



JOSEPH W. DONAHUE
Vice President
Nuclear Engineering

526 S. Church Street, EC-07H
Charlotte, NC 28202
980-373-1758
Joseph.Donahue@duke-energy.com

Serial: NPD-NRC-2017-018
December 19, 2017

10 CFR 50.71
10 CFR 52, App. D

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

**WILLIAM STATES LEE III NUCLEAR STATION, UNIT NOS. 1 AND 2
COMBINED LICENSE NOS. NPF-101 AND NPF-102
DOCKET NOS. 52-018 AND 52-019**

SUBJECT: Submittal of Updated Final Safety Analysis Report, Revision 1

- References:
1. Letter from Francis M. Akstulewicz (U.S. Nuclear Regulatory Commission) to Christopher M. Fallon (Duke Energy Carolinas, LLC), dated December 22, 2016, "Issuance of Combined Licenses for William States Lee III Nuclear Station Units 1 and 2" (ML16354A256)
 2. Letter from Leo A. Martin (Duke Energy) to U.S. Nuclear Regulatory Commission (NRC), dated January 23, 2017, "Report of 10 CFR 52 Appendix D Departure Report And 10 CFR 50.59 Changes, Tests And Experiments," Serial: NPD-NRC-2017-003 (ML17025A392)
 3. Letter from Joe Donahue (Duke Energy) to U.S. Nuclear Regulatory Commission (NRC), dated July 21, 2017, "Report of 10 CFR 52 Appendix D Departure Report And 10 CFR 50.59 Changes, Tests And Experiments," Serial: NPD-NRC-2017-013 (ML17212A614)

The U.S. Nuclear Regulatory Commission (NRC) issued the William States Lee III Nuclear Station (WLS) Units 1 and 2 combined licenses (COLs) (License Nos. NPF-101 and NPF-102, respectively) to Duke Energy Carolinas, LLC on December 19, 2016.

In accordance with the provisions of Sections 50.4 and 50.71(e) of Title 10 of the Code of Federal Regulations (10 CFR), and as required by 10 CFR Part 52, Appendix D, Section X.B.2, Duke Energy Carolinas, LLC hereby submits Revision 1 to the WLS Units 1 and 2 Updated Final Safety Analysis Report (UFSAR), provided as Enclosures 1 and 2. As explained below, the UFSAR includes the plant-specific Design Control Document (DCD), Tier 2 information. Also included is the plant-specific Tier 1 document.

UFSAR Revision 1 is an integration of the FSAR provided in the WLS Units 1 and 2 Combined License Application (COLA), Tier 2 information from the AP1000 DCD, Revision 19 as modified by departures, and various Nuclear Energy Institute (NEI) templates that were incorporated by reference (IBR) into the FSAR. The UFSAR includes color coded font as a user's aid in

A053
D093
NRD

identifying the origin of the text. A formatting legend is provided at the bottom of the Table of Contents page. The plant-specific Tier 1 document consists of information in Tier 1 of the AP1000 DCD as modified by plant-specific departures.

Duke Energy submitted the most recent semi-annual departure report in accordance with 10 CFR 52, Appendix D, Sections X.B.1 and X.B.3.b by letter NPD-NRC-2017-013, dated July 21, 2017. The next semi-annual departure report, which will summarize all new departures that have been made since the WLS Units 1 and 2 COLs were received on December 19, 2016, will be submitted in January 2018. Those departures are included in the enclosed UFSAR Revision 1. In addition, changes to site-specific information in the FSAR, made pursuant to 10 CFR 50.59 that did not require a full evaluation are also included in this revision. Changes are identified by a vertical revision bar in the right margin.

A change is provided in the WLS UFSAR Revision 1 to address site-specific License Condition 2.D.(12)(I), which states:

"At the first annual update of the WLS FSAR required by 10 CFR 50.71(e) DEC shall include the following changes based on inspection findings from NRC Inspection Report No. 99900404/2015-203:

1. Revise Appendix 19F.4.1, "Malevolent Aircraft," to include the Auxiliary Building as a key design feature that also protects from physical damage the core cooling credited to meet 10 CFR 50.150(b)(2).
2. Revise DCD drawings to show the 5 psid and 3 hour fire rated doors that have been added to the inner portion (annulus side) of the shield building in accordance with final markups used to satisfy NRC Inspection Report No. 99900404/2015-203 and 10 CFR 50.150 (a)(1)."

Ten DCD drawings as listed in the License Condition 2.D.(12)(I) 2.a. through 2.j. were revised to show the 5 psid and 3 hour fire rated doors that have been added to the inner portion (annulus side) of the shield building in accordance with final markups used to satisfy NRC Inspection Report No. 99900404/2015-203 and 10 CFR 50.150 (a)(1). These changes are included in the designated figures and text in Chapters 1, 9, 12 and 19.

A list of files and associated file names for the DVDs provided as Enclosures 1 (Non-Public) and 2 (Public) that contain the UFSAR and Tier 1 are provided as spreadsheets on the individual DVD.

Enclosure 1 contains Security-Related Information (SRI), and accordingly, Duke Energy Carolinas, LLC requests that this enclosure be withheld from public disclosure under 10 CFR 2.390(d)(1). In addition, the enclosure contains information that should be withheld from public disclosure under 10 CFR 2.390(a)(6) and 2.390(a)(9). This DVD contains all the current pages of the WLS Units 1 and 2 UFSAR and Tier 1 in portable document format (PDF). Appropriate

pre-submission checks have been performed on the files to ensure compliance with the NRC "Guidance for Electronic Submissions to the NRC", Revision 8, dated May 18, 2017. The disk includes a "packing slip" describing its contents, pursuant to NRC instructions for electronic filing.

The Enclosure 2 DVD to this letter contains a Public version of the WLS Units 1 and 2 UFSAR Revision 1 and Tier 1 information. This DVD contains all the current pages of the WLS Units 1 and 2 UFSAR and Tier 1 in portable document format (PDF). Appropriate pre-submission checks have been performed on the files to ensure compliance with the NRC "Guidance for Electronic Submissions to the NRC", Revision 8, dated May 18, 2017. The disk includes a "packing slip" describing its contents, pursuant to NRC instructions for electronic filing. The public version of the UFSAR and Tier 1 withholds information from public disclosure under 10 CFR 2.390 that is contained in Enclosure 1.

Enclosure 3 contains a list of Tier 1 and UFSAR Revision 1 figures or sections that are withheld from public disclosure.

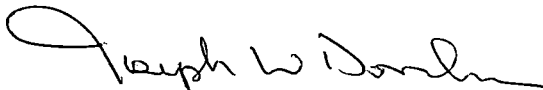
This letter contains no regulatory commitments.

If you have any questions, or need additional information, please contact Erik Wagner at (704) 382-3949 or me at (980) 373-1758.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on December 19, 2017.

Sincerely,



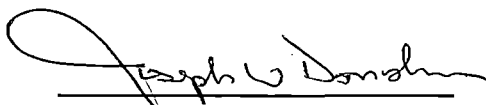
Joseph W. Donahue
Vice President - Nuclear Engineering

Enclosures:

1. WLS Units 1 and 2 UFSAR, Revision 1 (Non-Public)
2. WLS Units 1 and 2 UFSAR, Revision 1 (Public)
3. List of WLS 1&2 Tier 1 and UFSAR Figures, Tables, or Sections Containing Information Withheld from Public Disclosure per 10 CFR 2.390

AFFIDAVIT OF JOSEPH W. DONAHUE

1. I am Vice President, Nuclear Engineering, and as such have the responsibility for reviewing the information sought to be withheld from public disclosure in connection with and am authorized to apply for its withholding on behalf of Duke Energy Carolinas, LLC (Duke).
2. I am making this affidavit in conformance with the provisions of 10 CFR 2.390 of the regulations of the Nuclear Regulatory Commission (NRC) and in conjunction with Duke's application for withholding which accompanies this affidavit.
3. I have knowledge of the criteria used by Duke in designating information as sensitive, proprietary, or confidential.
4. Pursuant to the provisions of paragraphs (a)(9) of 10 CFR 2.390, the following information is furnished for consideration by the NRC in determining whether the information sought to be withheld from public disclosure should be withheld.
 - a. The information is of the type that would customarily be held in confidence by Duke. The Updated Final Safety Analysis Report contains geological and geophysical information and data, including maps, concerning wells.
 - b. The information sought to be withheld from public disclosure is identified in Enclosure 3 of this submittal and is appropriately marked as it appears in the UFSAR.
 - c. The information was transmitted to the NRC in confidence and under the provisions of 10 CFR 2.390; it is to be received in confidence by the NRC.

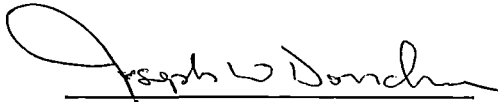


Joseph W. Donahue

(Continued)

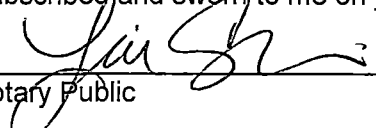
AFFIDAVIT OF JOSEPH W. DONAHUE

Joseph W. Donahue, being duly sworn, states that he is Vice President, Nuclear Engineering, 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 UFSAR 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.



Joseph W. Donahue

Subscribed and sworn to me on December 19, 2017



Notary Public

My commission expires: June 1, 2026

SEAL



Lisa Salvador
NOTARY PUBLIC
State of South Carolina
My Commission Expires
June 1, 2026

United States Nuclear Regulatory Commission
NPD-NRC-2017-018
Page 6 of 6

cc: U.S. NRC Region II, Regional Administrator (without enclosures)
Mr. Brian Hughes, U.S. NRC Project Manager (with enclosures)

Enclosure 1

**WLS Units 1 and 2 UFSAR, Revision 1
(Non-Public)**

Enclosure 1 to Serial: NPD-NRC-2017-018

William States Lee Nuclear Plant, Units 1 and 2
Updated Final Safety Analysis Report, Revision 1
Non-Public Version
(electronic submittal – 1 DVD enclosed)
Withhold under 10 CFR 2.390

Enclosure 2

**WLS Units 1 and 2 UFSAR, Revision 1
(Public)**

Enclosure 2 to Serial: NPD-NRC-2017-018

William States Lee Nuclear Plant, Units 1 and 2
Updated Final Safety Analysis Report, Revision 1
Public Version
(electronic submittal – 1 DVD enclosed)

Enclosure 3

**List of WLS 1&2 Tier 1 and UFSAR Figures, Tables, or
Sections Containing Information Withheld from Public
Disclosure per 10 CFR 2.390**

**List of WLS 1&2 Tier 1 and UFSAR Figures, Tables, or Sections Containing Information
Withheld from Public Disclosure per 10 CFR 2.390**

Note: All items in the list are withheld under 10 CFR 2.390(d)(1) except those items beginning with an asterisk. The asterisked items are withheld under a 10 CFR 2.390 section other than 2.390(d)(1) and the applicable section of 10 CFR 2.390 is contained in brackets at the end of the listed item.

Tier 1 Figure 3.3-1
Tier 1 Figure 3.3-2
Tier 1 Figure 3.3-3
Tier 1 Figure 3.3-4
Tier 1 Figure 3.3-5
Tier 1 Figure 3.3-6
Tier 1 Figure 3.3-7
Tier 1 Figure 3.3-8
Tier 1 Figure 3.3-9
Tier 1 Figure 3.3-10
Tier 1 Figure 3.3-11A
Tier 1 Figure 3.3-11B
Tier 1 Figure 3.3-12
Tier 1 Figure 3.3-13
Tier 1 Figure 3.3-14

UFSAR Figure 1.2-2
UFSAR Figure 1.2-4
UFSAR Figure 1.2-5
UFSAR Figure 1.2-6
UFSAR Figure 1.2-7
UFSAR Figure 1.2-8
UFSAR Figure 1.2-9
UFSAR Figure 1.2-10
UFSAR Figure 1.2-11
UFSAR Figure 1.2-12
UFSAR Figure 1.2-13
UFSAR Figure 1.2-14
UFSAR Figure 1.2-15
UFSAR Figure 1.2-16
UFSAR Figure 1.2-17
UFSAR Figure 1.2-201
UFSAR Figure 1.2-19
UFSAR Figure 1.2-20
UFSAR Figure 1.2-21

UFSAR Figure 1.2-22
UFSAR Figure 1.2-23
UFSAR Figure 1.2-24
UFSAR Figure 1.2-25
UFSAR Figure 1.2-26
UFSAR Figure 1.2-27
UFSAR Figure 1.2-28
UFSAR Figure 1.2-29
UFSAR Figure 1.2-30
UFSAR Section 2.2.1; Locations and Routes, 3rd paragraph, Broad River Energy Center – combustibles; Page 2.2-2
UFSAR Section 2.2.2.2.2; Herbie Famous Fireworks – combustibles; Page 2.2-4
UFSAR Section 2.2.2.2.9; DSE Systems, LLC (Description of Products); Pages 2.2-5 and 2.2-6
UFSAR Section 2.2.2.3; Description of Pipelines - size of mains, depth, and location of isolation valves – combustibles; Page 2.2-6
UFSAR Section 2.2.3.1.1.2; Pipelines; Page 2.2-13
UFSAR Section 2.2.3.1.1.3; Nearby Industrial Facilities; Pages 2.2-13 through 2.2-15
UFSAR Section 2.2.3.1.2; Flammable Vapor Clouds (Delayed Ignition); Pages 2.2-16 and 2.2-17
UFSAR Table 2.2-201; Registered Storage Tanks within a 5-Mi. Radius; Page 2.2-27
UFSAR Table 2.2-203; Products Stored on Site at the Broad River Energy Center; Pages 2.2-29 through 2.2-36
UFSAR Table 2.2-204; Broad River Energy Center Site Specific OSHA Permissible Exposure Limits (PEL) Z-1 Table; Page 2.2-37
*UFSAR Section 2.4.1.2.5.2; Groundwater Use, 3rd paragraph; Page 2.4-21 [10 CFR 2.390(a)(9)]
*UFSAR Section 2.4.12.2.2; Historical On-Site Conditions; Page 2.4-64 [10 CFR 2.390(a)(9)]
*UFSAR Table 2.4.1-212; Historical Domestic Wells in Vicinity of Site; Pages 2.4-105 through 2.4-107 [10 CFR 2.390(a)(9)]
*UFSAR Figure 2.4.1-212; Groundwater Supply Wells Surrounding the Lee Nuclear Site; Page 2.4-183 [10 CFR 2.390(a)(9)]
*UFSAR Figure 2.4.12-202; Radius of Influence of Cherokee Nuclear Site Construction Dewatering; Page 2.4-249 [10 CFR 2.390(a)(6) and 2.390(a)(9)]
UFSAR Figure 3.7.2-12 (Sheet 1 of 12)
UFSAR Figure 3.7.2-12 (Sheet 2 of 12)
UFSAR Figure 3.7.2-12 (Sheet 3 of 12)
UFSAR Figure 3.7.2-12 (Sheet 4 of 12)
UFSAR Figure 3.7.2-12 (Sheet 5 of 12)
UFSAR Figure 3.7.2-12 (Sheet 6 of 12)
UFSAR Figure 3.7.2-12 (Sheet 7 of 12)
UFSAR Figure 3.7.2-12 (Sheet 8 of 12)
UFSAR Figure 3.7.2-12 (Sheet 9 of 12)
UFSAR Figure 3.7.2-12 (Sheet 10 of 12)
UFSAR Figure 3.7.2-12 (Sheet 11 of 12)

UFSAR Figure 3.7.2-12 (Sheet 12 of 12)
UFSAR Figure 3.7.2-19 (Sheet 1 of 10)
UFSAR Figure 3.7.2-19 (Sheet 2 of 10)
UFSAR Figure 3.7.2-19 (Sheet 3 of 10)
UFSAR Figure 3.7.2-19 (Sheet 4 of 10)
UFSAR Figure 3.7.2-19 (Sheet 5 of 10)
UFSAR Figure 3.7.2-19 (Sheet 6 of 10)
UFSAR Figure 3.7.2-19 (Sheet 7 of 10)
UFSAR Figure 3.7.2-19 (Sheet 8 of 10)
UFSAR Figure 3.7.2-19 (Sheet 9 of 10)
UFSAR Figure 3.7.2-19 (Sheet 10 of 10)
UFSAR Figure 3.8.3-1 (Sheet 2 of 7)
UFSAR Figure 3.8.3-1 (Sheet 4 of 7)
UFSAR Figure 3H.5-1 (Sheet 3 of 3)
UFSAR Figure 3H.5-11 (Sheet 1 of 6)
UFSAR Figure 3H.5-11 (Sheet 2 of 6)
UFSAR Figure 3H.5-11 (Sheet 3 of 6)
UFSAR Figure 3H.5-11 (Sheet 4 of 6)
UFSAR Figure 3H.5-11 (Sheet 5 of 6)
UFSAR Figures 3H.5-16 (Sheet 1 of 2)
UFSAR Figures 3H.5-16 (Sheet 2 of 2)
UFSAR Figure 6.2.4-5
UFSAR Figure 6.2.4-6
UFSAR Figure 6.2.4-7
UFSAR Figure 6.2.4-8
UFSAR Figure 6.2.4-9
UFSAR Figure 6.2.4-10
UFSAR Figure 6.2.4-11
UFSAR Figure 6.2.4-12
UFSAR Figure 6.2.4-13
UFSAR Figure 6.4-1
UFSAR Figure 9A-1 (Sheet 2 of 16)
UFSAR Figure 9A-1 (Sheet 3 of 16)
UFSAR Figure 9A-1 (Sheet 4 of 16)
UFSAR Figure 9A-1 (Sheet 5 of 16)
UFSAR Figure 9A-1 (Sheet 6 of 16)
UFSAR Figure 9A-1 (Sheet 7 of 16)
UFSAR Figure 9A-1 (Sheet 8 of 16)
UFSAR Figure 9A-1 (Sheet 9 of 16)
UFSAR Figure 9A-1 (Sheet 10 of 16)
UFSAR Figure 9A-1 (Sheet 11 of 16)
UFSAR Figure 9A-1 (Sheet 12 of 16)
UFSAR Figure 9A-1 (Sheet 13 of 16)
UFSAR Figure 9A-1 (Sheet 14 of 16)

UFSAR Figure 9A-1 (Sheet 15 of 16)
UFSAR Figure 9A-1 (Sheet 16 of 16)
UFSAR Figure 9A-2 (Sheet 1 of 5)
UFSAR Figure 9A-2 (Sheet 2 of 5)
UFSAR Figure 9A-2 (Sheet 3 of 5)
UFSAR Figure 9A-2 (Sheet 4 of 5)
UFSAR Figure 9A-2 (Sheet 5 of 5)
UFSAR Figure 9A-3 (Sheet 1 of 3)
UFSAR Figure 9A-3 (Sheet 2 of 3)
UFSAR Figure 9A-3 (Sheet 3 of 3)
UFSAR Figure 9A-4
UFSAR Figure 9A-5
UFSAR Figure 12.3-1 (Sheet 2 of 16)
UFSAR Figure 12.3-1 (Sheet 3 of 16)
UFSAR Figure 12.3-1 (Sheet 4 of 16)
UFSAR Figure 12.3-1 (Sheet 5 of 16)
UFSAR Figure 12.3-204
UFSAR Figure 12.3-1 (Sheet 7 of 16)
UFSAR Figure 12.3-1 (Sheet 8 of 16)
UFSAR Figure 12.3-1 (Sheet 9 of 16)
UFSAR Figure 12.3-1 (Sheet 10 of 16)
UFSAR Figure 12.3-201
UFSAR Figure 12.3-1 (Sheet 12 of 16)
UFSAR Figure 12.3-1 (Sheet 13 of 16)
UFSAR Figure 12.3-1 (Sheet 14 of 16)
UFSAR Figure 12.3-1 (Sheet 15 of 16)
UFSAR Figure 12.3-1 (Sheet 16 of 16)
UFSAR Figure 12.3-2 (Sheet 2 of 15)
UFSAR Figure 12.3-2 (Sheet 3 of 15)
UFSAR Figure 12.3-2 (Sheet 4 of 15)
UFSAR Figure 12.3-2 (Sheet 5 of 15)
UFSAR Figure 12.3-2 (Sheet 6 of 15)
UFSAR Figure 12.3-2 (Sheet 7 of 15)
UFSAR Figure 12.3-2 (Sheet 8 of 15)
UFSAR Figure 12.3-2 (Sheet 9 of 15)
UFSAR Figure 12.3-2 (Sheet 10 of 15)
UFSAR Figure 12.3-202
UFSAR Figure 12.3-2 (Sheet 12 of 15)
UFSAR Figure 12.3-2 (Sheet 13 of 15)
UFSAR Figure 12.3-2 (Sheet 14 of 15)
UFSAR Figure 12.3-2 (Sheet 15 of 15)
UFSAR Figure 12.3-3 (Sheet 2 of 16)
UFSAR Figure 12.3-3 (Sheet 3 of 16)
UFSAR Figure 12.3-3 (Sheet 4 of 16)

UFSAR Figure 12.3-3 (Sheet 5 of 16)
UFSAR Figure 12.3-3 (Sheet 6 of 16)
UFSAR Figure 12.3-3 (Sheet 7 of 16)
UFSAR Figure 12.3-3 (Sheet 8 of 16)
UFSAR Figure 12.3-3 (Sheet 9 of 16)
UFSAR Figure 12.3-3 (Sheet 10 of 16)
UFSAR Figure 12.3-203
UFSAR Figure 12.3-3 (Sheet 12 of 16)
UFSAR Figure 12.3-3 (Sheet 13 of 16)
UFSAR Figure 12.3-3 (Sheet 14 of 16)
UFSAR Figure 12.3-3 (Sheet 15 of 16)
UFSAR Figure 12.3-3 (Sheet 16 of 16)
UFSAR Appendix 19F, Section 19F.4.2, Site Arrangement, page 19F-3
UFSAR Appendix 19F, Section 19F.4.3, Core Cooling and Containment Integrity, page 19F-4