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July 22, 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
(RAI Nos. 538)
Ltr # WLG2009.07-06

Reference: Letter from Tanya Simms (NRC) to Peter Hastings (Duke Energy);
*Request for Additional Information Letter Nos. 004 Related to SRP
Section 07.05 for the William States Lee III Units 1 and 2 Combined
License Application, dated August 14, 2008.*

Dolan to NRC Document Control Desk, Response to Request for
Additional Information, Ltr # WLG2009.03-18, dated April 2, 2009.

This letter provides the Duke Energy supplemental response to the Nuclear Regulatory Commission's requests for additional information (RAIs) included in the referenced letter. This response and the attached FSAR markup supplement the response to RAI 07.05-001 transmitted by the Duke Energy letter reference above.

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

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MRO

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Enclosures:

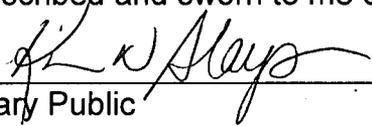
- 1) Duke Energy Supplemental Response to Request for Additional Information
Letter 004, RAI 07.05-001

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 July 22, 2009


Notary Public

My commission expires: April 19, 2010



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xc (w/o enclosures):

Loren Plisco, Deputy Regional Administrator, Region II
Stephanie Coffin, Branch Chief, DNRL

xc (w/enclosures):

Brian Hughes, Senior Project Manager, DNRL
Tanya Simms, Project Manager, DNRL

**Lee Nuclear Station Supplemental Response to Request for Additional Information (RAI)
RAI Letter No. 004**

NRC Technical Review Branch: Instrumentation, Controls and Electrical Engineering

Reference NRC RAI Number(s): 07.05-001

NRC RAI:

Tables 7.5-1 and 7.5-8 of the AP1000 Design Control Document (DCD), Revision 16, Post-Accident Monitoring System, contain variables to monitor the meteorological parameters and environs radiation and radioactivity. These variables are defined as site specific. Define these variables in compliance with Regulatory Guide 1.97, Revision 3, as committed to in the combined license application, or justify an alternative approach.

Table 7.5-1 (Sheet 12 of 12) of the AP1000 DCD, Revision 16, identifies meteorological parameters as site specific. Additionally, Table 7.5-8 of the AP1000 DCD identifies "meteorology" and "boundary environs radiation and radioactivity" as site specific variables. However, the staff has not found where the combined license application addresses the parameters/variables. Explain where these variables are found.

Duke Energy Response:

The Lee Nuclear Station meteorological and environs radiation and radioactivity monitoring conforms to Regulatory Guide 1.97, Revision 4 per FSAR Appendix 1AA.

The meteorological parameters monitored are identified in FSAR Table 2.3-281. Meteorological variables are defined consistent with Regulatory Guide 1.97, Revision 3.

Environs radiation and radioactivity monitoring is addressed in FSAR Subsections 11.5.3 and 12.3.4. Off-site radiological monitoring capability is also addressed in Section II.H.7 of the William States Lee III Nuclear Station Emergency Plan. Environs radiation and radioactivity variables are defined consistent with Regulatory Guide 1.97, Revision 3 in FSAR Table 7.5-201.

The attached Revision 1 FSAR markup will be incorporated into a future revision of the FSAR.

Note that this response and the attached FSAR Table 2.3-281 markup supplement the response to RAI 07.05-001 transmitted as an enclosure to Ltr# WLG2009.03-18 dated April 2, 2008 (ML090960298). This response does not affect other FSAR markups transmitted as part of the enclosure to Ltr# WLG2009.03-18.

Associated Revision to the Lee Nuclear Station Final Safety Analysis Report:

FSAR Table 2.3-281

Attachments:

- 1) Revised FSAR Table 2.3-281.

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

Attachment 1 to RAI 07.05-001

Revised FSAR Table 2.3-281

WLS COL 2.3-3

TABLE 2.3-281 (Sheet 1 of 2)
 METEOROLOGICAL TOWER INSTRUMENTATION

Tower 2 ^(a)	Meteorological Variable	Range	Units	Accuracy	Resolution	Basis
	Wind Speed (10 & 60m)	0 to 60	mph	± 0.5 or 5% of observed wind speed; starting threshold < 1 mph	0.1	NRC Regulatory Guide 1.23
	Wind Direction (10 & 60m)	0 to 360	(degrees from True North)	± 5	1	NRC Regulatory Guide 1.23
	Temperature ^(b) (10 & 60m)	-20 to +40	Celsius	± 0.5	0.1	NRC Regulatory Guide 1.23
	Delta-T ^(b) (60m - 10m)	--- Calculated ^(f)	Celsius	± 0.1	0.01	NRC Regulatory Guide 1.23
	Surface Temperature ^(d) (2m)	-20 to +40	Celsius	± 0.5	0.1	NRC Regulatory Guide 1.23
	Delta-T ^(d) (10m - 2m)	--- Calculated ^(f)	Celsius	± 0.1	0.01	NRC Regulatory Guide 1.23
	Dewpoint Temperature (10m)	-50 to +50	Celsius	± 1.5	0.1	NRC Regulatory Guide 1.23
	Precipitation	---	Inches	± 10%	0.01	NRC Regulatory Guide 1.23
	Station Pressure ^{(c)(d)}	880 to 1085	millibars	± 3 or 0.25%	0.1	ANSI/ANS 3.11-2005
	Incoming Solar Radiation ^{(c)(d)}	0 to 1400	watts/m ²	± 10 or 5%	---1	ANSI/ANS 3.11-2005

WLS COL 2.3-3

TABLE 2.3-281 (Sheet 2 of 2)
 METEOROLOGICAL TOWER INSTRUMENTATION

Meteorological Variable	Range	Units	Accuracy	Resolution	Basis
Outgoing Longwave Radiation (upwelling from ground) ^{(c)(d)}	0 to 700	watts/m ²	± 10 or 5%	—1	ANSI/ANS 3.11-2005
Time ^(e)	0000 to 2359	minutes	± 5	1	NRC Regulatory Guide 1.23
Datalogger Sampling Rate	---	---	At least 5 seconds	---	NRC Regulatory Guide 1.23

NOTES:

- a) Tower 2 data has been used for air dispersion modeling and site characterization in the ER and FSAR, as most representative of the site. Equipment operational on December 1, 2005.
- b) Delta temperature between the 60m and 10m levels is used in stability class determination.
- c) There are no accuracies specified in Regulatory Guide 1.23 for these parameters. ANSI/ANSI 3.11-2005 accuracy guidance adopted as state-of-the-art specification.
- d) Optional measurement variable only.
- e) The 1-minute readings are averaged into 1-hour averages on Tower 2 during the pre-construction/pre-operational phase. During the operational phase, the 1-minute readings will also be compiled into 15-minute averages and 1-hour averages for real-time display in emergency response facilities. Hourly averaged data is verified and archived.
- f) Delta-T is calculated by datalogger from upper and lower temperature sensor output (i.e., T_{Upper} - T_{Lower}). Although the range of measurable vertical temperature difference is constrained only by temperature sensor range limitations, a range of -4 to +8 degree Celcius is applied in calibration procedure bases for demonstrating compliance with the ±0.1 °C accuracy requirement for Delta-T.