CHRISTOPHER M. FALLON
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June 21, 2012

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

Subject: Duke Energy Carolinas, LLC
William States Lee III Nuclear Station – Docket Nos. 52-018 and 52-019
AP1000 Combined License Application for the
William States Lee III Nuclear Station Units 1 and 2
Supplemental Information to the Environmental Report (Revision 1)
Ltr# WLG2012.06-08

Reference: Letter from B.J. Dolan (Duke Energy) to Document Control Desk (NRC), Duke Energy Carolinas, LLC, William States Lee III Nuclear Station – Docket Nos. 52-018 and 52-019; Revision 1 to the Environmental Report (Part 3) and Revision 2 to Withheld Information (Part 9) for William States Lee III Nuclear Station Units 1 and 2 Combined License Application, dated March 30, 2009 (ML090990081)

This letter provides supplemental information to Revision 1 of the Duke Energy Environmental Report (Part 3) for William States Lee III Nuclear Station Units 1 and 2 Combined License Application.

This supplemental information is addressed in the enclosure, which also identifies associated changes to the Combined License Application for the Lee Nuclear Station, when appropriate.

If you have any questions or need any additional information, please contact James R. Thornton, Nuclear Plant Development Licensing Manager (Acting), at (704) 382-2612.

Sincerely,

Christopher M. Fallon

Christopher M. Fallon
Vice President
Nuclear Development (Acting)

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NRO

Enclosure:

1. Supplemental Information to the Environmental Report (Revision 1)
   Assessment of US Census, Year 2000 and US Census, Year 2010

xc (w/out enclosure):

Frederick Brown, Deputy Regional Administrator, Region II

xc (w/ enclosure):

Sarah Lopas, Project Manager, DSER
Brian Hughes, Senior Project Manager, DNRL
Terri Miley, PNNL

AFFIDAVIT OF CHRISTOPHER M. FALLON

Christopher M. Fallon, being duly sworn, states that he is Vice President, Nuclear Development (Acting), 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 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.

Christopher M. Fallon

Christopher M. Fallon, Vice President
Nuclear Development (Acting)

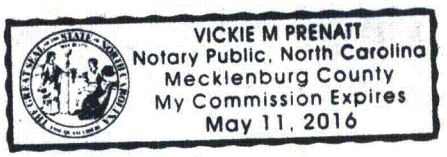
Subscribed and sworn to me on JUNE 21, 2012

Vickie M. Prenatt

Notary Public

My commission expires: 5/11/2016

SEAL



Supplemental Information to the Environmental Report (Revision 1)

Assessment of US Census, Year 2000 and US Census, Year 2010
Impact on Lee Nuclear Station
COL Application Part 3, Environmental Report

Part 3, "Environmental Report" of the COL Application was based on the 2000 US Census Bureau data. Subsequently, a new decennial census has been completed and released by the US Census Bureau and North Carolina and South Carolina have released updated population projections based on the 2010 data. Duke Energy has evaluated the 2010 Census information against the 2000 Census data to determine if there is any impact to the COL application. Projected populations for the standard 50-mile region around the Lee site were compared for 2016 through 2056.

As shown in Table 1, below, this evaluation shows that the 2010 Census data predicts a small increase (less than 4%) in the projected total population for 2016. However, the predicted increase for future years is less pronounced, with an increase of only 0.43% projected for the year 2056.

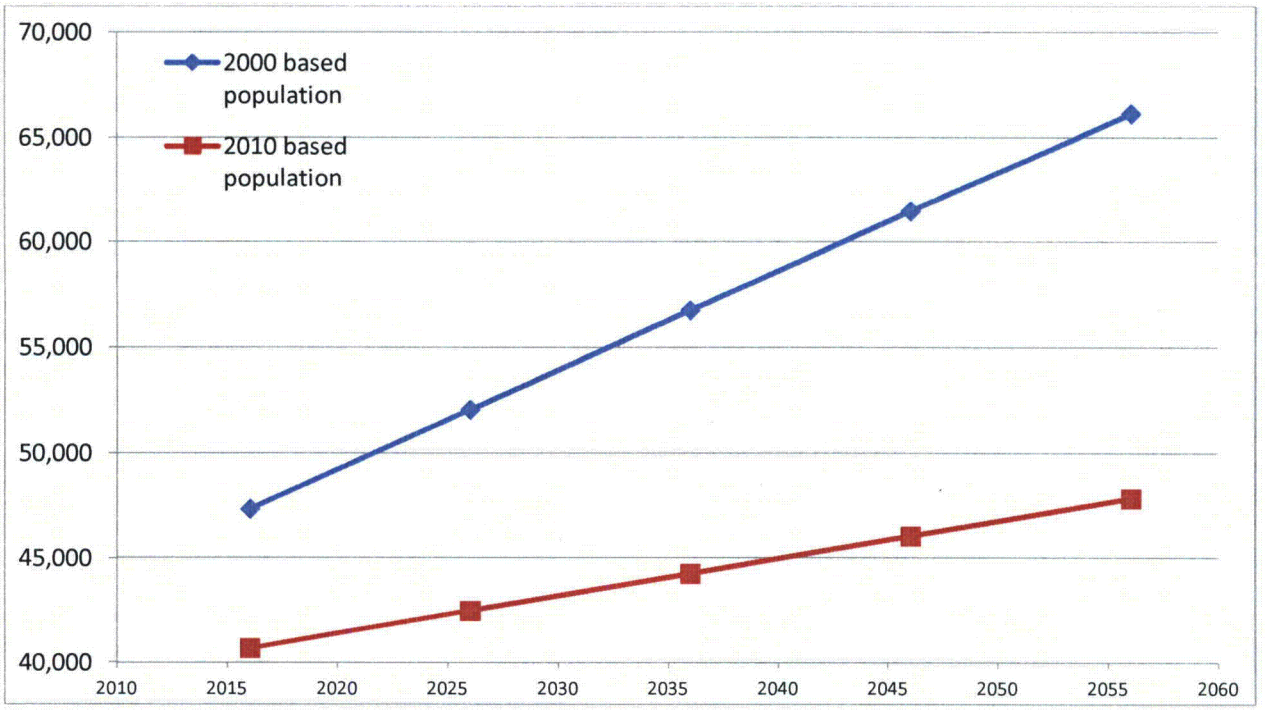
Table 1
2000 and 2010 Based Permanent Population Projections for the 50-Mile Region

		2016	2026	2036	2046	2056
2000 Based Projections		2,715,444	3,085,418	3,455,395	3,825,360	4,195,335
2010 Based Projections		2,817,851	3,169,111	3,517,788	3,865,632	4,213,495
Percent Change		3.77%	2.71%	1.81%	1.05%	0.43%

Comparison of the polar grid sector projected population distributions shows both increases and decreases in the predicted values, as would be expected.

As shown in Figure 1, for projected populations within 10-miles, the 2010-based data shows a general decrease from 2016 through 2056, in comparison with 2000-based projected population information.

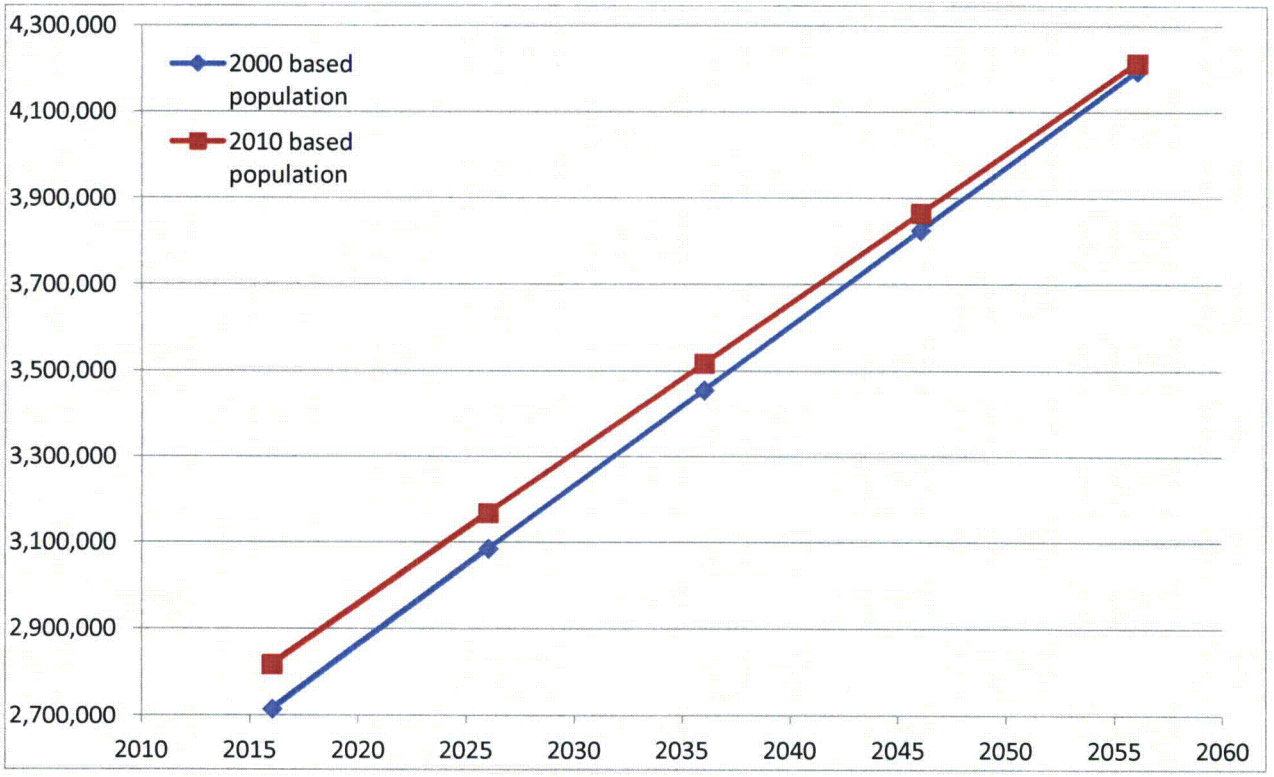
Figure 1
Graph of Population Projections (Lee Nuclear Site, 10-Mile Radius)



For the Lee site, most of the projected population is located between 10 and 50 miles from the site. As a result, the trend illustrated in Figure 1 is moderated by the regional population growth. As shown in Figure 2, the 50-mile region shows a modest increase for 2016 with a progressively smaller increase projected through 2056.

Figure 2

Graph of Population Projections (Lee Nuclear Site, 50-Mile Radius)



The increase in projected population due to the latest 2010 Census could have an impact on the radiological dose evaluations presented in the Environmental Report. The dose analyses which could be impacted by projected population changes are listed below along with the corresponding ER Sections.

- Dose from normal plant operations (ER Section 5.4.3)
- Design Basis Accident Dose (ER Section 7.1)
- Severe Accident Considerations (ER Section 7.2)

Dose from normal plant operations

ER Section 5.4.3 evaluated the impact of radioactive effluents from the plant during normal operations for the maximum exposed individual. Because these impacts are for the maximally exposed individual near the site, changes in population projections would not impact the doses presented in ER 5.4.3 evaluation.

ER Section 5.4.3 evaluated the population dose within a 50-mile radius of the Lee site associated with normal gaseous and liquid radioactive effluent releases. As presented in the COL application, Duke estimated a collective total body dose of 10.2 person-rem/year to the population within 50-miles of the Lee site due to the operation of both Units 1 and 2. An increase of 0.43% in the 2056 population, based on the 2010 Census data, will still result in a

collective population dose of 10.2 person-rem/year. Because the increase in collective population dose is insignificant, the ER conclusion that the most likely number of excess health effects would effectively be zero is unchanged.

An increase in total population projections in the range of 0.4% to 3.8% based on the 2010 Census data would have negligible impact on the ER 5.4.3 population dose evaluation.

Design Basis Accident Dose

The design basis accident dose consequences are evaluated in ER Section 7.1. Design basis accident dose consequences are determined for a hypothetical offsite individual located at the Exclusion Area Boundary (EAB) or the Low Population Zone (LPZ). Changes in population projections have no impact on the location of the hypothetical maximum individual receptor. Consequently, the maximum individual doses presented in the COL application and evaluated in ER Section 7.1 would be unchanged.

Severe Accident Considerations

ER Section 7.2 evaluated the potential environmental consequences associated with severe accidents at the Lee site. These evaluations determined the severe accident consequences considering site-specific meteorology, population, and land use data. The estimated severe accident health risk to the population within 50-miles of the Lee site is 5.3×10^{-2} person-rem/year. An increase in total population projections in the range of 0.4% to 3.8% based on the 2010 Census data will not change the health risk of a severe accident at the Lee site. The small increase in total population associated with the 2010-based projection data would have no impact on the severe accident related conclusions reached in the ER.

This assessment concludes that for these key radioactive dose related environmental impacts, the small increases on population based on 2010 Census data over the 2000 Census would not be expected to change conclusions reached in relevant sections of the ER.

Reference:

1. Letter from B.J. Dolan to Document Control Desk, Duke Energy Carolinas, LLC, William States Lee III Nuclear Station – Docket Nos. 52-018 and 52-019; Revision 1 to the Environmental Report (Part 3) andRevision 2 to Withheld Information (Part 9) for William States Lee III Nuclear Station Units 1 and 2 Combined License Application, dated March 30, 2009 (ML090990081)

Associated Revisions to the Lee Nuclear Station Combined License Application:

None

Attachments:

None