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March 6, 2009

Document Control Desk
U.S. Nuclear Regulatory Commission
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
Response to Request for Additional Information
Ltr# WLG2009.03-05

Reference: Letter from L.M. Tello (NRC) to B.J. Dolan (Duke Energy), *Request for Additional Information Regarding the Environmental Review of Combined License Application for William States Lee Nuclear Station Units 1 and 2*, dated January 21, 2009

This letter provides the Duke Energy response to the Nuclear Regulatory Commission's (NRC) request for the following additional information (RAI) item included in the referenced letter:

RAI 106, Radiological Health

The response to this NRC request is addressed in a separate enclosure, which also identifies associated changes, when appropriate, that will be made in a future revision of the Williams States Lee III Nuclear Station application.

If you have any questions or need any additional information, please contact Peter S. Hastings, Nuclear Plant Development Licensing Manager, at 980-373-7820.

Bryan J. Dolan
Vice President
Nuclear Plant Development

D093
NRO

Enclosure:

1) Response to RAI 106, Radiological Health

AFFIDAVIT OF BRYAN J. DOLAN

Bryan J. Dolan, being duly sworn, states that he is Vice President, Nuclear 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.

Bryan J. Dolan

Subscribed and sworn to me on March 6, 2009

Notary Public

My commission expires: April 19, 2010

SEAL

xc (w/o enclosure):

Loren Plisco, Deputy Regional Administrator, Region II
Mark Tonacci, Acting Branch Chief, DNRL
Robert Schaaf, Branch Chief, DSER

xc (w/ enclosure):

Linda Tello, Project Manager, DSER
Brian Hughes, Senior Project Manager, DNRL

Lee Nuclear Station Response to Request for Additional information (RAI)

RAI Letter Dated: January 21, 2009

Reference NRC RAI Number: ER RAI 106

NRC RAI:

Neither Table 5.4-10 nor 5.4-13 can be reconciled with Tables 5.4-4 or 5.4-8. Verify that the values in Tables 5.4-10 and 5.4-13 are correct, or provide updates.

Duke Energy Response:

The liquid pathway dose calculation was revised as indicated in the response to Environmental Report (ER) RAI 39 (Accession# ML083520212). The gaseous pathway dose calculation has been revised for consistency with the FSAR. Consequently, Table 5.4-4, Liquid Pathway Comparison of Maximum Individual Dose to 10 CFR 50 Appendix I Criteria (provided in the response to ER RAI 39), and Table 5.4-8, Annual Dose to a Maximally Exposed Individual from Gaseous Effluents (per Unit) which are inputs to Table 5.4-10, Liquid Pathway Comparison of Maximum Individual Dose to 40 CFR 90 Limits (provided in the response to ER RAI 39), and to Table 5.4-13, Comparison of Maximum Individual Dose to 40 CFR Part 190 Limits – Gaseous Pathway, were updated. The revised Tables 5.4-8 and 5.4-13 are provided as Attachments 106-1 and 106-2, respectively.

The revised calculations are available for inspection at our offices in Charlotte, NC or our contractor offices in Richmond, WA and Bethesda, MD.

Associated Revisions to the Lee Nuclear Station Combined License Application:

ER Table 5.4-8	Annual Dose to a Maximally Exposed Individual from Gaseous Effluents (per Unit)
ER Table 5.4-13	Comparison of Maximum Individual Dose to 40 CFR Part 190 Limits – Gaseous Pathway

Associated Attachments:

Attachment 106-1	Revised ER Table 5.4-8	Annual Dose to a Maximally Exposed Individual from Gaseous Effluents (per Unit)
Attachment 106-2	Revised ER Table 5.4-13	Comparison of Maximum Individual Dose to 40 CFR Part 190 Limits – Gaseous Pathway

Enclosure No. 1
Duke Letter Dated: March 6, 2009

Lee Nuclear Station Response to Request for Additional Information (RAI)

Attachment 106-1 to RAI 106

Revised ER Table 5.4-8

[Note: Entire Table has been changed]

TABLE 5.4-8 (Sheet 1 of 2)
ANNUAL DOSE TO MAXIMALLY EXPOSED INDIVIDUAL FROM GASEOUS EFFLUENTS (PER UNIT)

Dose Rate (mrem/yr)

Adult				Organ				
Pathway	Whole Body	GI-LLI [(a)]	Bone	Liver	Kidney	Thyroid	Lung	Skin
PLUME	3.70E-01	3.70E-01	3.70E-01	3.70E-01	3.70E-01	3.70E-01	3.99E-01	2.06E+00
GROUND	1.05E-01	1.05E-01	1.05E-01	1.05E-01	1.05E-01	1.05E-01	1.05E-01	1.23E-01
VEGET.	1.27E-01	1.28E-01	5.70E-01	1.27E-01	1.23E-01	8.87E-01	1.18E-01	1.17E-01
MEAT	4.32E-02	4.79E-02	1.89E-01	4.33E-02	4.28E-02	7.41E-02	4.24E-02	4.23E-02
COW MILK	4.71E-02	4.30E-02	1.72E-01	4.95E-02	4.74E-02	7.99E-01	4.21E-02	4.15E-02
GOATMILK	4.79E-02	3.65E-02	1.33E-01	5.30E-02	4.46E-02	8.85E-01	3.67E-02	3.50E-02
INHAL.	4.76E-02	4.82E-02	7.29E-03	4.87E-02	4.95E-02	4.35E-01	6.16E-02	4.62E-02
Total	7.88E-01	7.79E-01	1.55E+00	7.97E-01	7.82E-01	3.56E+00	8.05E-01	2.47E+00

Teen				Organ				
Pathway	Whole Body	GI-LLI [(a)]	Bone	Liver	Kidney	Thyroid	Lung	Skin
PLUME	3.70E-01	3.70E-01	3.70E-01	3.70E-01	3.70E-01	3.70E-01	3.99E-01	2.06E+00
GROUND	1.05E-01	1.05E-01	1.05E-01	1.05E-01	1.05E-01	1.05E-01	1.05E-01	1.23E-01
VEGET.	1.91E-01	1.93E-01	9.10E-01	1.95E-01	1.90E-01	1.20E+00	1.81E-01	1.79E-01
MEAT	3.50E-02	3.77E-02	1.59E-01	3.53E-02	3.49E-02	5.75E-02	3.46E-02	3.45E-02
COW MILK	7.79E-02	7.34E-02	3.15E-01	8.55E-02	8.20E-02	1.27E+00	7.28E-02	7.15E-02
GOATMILK	7.11E-02	5.95E-02	2.41E-01	8.90E-02	7.45E-02	1.40E+00	6.09E-02	5.75E-02
INHAL.	4.82E-02	4.86E-02	8.82E-03	5.00E-02	5.11E-02	5.43E-01	6.98E-02	4.66E-02
Total	8.98E-01	8.87E-01	2.11E+00	9.30E-01	9.08E-01	4.95E+00	9.23E-01	2.57E+00

Child				Organ				
Pathway	Whole Body	GI-LLI [(a)]	Bone	Liver	Kidney	Thyroid	Lung	Skin
PLUME	3.70E-01	3.70E-01	3.70E-01	3.70E-01	3.70E-01	3.70E-01	3.99E-01	2.06E+00
GROUND	1.05E-01	1.05E-01	1.05E-01	1.05E-01	1.05E-01	1.05E-01	1.05E-01	1.23E-01
VEGET.	4.22E-01	4.15E-01	2.15E+00	4.32E-01	4.22E-01	2.36E+00	4.08E-01	4.06E-01
MEAT	6.34E-02	6.46E-02	2.99E-01	6.39E-02	6.33E-02	9.76E-02	6.30E-02	6.29E-02
COW MILK	1.73E-01	1.67E-01	7.72E-01	1.89E-01	1.83E-01	2.55E+00	1.67E-01	1.65E-01
GOATMILK	1.40E-01	1.28E-01	5.84E-01	1.80E-01	1.55E-01	2.80E+00	1.32E-01	1.27E-01
INHAL.	4.26E-02	4.21E-02	1.07E-02	4.44E-02	4.54E-02	6.32E-01	6.04E-02	4.12E-02
Total	1.32E+00	1.29E+00	4.29E+00	1.38E+00	1.34E+00	8.91E+00	1.33E+00	2.99E+00

TABLE 5.4-8 (Sheet 2 of 2)
ANNUAL DOSE TO MAXIMALLY EXPOSED INDIVIDUAL FROM GASEOUS EFFLUENTS (PER UNIT)

	Dose Rate (mrem/yr)							
Infant	Organ							
Pathway	Whole Body	GI-LLI [(a)]	Bone	Liver	Kidney	Thyroid	Lung	Skin
PLUME	3.70E-01	3.70E-01	3.70E-01	3.70E-01	3.70E-01	3.70E-01	3.99E-01	2.06E+00
GROUND	1.05E-01	1.05E-01	1.05E-01	1.05E-01	1.05E-01	1.05E-01	1.05E-01	1.23E-01
VEGET.								
MEAT								
COW MILK	3.46E-01	3.36E-01	1.49E+00	3.84E-01	3.64E-01	6.12E+00	3.38E-01	3.35E-01
GOATMILK	2.66E-01	2.51E-01	1.10E+00	3.55E-01	2.96E-01	6.74E+00	2.59E-01	2.50E-01
INHAL.	2.46E-02	2.40E-02	5.39E-03	2.65E-02	2.64E-02	5.66E-01	3.71E-02	2.37E-02
Total	1.11E+00	1.09E+00	3.07E+00	1.24E+00	1.16E+00	1.39E+01	1.14E+00	2.79E+00

(a) GI-LLI is the gastrointestinal tract — lower large intestine.

Enclosure No. 1
Duke Letter Dated: March 6, 2009

Lee Nuclear Station Response to Request for Additional Information (RAI)

Attachment 106-2 to RAI 106

Revised ER Table 5.4-13

Enclosure No. 1
Duke Letter Dated: March 6, 2009

TABLE 5.4-13

COMPARISON OF MAXIMUM INDIVIDUAL DOSE TO 40 CFR PART 190 LIMITS – GASEOUS PATHWAY

Type of Dose (Annual)	Dose Limit [a] (mrem)	Calculated Dose [b] (mrem)
Whole ~~b~~Body ~~d~~Dose ~~e~~Equivalent	25	2.64E+00~~4.26~~
Dose to ~~t~~Thyroid	75	2.78E+01~~2.76~~
Dose to ~~skin~~Another Organ [c]	25	8.58E+00

a) 40 CFR 190 Dose Limit~~.~~

b) Total for two units

c) The maximum dose to an organ other than the thyroid is the dose to the bone of a child