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10 CFR 50.90

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

CATAWBA NUCLEAR STATION, UNIT NOS. 1 AND 2
DOCKET NOS. 50-413 AND 50-414
RENEWED LICENSE NOS. NPF-35 AND NPF-52

MCGUIRE NUCLEAR STATION, UNIT NOS. 1 AND 2
DOCKET NOS. 50-369 AND 50-370
RENEWED LICENSE NOS. NPF-9 AND NPF-17

OCONEE NUCLEAR STATION, UNIT NOS. 1, 2 AND 3
DOCKET NOS. 50-269, 50-270 AND 50-287
RENEWED LICENSE NOS. DPR-38, DPR-47 AND DPR-55

SUBJECT: RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION (RAI) REGARDING APPLICATION TO USE ALTERNATE FISSION GAS GAP RELEASE FRACTIONS

REFERENCE:

1. Duke Energy letter, *License Amendment Request Proposing a New Set of Fission Gas Gap Release Fractions for High Burnup Fuel Rods that Exceed the Linear Heat Generation Rate Limit Detailed in Regulatory Guide 1.183, Table 3, Footnote 11*, dated July 15, 2015 (ADAMS Accession No. ML15196A093).

2. Regulatory Guide 1.183, *Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors*, Revision 0, U.S. Nuclear Regulatory Commission, July 2000.

3. NRC letter, *Catawba Nuclear Station, Units 1 and 2; McGuire Nuclear Station, Units 1 and 2; and Oconee Nuclear Station, Units 1, 2, and 3: Request for Additional Information Regarding License Amendment Request to Use an Alternate Fission Gas Gap Release Fraction (TAC Nos. MF6480, MF6481, MF6482, MF6483, MF6484, MF6485 and MF6486)*, dated December 17, 2015 (ADAMS Accession No. ML15348A260).

Ladies and Gentlemen:

In Reference 1, Duke Energy Carolinas, LLC (Duke Energy) submitted a license amendment request (LAR) for Catawba Nuclear Station (CNS), Units 1 and 2; McGuire Nuclear Station (MNS), Units 1 and 2; and Oconee Nuclear Station (ONS), Units 1, 2 and 3. The request for

amendment proposes to revise the facilities as described in the Updated Final Safety Analysis Reports (UFSAR) to provide gap release fractions for high-burnup fuel rods that exceed the 6.3 kW/ft linear heat generation rate (LHGR) limit detailed in Table 3 of Reference 2. In Reference 3, the Nuclear Regulatory Commission (NRC) requested additional information (RAI) regarding the original Duke Energy submittal. The enclosure provides Duke Energy's response to the NRC RAI requested in Reference 3.

This submittal contains no new regulatory commitments.

In accordance with 10 CFR 50.91, Duke Energy is transmitting a copy of this letter to the designated state officials of North Carolina and South Carolina. Should you have any questions concerning this letter and its enclosure, or require additional information, please contact Art Zaremba, Manager - Nuclear Fleet Licensing, at 980-373-2062.

I declare under penalty of perjury that the foregoing is true and correct. Executed on February 1, 2016.

Sincerely,

Regis T. Repko
Senior Vice President - Governance, Projects and Engineering

Enclosure: Response to NRC Request for Additional Information

cc: (all with Enclosure unless otherwise noted)

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CNS Master File 801.01 - CN04DM

Enclosure

Response to NRC Request for Additional Information

NRC Request for Additional Information:

By letter dated July 15, 2015 (Agencywide Documents Access and Management System Accession No. ML15196A093), Duke Energy Carolinas, LLC, license amendment requires to use a set of fission gas gap release fractions for high burnup fuel rods that exceed the linear heat generation rate limit detailed in Regulatory Guide 1.183, Table 3, Footnote 11. In order for the U.S. Nuclear Regulatory Commission (NRC) staff to complete its review of the request, the following additional information is requested.

ARCB-RAI-1

For those changes to the current licensing basis (CLB) parameters used in the affected dose consequence analyses provide additional information describing, for each affected design basis accident, all the basic parameters used in the dose consequence analyses. For each parameter, please indicate; the CLB value, the revised value where applicable, the basis for any changes made to the CLB values, and the applicable reference location within either the Updated Final Safety Analysis Report or Technical Specifications. If possible, the NRC staff requests that this information be presented in separate tables for each accident evaluated.

Duke Energy Response to ARCB-RAI-1:

The affected design basis accidents for the three nuclear stations covered by the license amendment request (LAR) under NRC review are as follows:

<u>Catawba Nuclear Station (CNS)</u>

- Fuel handling accident outside containment (CNS UFSAR Sections 15.7.4.2.1 & 15.7.4.3.1)
- Fuel handling accident inside containment (CNS UFSAR Sections 15.7.4.2.2 & 15.7.4.3.2)
- Weir gate drop (CNS UFSAR Sections 15.7.4.2.3 & 15.7.4.3.3)
- Spent fuel cask drop (denotes a drop of a loaded but unsealed spent fuel cask into a fuel pit) (CNS UFSAR Section 15.7.5)

<u>McGuire Nuclear Station (MNS)</u>

- Fuel handling accident inside containment (MNS UFSAR Section 15.7.4.1)
- Fuel handling accident in the fuel building (MNS UFSAR Section 15.7.4.2)
- Weir gate drop (MNS UFSAR Section 15.7.4.3)
- Spent fuel cask drop (denotes a drop of a loaded but unsealed spent fuel cask into a fuel pit) (MNS UFSAR Section 15.7.4.4)
- Tornado missile impact - spent fuel analysis (MNS UFSAR Sections 15.10.1 through 15.10.3)

<u>Oconee Nuclear Station (ONS)</u>

- Fuel handling accident (single assembly event) (ONS UFSAR Sections 15.11.2.1 & 15.11.2.2)

- Fuel cask handling accident (multiple assembly event) (ONS UFSAR Sections 15.11.2.4 & 15.11.2.5.3)

For the Alternate Source Term (AST) dose analyses of the aforementioned design basis accidents, the values were changed for only two parameters as follows:

Parameter 1 (revised for CNS Only)

The limiting isotopic activity values in a fuel assembly used in the AST analysis of the fuel handling accidents and weir gate drop at CNS were revised. The replacement isotopic activities are based on a peaking factor of 1.65; the isotopic activities in the CLB are based on a burnup dependent peaking factor (CNS UFSAR Sections 15.7.4.2.1, 15.7.4.2.2 & 15.7.4.2.3 and Reference 1). The limiting isotopic activities calculated for a fuel assembly at MNS and ONS already account for a constant peaking factor (ONS UFSAR Sections 15.11.2.1 & 15.11.2.4 and Reference 2) and were not revised. The CLB and revised fuel assembly isotopic activities for CNS are listed in Table 1 below.

Table 1: Fuel Assembly Isotopic Activities Used in the AST Analysis of the Fuel Handling Accidents and Weir Gate Drop at CNS

Isotope	CLB (Ci)	Revised (Ci)	Isotope	CLB (Ci)	Revised (Ci)
	Noble Gases			**Halogens**	
Kr83m	1.25E+05	1.32E+05	Br83		1.31E+05
Kr85m	2.80E+05	2.98E+05	Br85		2.99E+05
Kr85	6.78E+03	7.48E+03	Br87		4.95E+05
Kr87	5.76E+05	6.15E+05	I130	2.32E+04	3.95E+04
Kr88	8.14E+05	8.69E+05	I131	7.46E+05	8.09E+05
Kr89	1.05E+06	1.12E+06	I132	1.10E+06	1.18E+06
Xe131m	3.97E+03	1.24E+04	I133	1.61E+06	1.67E+06
Xe133m	4.71E+04	5.20E+04	I134	1.86E+06	1.95E+06
Xe133	1.53E+06	1.65E+06	I135	1.53E+06	1.60E+06
Xe135m	2.84E+05	3.62E+05	I136	7.91E+05	
Xe135	3.36E+05	4.12E+05			
Xe137	1.46E+06	1.55E+06		**Alkali Metals**	
Xe138	1.51E+06	1.59E+06	Rb86		2.54E+03
			Rb88		8.89E+05
			Rb89		1.18E+06
			Rb90		1.12E+06
			Cs134		2.06E+05
			Cs136		5.92E+04
			Cs137		9.23E+04
			Cs138		1.66E+06
			Cs139		1.58E+06

Notes on Table 1:

1) The CLB isotopic activity values are taken from Table 15-45 of the CNS UFSAR. The revised values are taken from Table 7 of the Duke Energy LAR that was submitted on July 15, 2015 and is currently under NRC review.

2) The activities used in the dose analysis in the CLB account for isotopes of noble gases (krypton and xenon) and iodine. Further discussion for bromine and alkali metals is provided in the Duke Energy request for partial scope implementation of AST at CNS (Reference 1) which was approved by the NRC (Reference 3).

3) The revised source term does not include ^{136}I. The half-life for this isotope, less than a minute, is very short compared to the minimum pre-event decay time taken in the AST analysis of any fuel handling type accident (3 days). Its daughter is ^{136}Xe, a stable isotope. Accordingly, ^{136}I does not contribute discernibly to the radiation doses following fuel handling accidents or a weir gate drop.

Parameter 2

Gap fraction values were revised for 25 fuel pins in each fuel assembly for which operation beyond the current limit of Regulatory Guide 1.183, Table 3, Footnote 11 is assumed in the supporting dose analyses. Also listed in Tables 6 and 8 of the Duke Energy LAR that was submitted on July 15, 2015 and currently under NRC review, the initial and revised values of the gap fractions are listed in Table 2 below.

Table 2: Non-LOCA Gap Fractions (CNS, MNS & ONS)

Isotope or Isotope Group	Gap Fraction from Table 3 of Reg Guide 1.183 (Rev. 0)	Non-LOCA Gap Fractions for Rods Operated in Excess of the RG 1.183, Table 3, Footnote 11 Limit
I-131	0.08	0.16
Kr-85	0.10	0.30
Xe-133	0.05	0.15
Cs-134 (Alkali Metal)	0.12	0.36
Cs-137 (Alkali Metal)	0.12	0.36
Other Noble Gases	0.05	0.10
Other Halogens	0.05	0.10
Other Alkali Metals	0.12	0.24

The values for all other parameters represented in the AST analyses of the fuel handling accidents, weir gate drop and fuel cask drop are unchanged from their CLB values. The three tables presented below provide the locations of the CLB values for these parameters separately for CNS, MNS and ONS.

Table 3: Parameters Associated with the
Dose Analysis of Fuel Handling Accidents at CNS

Parameters Common to the Dose Analyses of All Fuel Handling Type Accidents

Parameter:	Pool decontamination factor (DF) for noble gases
Location:	UFSAR Section 15.7.4.2.1, Bullet 7 and Table 15-46, Line Item 2.a
Notes:	No credit is taken for retention of noble gases in the pool.

Parameter:	Pool decontamination factor (DF) for iodine isotopes
Location:	UFSAR Section 15.7.4.2.1, Bullet 9 and Table 15-46, Line Item 2.a
Notes:	The value may be found in both the text and table as indicated. See UFSAR Section 15.7.4.2.1, Bullet 5 for related discussion.

Parameter:	Chemical composition fractions for iodine released to the environment
Location:	UFSAR Section 15.7.4.2.1, Bullet 9 and Table 15-46, Line Item 2.b
Notes:	The value may be found in both the text and table as indicated.

Parameter:	Profile of release to the environment
Location:	UFSAR Section Table 15-46, Line Item 2.c
Notes:	Refer to UFSAR Section 15.7.4.2.1, Bullet 11 for additional discussion.

Parameter:	No credit for the ventilation system for the building in which the accident starts
Location:	UFSAR Section 15.7.4.2.1, Bullet 14
Notes:	This applies to the ventilation systems in the building in which the event starts. The ventilation system associated with the fuel handling accident in containment is the Containment Purge Ventilation System (see also UFSAR Section 15.7.4.2.2, Bullet 1). The Fuel Handling Ventilation Exhaust System is associated with the fuel handling accident in the fuel building, weir gate drop, and the fuel cask drop.

Parameter:	Exclusion Area Boundary (EAB) atmospheric dispersion factor (χ/Q)
Location:	UFSAR Table 15-46, Line Item 3.a.

Parameter:	Low Population Zone boundary (LPZ) χ/Q
Location:	UFSAR Table 15-46, Line Item 3.b
Notes:	This is the 0-8 hour value. Refer to Table 15-40, Pg. 5 for values for the other intervals.

Parameter:	Number of Control Room Area Ventilation System (CRAVS) intakes open
Location:	UFSAR Table 15-46, Line Item 4.a
Notes:	CNS is equipped with two CRAVS intakes but in these analyses only one is assumed to be initially open.

Parameter:	Control room χ/Q
Location:	UFSAR Table 15-46 Line Item 4.b
Notes:	This is the 0-2 hour value. See Table 15-40, Pg. 5 for values for the remaining averaging intervals.

Parameter:	Control room volume
Location:	UFSAR Table 15-46, Line Item 5.a

Parameter:	CRAVS (total and recirculation) airflow rates
Location:	UFSAR Table 15-46, Line Item 5.b
Notes:	Total and recirculation airflow rates are given. The outside airflow rate is found by subtracting the recirculation airflow rate from the total airflow rate.

Parameter:	Rate of unfiltered inleakage to the control room
Location:	Duke Energy request for partial scope implementation of AST at CNS (Reference 1) and Attachment 8 under the header "Rate of unfiltered CR inleakage."
Notes:	Two values are given for this parameter. The higher value corresponds to no CRAVS operation; the lower value corresponds to at least one CRAVS train in operation.

Parameter:	CRAVS efficiencies
Location:	UFSAR Table 15-46, Line Item 5.b

Parameter:	Control room occupancy factors
Location:	Reference 1, Attachment 8 under the header "Control Room Occupancy Factors"

Parameter:	Dose coefficients
Location:	UFSAR Table 15-46, Line Item 6

Parameters Common to the Dose Analyses of the Fuel Handling Accidents and Weir Gate Drop

Parameter:	Normal AC / offsite power
Location:	UFSAR Section 15.7.4.2.1, Bullet 16
Notes:	The assumption is conservative based on the associated assumptions pertaining to CRAVS operation.

Parameter:	CRAVS operation
Location:	UFSAR Section 15.7.4.2.1, Bullet 17

Parameter:	CRAVS start time
Location:	UFSAR Section 15.7.4.2.1, Bullet 17

Parameters Common to the Dose Analysis of the Fuel Handling Accidents

Parameter:	Number of fuel assemblies damaged
Location:	UFSAR Section 15.7.4.2.1, Bullet 2 and Table 15-46, Line Item 1.d

Parameter:	Pre-event decay time
Location:	UFSAR Section 15.7.4.2.1, Bullet 1 and Table 15-46, Line Item 1.b

Parameters Associated with the Dose Analysis of the Weir Gate Drop

Parameter:	Number of fuel assemblies damaged
Location:	UFSAR Section 15.7.4.2.3, Bullet 2 and Table 15-58, Line Item 1.b

Parameter:	Pre-event decay time
Location:	UFSAR Section 15.7.4.2.3, Bullet 1 and Table 15-58, Line Item 1.a

Parameters Associated with the Dose Analysis of the Fuel Cask Drop

Parameter:	Number of fuel assemblies damaged
Location:	UFSAR Section 15.7.5

Parameter:	Pre-event decay time
Location:	UFSAR Section 15.7.5

Parameter:	Isotopic activities released to the pool
Location:	UFSAR Section 15.7.5

Parameter:	Isotopic activities released from the pool
Location:	UFSAR Section 15.7.5

Parameter:	CRAVS operating status
Value:	Both CRAVS are on-line at event initiation with each CRAVS train providing the airflow rates listed in Table 15-46, Line Item 5.b. The operators turn off one CRAVS train 30 minutes into the event.

Table 4: Parameters Associated with the
Dose Analysis of Fuel Handling Accidents at MNS

<u>Parameters Common to the Dose Analyses of All Fuel Handling Type Accidents</u>

Parameter:	Pool decontamination factor (DF) for noble gases
Location:	UFSAR Section 15.7.4.1.2

Parameter:	Pool decontamination factor (DF) for iodine isotopes
Location:	Reference 2, Attachment 2, Table 3

Parameter:	Chemical composition fractions for iodine released to the environment
Location:	Reference 2, Attachment 2, Table 3

Parameter:	No credit for the ventilation system for the building in which the accident starts
Location:	UFSAR Section 15.7.4.1.2
Notes:	See the Tornado Missile Accident section for details for that accident.

Parameter:	Exclusion Area Boundary (EAB) atmospheric dispersion factor (χ/Q)
Location:	Reference 2, Attachment 4, Table 5

Parameter:	Low Population Zone boundary (LPZ) χ/Q
Location:	Reference 2, Attachment 4, Table 5

Parameter:	Number of Control Room Area Ventilation System (CRAVS) intakes open
Location:	Reference 2, Section 3.3.1.2

Parameter:	Control room χ/Q
Location:	Reference 2, Section 3.3.1.2 points to the LAR submitted December 20, 2005 Appendix D of Attachment 3 (Reference 4)

Parameter:	Control room volume
Location:	Reference 4, Attachment 3, Appendix D

Parameter:	Rate of unfiltered inleakage to the control room
Location:	Reference 2, Attachment 2, Table 3
Notes:	See the Tornado Missile Accident section for details for that accident.

Parameter:	CRAVS efficiencies
Location:	Reference 2, Attachment 2, Table 3

Parameter:	Control room occupancy factors
Location:	Reference 2, Attachment 2, Table 3

Parameter:	Dose coefficients
Location:	Reference 4, Attachment 3, Section 6

Parameters Common to the Dose Analyses of the Fuel Handling Accidents and Weir Gate Drop

Parameter:	CRAVS operation
Location:	Reference 2, Attachment 2, Table 3

Parameter:	CRAVS start time
Location:	Reference 2, Attachment 2, Table 3

Parameters Common to the Dose Analysis of the Fuel Handling Accidents

Parameter:	Number of fuel rods damaged
Location:	Reference 2, Attachment 2, Table 3

Parameter:	Pre-event decay time
Location:	Reference 2, Attachment 2, Table 3

Parameters Associated with the Dose Analysis of the Weir Gate Drop

Parameter:	Number of fuel rods damaged
Location:	Reference 2, Attachment 2, Table 3

Parameter:	Pre-event decay time
Location:	Reference 2, Attachment 2, Table 3

Parameters Associated with the Dose Analysis of the Fuel Cask Drop

Parameter:	Number of fuel assemblies damaged
Location:	UFSAR Section 15.7.4.4

Parameter:	Pre-event decay time
Location:	UFSAR Section 15.7.4.4

Parameter:	Isotopic activities released to the pool
Location:	UFSAR Section 15.7.4.4

Parameter:	Isotopic activities released from the pool
Location:	UFSAR Section 15.7.4.4

Parameters Associated with the Dose Analysis of the Tornado Missile Accident

Parameter:	Number of fuel assemblies damaged
Location:	UFSAR Section 15.10 and UFSAR Table 15-39

Parameter:	Pre-event decay time
Location:	UFSAR Section 15.10 and UFSAR Table 15-39

Parameter:	Credit for the fuel building (VF) ventilation system
Location:	UFSAR Section 15.10 and UFSAR Table 15-39
Notes:	Credit is only assumed in the sense that it impacts the release point. The release point is the rollup door and not the unit vent. No credit is assumed for VF filtration.

Parameter:	Rate of unfiltered inleakage to the control room
Location:	UFSAR Table 15-39

Parameter:	Offsite χ/Q
Location:	UFSAR Table 15-39

Table 5: Parameters Associated with the
Dose Analysis of Fuel Handling Accidents at ONS

Parameters Common to the Analyses of All Fuel Handling Type Accidents

Parameter:	Pool decontamination factor (DF) for noble gases
Location:	UFSAR Section 15.11.2.1 and ONS AST SER (Reference 5), Table 3 (page 25)

Parameter:	Pool decontamination factor (DF) for iodine isotopes
Location:	UFSAR Sections 15.11.2.1, 15.11.2.2 and 15.11.2.4 and Reference 5, Table 3 (page 25)

Parameter:	Chemical composition fractions for iodine released to the environment
Location:	ONS Supplement to LAR for Full-scope Implementation of AST (Reference 6), page 67

Parameter:	No credit for removal of fission products by the PRVS, SFPVS, or the RB purge exhaust filtration system
Location:	Reference 5, page 6

Parameter:	Exclusion Area Boundary (EAB) and Low Population Zone (LPZ) atmospheric dispersion factor (χ/Q)
Location:	Reference 5, page 26 (Table 4)

Parameter:	Control room χ/Q
Location:	Unadjusted values listed in UFSAR Table 15-61. Airflow imbalance of 55% / 45% is then applied for dual intakes as described in UFSAR Section 15.1.10 and Reference 5, Section 3.4.3. For the FHA accidents, the unit vent release location is limiting.

Parameter:	Control room volume (Unit 1&2 control room is associated with limiting dose), CRVS airflow rate, CRVS filter efficiencies, and control room occupancy factors
Location:	ONS AST LAR (Reference 7), Attachment 3, pages 21 and 22

Parameter:	Rate of unfiltered inleakage to the control room
Location:	Unit 1&2 values are associated with the limiting dose: post-pressurization inleakage of 150 cfm from Reference 7, Attachment 3, page 21 and pre-pressurization inleakage of 1202 cfm.

Parameter:	Dose coefficients (from Federal Guidance Report 11 and 12)
Location:	Reference 7, Attachment 3, page 19

Parameters Associated with the Analysis of the Fuel Handling Accident (Single Assembly Event)

Parameter:	Number of fuel assemblies damaged, fission product decay period and radial peaking factor
Location:	Reference 5, Table 3 (page 25)

Parameters Associated with the Analysis of a Fuel Cask Handling Accident (Multiple Assembly Event)

Parameter:	Number of fuel assemblies damaged and fission product decay period
Location:	Reference 5, Table 3 (page 25). Detailed description of parameter combinations for each case is given in Reference 6, page 61. The limiting dose is associated with the case of a transport cask drop into the Unit 1&2 SFP with 576 assemblies damaged (354 assemblies decayed over 55 days and 222 assemblies decayed over 1 year).

Parameter:	Radial peaking factor
Location:	Reference 5, Table 3 (page 25)

ARCB-RAI-2

Appendix B of RG 1.183, Regulatory Position 1.1 states:

> "The number of fuel rods damaged during the accident should be based on a conservative analysis that considers the most limiting case. This analysis should consider parameters such as the weight of the dropped heavy load or the weight of a dropped fuel assembly (plus any attached handling grapples), the height of the drop, and the compression, torsion, and shear stresses on the irradiated fuel rods. Damage to adjacent fuel assemblies, if applicable (e.g., events over the reactor vessel), should be considered."

Please explain how the revised fuel handling accident analysis determines the most limiting case, and how it shows that the limiting case is not the drop of an object other than an irradiated fuel assembly.

Duke Energy Response to ARCB-RAI-2:

As demonstrated in the original July 15, 2015 LAR submittal, the weir gate drop is the fuel handling accident at CNS associated with the highest calculated values for offsite and control room radiation doses. It is assumed in the AST analysis of the weir gate drop that all fuel pins in seven spent fuel assemblies are damaged. This assumption is unchanged from the AST analysis originally reviewed by the NRC (References 1 and 3) and the original NRC review of the analysis of radiological consequences of the weir gate drop (Reference 8).

Of all of the fuel handling type accidents in the MNS CLB, the weir gate drop is associated with the highest calculated values for exclusion area boundary radiation doses, while the tornado missile accident is limiting for the low population zone and control room radiation doses. It is

assumed in the weir gate drop dose analysis that seven of the impacted spent fuel pool assemblies are damaged. For the tornado missile accident, twelve fuel assemblies are assumed to fail. These assumptions are unchanged from the CLB dose analyses contained in the MNS UFSAR.

Of all of the fuel handling type accidents in the ONS CLB, the fuel cask handling accident (drop into the spent fuel pool) is associated with the highest calculated values for offsite and control room radiation doses. It is assumed in the limiting dose analysis that all fuel pins in the 576 impacted spent fuel pool assemblies are damaged. This assumption is unchanged from the dose analysis reviewed by the NRC (Reference 5).

References:

1. Duke Energy letter, *Duke Energy Corporation Catawba Nuclear Station Unit (s) 1 and 2 Docket Numbers 50-413 and 50-414 Revision to Proposed Amendment for Partial Scope Implementation of the Alternate Source Term and Proposed Amendment to Technical Specifications (TS) 3.7.10, Control Room Area Ventilation System, TS 3.7.11, Control Room Area Chilled Water System, TS 3.7.13, Fuel Handling Ventilation Exhaust System, and TS 3.9.3, Containment Penetrations*, dated March 26, 2002 (ADAMS Accession No. ML020930658).

2. NRC letter, *McGuire Nuclear Station, Units 1 and 2, Issuance of Amendments Regarding Implementation of Alternative Source Term Methodology (TAC Nos. MC9746 and MC9747)*, dated December 22, 2006 (ADAMS Accession No. ML063100406).

3. NRC letter, *Catawba Nuclear Station, Units 1 and 2 RE: Issuance of Amendments (TAC Nos. MB3758 and MB3759)*, dated April 23, 2002 (ADAMS Accession No. ML021140431).

4. Duke Energy letter, *Duke Energy Corporation McGuire Nuclear Station, Units 1 and 2 Docket Nos. 50-369 and 50-370 License Amendment Request for Selective Implementation of the Alternative Source Term and Revision to Technical Specification 3.9.4, Containment Penetrations*, dated December 20, 2005 (ADAMS Accession No. ML060250098).

5. NRC letter, *Oconee Nuclear Station, Units 1, 2 and 3 RE: Issuance of Amendments (TAC Nos. MB3537, MB3538, and MB3539)*, dated June 1, 2004 (ADAMS Accession No. ML041540097).

6. Duke Energy letter, *Oconee Nuclear Station Docket Numbers 50-269, 270, and 287 Supplement to License Amendment Request for Full-Scope Implementation of the Alternate Source Term Technical Specification Change (TSC) Number 2001-07*, dated May 20, 2002 (ADAMS Accession No. ML021430249).

7. Duke Energy letter, *Duke Energy Corporation Oconee Nuclear Station Units 1, 2, and 3 Docket Nos. 50-269, 50-270, 50-287 License Nos. NPF-38, NPF-47, and NPF-55 Licensed Amendment Request for Full-Scope Implementation of the Alternative Source Term and Technical Specifications 3.3.5, Engineered Safeguards Protective System (ESPS) Analog Instrumentation; 3.3.6, Engineered Safeguards Protective System (ESPS) Manual Initiation; 3.3.7, Engineered Safeguards Protective System (ESPS) Digital Automatic Actuation Logic Channels; 3.7.10, Penetration Room Ventilation System; 3.7.17 Spent Fuel Pool Ventilation System; 3.9.3, Containment Penetrations; 5.5.2, Containment Leakage Rate Testing Program; and 5.5.12, Ventilation Filter Testing Program Technical Specification Change Number 01-07*, dated October 16, 2001 (ADAMS Accession No. ML020030487).

8. NRC letter, *Catawba Nuclear Station - Supplement to the Catawba Safety Evaluation Report (NUREG-0954), Postulated Weir Gate Drop Accident (TAC MA0135 and MA0136)*, dated May 21, 1998.