. Reference 6 identifies a Tennessee Valley Authority Letter submitted to the NRC for the Bellefonte COL application to address the identical concern.

Duke commits to incorporate in a future amendment to the Lee Nuclear Station application all changes indicated in Enclosures 1, 2, and 3. If there are any questions concerning these changes, please contact Peter Hastings, Nuclear Plant Development, Licensing Manager, at (980) 373-7820.

Bryan J. Dolan Vice President

Nuclear Plant Development

Enclosures:

- Lee Nuclear Station Units 1 and 2 Combined License Application Changes to Part 2 (FSAR), Chapter 3 and Part 10 (Proposed License Conditions (Including ITAAC))
- 2. Lee Nuclear Station Units 1 and 2 Combined License Application Changes to Part 2 (FSAR), Chapters 1 & 6 and Part 10 (Proposed License Conditions (Including ITAAC))
- 3. Lee Nuclear Station Units 1 and 2 Combined License Application Changes to Part 4 (Technical Specifications) and Part 10 (Proposed License Conditions (Including ITAAC))

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xc (w/ enclosures):

Gary Holahan, Deputy Director, Office of New Reactors
David Matthews, Director, Division of New Reactor Licensing
James Lyons, Director, Site and Environmental Reviews
Glenn Tracy, Director, Division of Construction Inspection and Operational
Programs

Victor McCree, Acting Regional Administrator, Region II Loren Plisco, Deputy Regional Administrator, Region II Thomas A. Bergman, Deputy Division Director, DNRL Stephanie M. Coffin, Branch Chief, DNRL Joelle L. Starefos, Senior Project Manager, DNRL

AFFIDAVIT OF BRYAN J. DOLAN

Bryan J. Dolan, being duly sworn, states that he is Vice President, New Plant Development, Duke Energy Carolinas, LLC, that he is authorized on the part of said Company to sign and file with the U. S. Nuclear Regulatory Commission this supplement to the combined license application for the William States Lee III Nuclear Station and that all the matter and facts set forth herein are true and correct to the best of his knowledge.

Pryan Bolan
Bryan J. Dolan
Subscribed and sworn to me: February 6, 2008
Date
Thochse P. Eccisto
Notary Public
My Commission Expires: Twe 26 2011

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Lee Nuclear Station Units 1 & 2
Combined License Application
Changes to Part 2 (FSAR), Chapter 3 and
Part 10 (Proposed License Conditions (Including ITAAC)

Background

During discussions associated with the NRC Staff's acceptance review of the AP1000 Design Certification Document (DCD) amendment (Revision 16), the Staff requested clarification regarding the piping Design Acceptance Criteria (DAC) information. Westinghouse has provided information to revise the DCD amendment request to address the NRC questions reflected in References 2, 4, and 5 (as identified in the cover letter for this enclosure). The changes to Chapter 3 of Part 2 of the William States Lee III Nuclear Station application provided in this enclosure are appropriate to bring the application into conformance with the revised DCD amendment request. Additionally, changes to Part 10 of the application reflect the post-license activities necessary for the holder to complete the revised COL items.

Description of Change

The change to the application Part 2 (FSAR), Section 3.6.4.1 (Combined License Information), Section 3.9.8.2 (Combined License Information), and to the application Part 10 (proposed license condition #2) as indicated in the redline/strikeout markup below, will be incorporated in a future revision of the William States Lee III Nuclear Station application. These changes reflect the additions to the combined license information items added to the corresponding sections of the DCD.

Part 2, FSAR 3.6.4.1 will be revised to read as follows:

3.6.4.1 Pipe Break Hazards Analysis

Replace the last paragraph in DCD Subsection 3.6.4.1 with the following text.

The pipe whip restraint design and an as-designed pipe break hazards analysis will be completed in accordance with the criteria outlined in subsections 3.6.1.3.2 and 3.6.2.5. The as-designed pipe rupture hazard analysis including break locations based on as-designed pipe analysis will be documented in an as-designed Pipe Rupture Hazards Analysis Report. The design, analysis and the report will be completed prior to fuel load.

A pipe rupture hazard analysis is part of the piping design. It is used to identify postulated break locations and layout changes, support design, whip restraint design, and jet shield design. The final design for these activities will be completed prior to fabrication and installation of the piping and connected components. The as-built reconciliation of the pipe break hazards analysis in accordance with the criteria outlined in subsections 3.6.1.3.2 and 3.6.2.5 will be completed prior to fuel load.

Lee Nuclear Station Units 1 & 2 Combined License Application Changes to Part 2 (FSAR), Chapter 3 and Part 10 (Proposed License Conditions (Including ITAAC)

Part 2, FSAR Section 3.9.8.2 will be revised to read as follows:

3.9.8.2 Design Specifications and Reports

Add the following text after the second paragraph in DCD Subsection 3.9.8.2.

The design specifications and as-designed design reports prepared for major ASME Section III components and ASME Code, Section III piping will be available for NRC audit prior to fuel load.

The design specifications prepared for ASME Section III auxiliary components and valves will be available for NRC audit prior to fuel load.

Reconciliation of the as-built piping (verification of the thermal cycling and stratification loading considered in the stress analysis discussed in DCD Subsection 3.9.3.1.2) is completed after the construction of the piping systems and prior to fuel load.

Lee Nuclear Station Units 1 & 2 Combined License Application Changes to Part 2 (FSAR), Chapter 3 and Part 10 (Proposed License Conditions (Including ITAAC)

The application Part 10, proposed license condition #2 (COL Holder Items) for COL item 3.6-1 will be revised to read as follows:

3.6-1 Pipe Break Hazards Analysis 3.6.4.1 Prior to initial fuel load

After a Combined License is issued, the following activity will be completed by the COL holder:

- 1) Combined License holders referencing the AP1000 design will complete the pipe whip restraint design and complete an as-designed pipe break hazards analysis in accordance with the criteria outlined in subsections 3.6.1.3.2 and 3.6.2.5. The as-designed pipe rupture hazard analysis including break locations based on as-designed pipe analysis will be documented in an as-designed Pipe Rupture Hazards Analysis Report.
- 2) A pipe rupture hazard analysis is part of the piping design. It is used to identify postulated break locations and layout changes, support design, whip restraint design, and jet shield design. The final design for these activities will be completed prior to fabrication and installation of the piping and connected components. The as-built reconciliation of the pipe break hazards analysis in accordance with the criteria outlined in subsections 3.6.1.3.2 and 3.6.2.5 will be completed prior to fuel load.

The application Part 10, proposed license condition #2 (COL Holder Items) for COL item 3.9-2 will be revised to read as follows:

3.9-2 Design Specification and Reports 3.9.8.2 Prior to initial fuel load
After a Combined License is issued, the following activity will be completed by the COL holder:

- A Combined License holder referencing the AP1000 design will have available for NRC audit the design specifications and as-designed design reports prepared for major ASME Section III components and ASME Code, Section III piping.
- A Combined License holder referencing the AP1000 design will have available for NRC audit the design specifications prepared for ASME Section III auxiliary components and valves.
- 3) Reconciliation of the as-built piping (verification of the thermal cycling and stratification loading considered in the stress analysis discussed in subsection 3.9.3.1.2) is completed by the COL holder after the construction of the piping systems and prior to fuel load.

Lee Nuclear Station Units 1 & 2
Combined License Application
Changes to Part 2 (FSAR), Chapters 1 & 6 and
Part 10 (Proposed License Conditions (Including ITAAC))

Background

During discussions associated with the NRC Staff's acceptance review of the AP1000 Design Certification Document (DCD) amendment (Revision 16), the Staff requested clarification regarding the Containment Recirculation and Incontainment Refueling Water Storage Tank (IRWST) screen designs. Westinghouse has provided information to revise the DCD amendment request to address the NRC questions reflected in References 1 and 4 (as identified in the cover letter for this enclosure). The changes to Chapters 1 & 6 of Part 2 of the William States Lee III Nuclear Station application provided in this enclosure are appropriate to bring the application into conformance with the revised DCD amendment request. Additionally, changes to Part 10 of the application reflect the post-license activity necessary for the holder to complete the revised COL item.

Description of Change

The change to the application Part 2 (FSAR), Section 6.3.8 (Combined License Information), and to the application Part 10 (proposed license condition #2) as indicated in the redline/strikeout markup below, will be incorporated in a future revision of the William States Lee III Nuclear Station application. These changes reflect the additions to the combined license information items added to the corresponding section of the DCD.

Part 2, FSAR Section 1.8, Table 1.8-202 will be revised to add new COL item 6.3-2 to read as follows:

6.3-2 Verification of Water Sources for 6.3.8.2 H

Long-Term Recirculation Cooling
Following a LOCA

Part 2, FSAR Section 6.3.8 will be revised to add new section 6.3.8.2 to read as follows:

6.3.8.2 Verification of Water Sources for Long-Term Recirculation Cooling Following a LOCA

Insert the following information between the first and second paragraphs of DCD Subsection 6.3.8.2.

An assessment of the acceptability of the screen performance will be provided by performing testing and analysis of the screens. Downstream effects will be assessed to confirm the coolability of the core. The testing, analysis, and assessments will be completed prior to fuel load.

Lee Nuclear Station Units 1 & 2 Combined License Application Changes to Part 2 (FSAR), Chapters 1 & 6 and Part 10 (Proposed License Conditions (Including ITAAC))

The application Part 10, proposed license condition #2 (COL Holder Items) will be revised to include an additional COL holder item 6.3-2, to read as follows:

6.3-2	Verification of Water Sources for Long-Term Recirculation Cooling Following a LOCA	6.3.8.2	Prior to initial fuel load	
After a Combined License is issued, the following activities are completed by the COL				
holder:				
The combined license holder referencing the AP1000 design will provide an assessment of				
the acceptability of the screen performance by performing testing and analysis of the				
screens. Downstream effects will be assessed to confirm the coolability of the core.				

Lee Nuclear Station Units 1 & 2
Combined License Application
Changes to Part 4 (Technical Specifications) and
Part 10 (Proposed License Conditions (Including ITAAC))

Background

During discussions associated with the NRC Staff's acceptance review of the AP1000 Design Certification Document (DCD) amendment (Revision 16), the Staff requested clarification regarding the availability of supporting information for several instrumentation completion times and surveillance test frequencies. Westinghouse has provided information to revise the DCD amendment request to address the NRC questions reflected in References 3 and 4 (as identified in the cover letter for this enclosure). The changes to Part 4 of the William States Lee III Nuclear Station application provided in this enclosure are appropriate to bring the application into conformance with the revised DCD amendment request.

Description of Change

The change to the application Part 4 (Technical Specifications), Specification 3.3.1 (RTS Instrumentation) and Specification 3.3.2 (ESFAS Instrumentation), as indicated in the identified changes below, will be incorporated in a future revision of the William States Lee III Nuclear Station application. These changes reflect the additions to the combined license information items added to the corresponding section of the DCD.

Part 4, Section A.1 will be revised to include new paragraphs as identified below:

GTS 3.3.1 Specification 3.3.1 {3.3.2} contains several Required Action Completion Times and Surveillance Frequencies which require further justification. Determination of available justification for such Required Action Completion Times and Surveillance Frequencies cannot be determined until the specific instrumentation is chosen which may not occur until after the COL has been issued. Therefore, a license condition is proposed in Part 10 of this application to require an amendment to be promptly submitted once the instrumentation is chosen and the data availability is determined to support the choice of Required Action Completion Times and Surveillance Frequencies. The amendment will provide the plant specific Required Action Completion Times and Surveillance Frequencies to replace the bracketed values.

Lee Nuclear Station Units 1 & 2 Combined License Application Changes to Part 4 (Technical Specifications) and Part 10 (Proposed License Conditions (Including ITAAC))

Part 4, Section B, Technical Specification 3.3.1 will be revised to include new completion times and an updated surveillance frequency as identified below:

Required Action D.1.2 - Revise Completion Time to read "[6] hours" Required Action D.1.3 - Revise Completion Time to read "[6] hours" Required Action D.2.1 - Revise Completion Time to read "[6] hours" Required Action E.1.1 - Revise Completion Time to read "[6] hours" Required Action E.1.2 - Revise Completion Time to read "[6] hours" Required Action F.1.1 - Revise Completion Time to read "[2] hours" Required Action F.1.2 - Revise Completion Time to read "[2] hours" Required Action K.1.1 - Revise Completion Time to read "[6] hours" Required Action K.1.2 - Revise Completion Time to read "[6] hours" Required Action L.1.1 - Revise Completion Time to read "[6] hours" Required Action L.1.2 - Revise Completion Time to read "[6] hours" Required Action N.2.1 - Revise Completion Time to read "[7] hours" Required Action N.2.2 - Revise Completion Time to read "[7] hours" Required Action R.1 - Revise Completion Time to read "[48] hours" Required Action R.2 - Revise Completion Time to read "[49] hours" Surveillance Requirement 3.3.1.6 - Revise Frequency to read "[92] days"

Part 4, Section B, Technical Specification 3.3.2 will be revised to include new completion times and an updated surveillance frequency as identified below:

Required Action B.1 - Revise Completion Time to read "[6] hours" Required Action B.2 - Revise Completion Time to read "[6] hours" Required Action C.1 - Revise Completion Time to read "[6] hours" Required Action I.1 - Revise Completion Time to read "[6] hours" Required Action I.2 - Revise Completion Time to read "[6] hours" Required Action J.2.1 - Revise Completion Time to read "[7] hours" Required Action J.2.2 - Revise Completion Time to read "[7] hours" Surveillance Requirement 3.3.2.5 - Revise Frequency to read "[92] days"

Part 4, Section B, Technical Specifications Bases 3.3.1 will be revised as identified below:

Actions D.1.1, D.1.2, D.1.3, D.2.1, D.2.2, and D.3

- Revise first sentence of the second paragraph to read:

With one or two channels inoperable, one affected channel must be placed in a bypass or trip condition within [6] hours.

- Revise last sentence of the second paragraph to read:

The [6] hours allowed to place the inoperable channel(s) in the bypassed or tripped condition is justified in Reference [7].

- Revise first sentence of the fourth paragraph to read:

As an alternative to reducing power, the inoperable channel(s) can be placed in the bypassed or tripped condition within [6] hours and the QPTR monitored every 12 hours as per SR 3.2.4.2, QPTR verification.

Lee Nuclear Station Units 1 & 2 Combined License Application Changes to Part 4 (Technical Specifications) and Part 10 (Proposed License Conditions (Including ITAAC))

Actions E.1.1, E.1.2, and E.2

- Revise first sentence of the second paragraph to read:

With one or two channels inoperable, one affected channel must be placed in a bypass or trip condition within [6] hours.

- Revise last sentence of the second paragraph to read:

The [6] hours allowed to place the inoperable channel(s) in the bypassed or tripped condition is justified in Reference [7].

- Revise last two sentences of the third paragraph to read:

An additional [6] hours is allowed to place the unit in MODE 3. [Six] hours is a reasonable time, based on operating experience, to reach MODE 3 from full power in an orderly manner and without challenging plant systems.

Actions F.1.1, F.1.2, F.2, and F.3

- Revise first sentence of the second paragraph to read:

With one or two channels inoperable, one affected channel must be placed in a bypass or trip condition within [2] hours.

- Revise last sentence of the second paragraph to read:

The [2] hours allowed to place the inoperable channel(s) in the bypassed or tripped condition is justified in Reference [7].

Actions K.1.1, K.1.2, and K.2

- Revise first sentence of the second paragraph to read:

With one or two channels inoperable, one affected channel must be placed in a bypass or trip condition within [6] hours.

- Revise last sentence of the second paragraph to read:

The [6] hours allowed to place the inoperable channel(s) in the bypassed or tripped condition is justified in Reference [7].

Actions L.1.1, L.1.2, and L.2

- Revise first sentence of the second paragraph to read:

With one or two channels inoperable, one affected channel must be placed in a bypass or trip condition within [6] hours.

- Revise last sentence of the second paragraph to read:

The [6] hours allowed to place the inoperable channel(s) in the bypassed or tripped condition is justified in Reference [7].

Lee Nuclear Station Units 1 & 2 Combined License Application Changes to Part 4 (Technical Specifications) and Part 10 (Proposed License Conditions (Including ITAAC))

Actions N.1, N.2.1, N.2.2, and N.3

- Revise second sentence of the first paragraph to read:

With one or two channels inoperable, the associated interlock must be verified to be in its required state for the existing plant condition within 1 hour, or the Functions associated with inoperable interlocks placed in a bypassed or tripped condition within [7] hours, or the unit must be placed in MODE 3 within [13] hours.

- Revise first sentence of the second paragraph to read:

If one interlock channel is inoperable, the associated Function(s) must be placed in a bypass or trip condition within [7] hours.

- Revise last sentence of the third paragraph to read:

The [7] hours allowed to place the inoperable channel(s) in the bypassed or tripped condition is justified in Reference [7].

Actions R.1 and R.2

- Revise third sentence of the first paragraph to read:

With one or two of the source range channels inoperable, [48] hours is allowed to restore three of the four channels to an OPERABLE status.

- Revise last sentence of the first paragraph to read:

The allowance of 48 hours to restore the channel to OPERABLE status, and the additional hour to open the RTBs, are justified in Reference [7].

SR 3.3.1.6

- Revise first paragraph to read:

SR 3.3.1.6 is the performance of a REACTOR TRIP CHANNEL OPERATIONAL TEST (RTCOT) every [92] days.

- Revise first sentence of the eighth paragraph to read:

This test frequency of [92] days is justified based on Reference [7] and the use of continuous diagnostic test features, such as deadman timers, cross-check of redundant channels, memory checks, numeric coprocessor checks, and tests of timers, counters and crystal time bases, which will report a failure within the protection and safety monitoring system cabinets to the operator within 10 minutes of a detectable failure.

REFERENCES

- Revise Reference 7 to read:

7. [WCAP-10271-P-A (Proprietary) and WCAP-10272-A (Non-Proprietary), "Evaluation of Surveillance Frequencies and Out-of-Service Times for the Reactor Protection Instrumentation System," Supplement 2, Revision 1, June 1990.]

Lee Nuclear Station Units 1 & 2 Combined License Application Changes to Part 4 (Technical Specifications) and Part 10 (Proposed License Conditions (Including ITAAC))

Part 4, Section B, Technical Specifications Bases 3.3.2 will be revised as identified below:

Actions B.1 and B.2

- Revise first sentence of the paragraph to read:

With one or two channels or divisions inoperable, one affected channel or division must be placed in a bypass or trip condition within [6] hours.

- Revise last sentence of the paragraph to read:

The [6] hours allowed to place the inoperable channel(s) or division(s) in the bypassed or tripped condition is justified in Reference [6].

Action C.1

- Revise first two sentences of the paragraph to read:

With one channel inoperable, the affected channel must be placed in a bypass condition within [6] hours. The [6] hours allowed to place the inoperable channel in the bypass condition is justified in Reference [6].

Actions I.1 and I.2

- Revise second sentence of the paragraph to read:

With one or two channels inoperable, one affected channel must be placed in a bypass or trip condition within [6] hours.

- Revise last sentence of the paragraph to read:

The [6] hours allowed to place the inoperable channel(s) in the bypassed or tripped condition is justified in Reference [6].

Actions J.1 and J.2

- Revise second sentence of the first paragraph to read:

With one or two required channel(s) inoperable, the associated interlock must be verified to be in its required state for the existing plant condition within 1 hour, or any Function channels associated with inoperable interlocks placed in a bypassed condition within [7] hours.

- Revise first sentence of the second paragraph to read:

If one interlock channel is inoperable, the associated Function(s) must be placed in a bypass or trip condition within [7] hours.

- Revise last sentence of the last paragraph to read:

The [7] hours allowed to place the inoperable channel(s) in the bypassed or tripped condition is justified in Reference [6].

SR 3.3.2.5 -

- Revise first paragraph to read:

SR 3.3.2.5 is the performance of an CHANNEL OPERATIONAL TEST (COT) every [92] days.

- Revise first sentence of the eighth paragraph to read:

The [92] day Frequency is based on Reference [6] and the use of continuous diagnostic test features, such as deadman timers, cross-check of redundant channels, memory checks, numeric coprocessor checks, and tests of timers, counters and crystal time bases, which will report a failure within the integrated protection cabinets to the operator.

Enclosure 3.

Lee Nuclear Station Units 1 & 2 Combined License Application Changes to Part 4 (Technical Specifications) and Part 10 (Proposed License Conditions (Including ITAAC))

REFERENCES

- Revise Reference 6 to read:
- 6. [WCAP-1 0271-P-A (Proprietary) and WCAP-1 0272-A (Non-Proprietary), Supplement 2, Rev. 1, "Evaluation of Surveillance Frequencies and Out-of-Service Times for the Reactor Protection Instrumentation System," dated June 1990.]
- Part 10, Proposed License Condition 9, Generic Technical Specification Completion, will be revised to include two new sub-items as identified below:
 - B.1. GTS 3.3.1 The licensee shall submit a license amendment application following selection of the plant specific instrumentation and completion of a plant-specific setpoint study to replace any unconfirmed values in Table 3.3.1-1 and in Notes 1 and 2 and to remove the Reviewer Note.
 - B.2. GTS 3.3.1 The licensee shall submit a license amendment application following the choice of instrumentation and determination of the data availability to support a plant-specific Required Action Completion Times and Surveillance Frequencies.
 - C.1. GTS 3.3.2 The licensee shall submit a license amendment application following selection of the plant specific instrumentation and completion of a plant-specific setpoint study to replace any unconfirmed values in Table 3.3.2-1 and to remove the Reviewer Note. C.2. GTS 3.3.2 The licensee shall submit a license amendment application following the choice of instrumentation and determination of the data availability to support a plant-specific Required Action Completion Times and Surveillance Frequencies.