

RAS 4835

# WINSTON & STRAWN

External  
Memorandum

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DOCKETED  
USNRC

September 10, 2002 (3:23PM)

September 4, 2002

OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

Ann Marshall Young, Chairman  
Administrative Judge  
Atomic Safety and Licensing Board  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Dr. Charles N. Kelber  
Administrative Judge  
Atomic Safety and Licensing Board  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Lester S. Rubenstein  
Administrative Judge  
4760 East Country Villa Drive  
Tucson, Arizona 85718

**Re: In the Matter of Duke Energy Corporation  
McGuire Nuclear Station, Units 1 and 2  
Catawba Nuclear Station, Units 1 and 2  
Docket Nos. 50-369-LR, 50-370-LR, 50-413-LR, 50-414-LR**

Dear Administrative Judges:

To assure full distribution to the Licensing Board and parties to this proceeding of information potentially material to BREDL/NIRS Consolidated Contention 2, enclosed are the following documents:

- August 2, 2002, letter from M.S. Tuckman, Duke Energy Corporation, to the U.S. NRC, enclosing Duke's comments on Draft (plant-specific) Supplement 8 to NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Power Plants," for McGuire Nuclear Station, Units 1 and 2. (The NRC Staff forwarded a copy of Draft Supplement 9 to the GEIS to Duke by letter dated May 6, 2002, and provided Duke the opportunity to submit comments on that document.)
- August 9, 2002, letter from M.S. Tuckman, Duke Energy Corporation, to the U.S. NRC, enclosing Duke's comments on Draft (plant-specific) Supplement 9 to NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Power Plants," for Catawba Nuclear Station, Units 1 and 2. (The NRC Staff forwarded a copy

Template = SECY-037

SECY-02

Administrative Judges  
September 4, 2002  
Page 2

of Draft Supplement 9 to the GEIS to Duke by letter dated May 14, 2002, and provided Duke the opportunity to submit comments on that document.)

- August 8, 2002, letter from G.R. Peterson, Duke Energy Corporation, to the U.S. NRC, setting forth the Catawba Nuclear Station position re two Severe Accident Mitigation Alternatives ("SAMAs") identified in Section 5.2.7 of Draft Supplement 9 to the GEIS for Catawba Nuclear Station, Units 1 and 2.
- August 19, 2002, letter from H.B. Barron, Duke Energy Corporation, to the U.S. NRC, setting forth the McGuire Nuclear Station position regarding a SAMA identified in Section 5.2.7 of Draft Supplement 8 to the GEIS for McGuire Nuclear Station, Units 1 and 2.

Sincerely,



Anne W. Cottingham  
Counsel for Duke Energy Corporation

Attachments

cc: Service List (w/Enclosure)



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M. S. Tuckman  
Executive Vice President  
Nuclear Generation

August 2, 2002

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

Subject: Comments on draft plant-specific Supplement 8 to NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Power Plants" McGuire Nuclear Station, Docket Nos. 50-369 and 50-370

By letter dated June 13, 2001, Duke Energy Corporation (Duke) submitted an Application to Renew the Facility Operating Licenses of McGuire Nuclear Station and Catawba Nuclear Station (Application). The staff has reviewed the information provided in the Environmental Report contained in the Application as well as the information provided in Duke letters dated January 17 and 31, 2002. By letter dated May 6, 2002, the staff forwarded a copy of the draft plant-specific Supplement 8 to NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Power Plants" for McGuire and provided Duke the opportunity to submit comments. Accordingly, please find Duke comments on draft Supplement 8 to NUREG-1437.

In addition to providing comments on the draft Supplement 8, Duke is also in the process of reviewing the conclusions contained in Section 5.2.7 of the draft Supplement 8. In this section, the staff concluded that one of the severe accident mitigation alternatives (SAMAs) related to hydrogen control in SBO sequences is cost beneficial under certain assumptions, which are being examined in connection with the resolution of GSI-189, "Susceptibility of Ice-Condenser and Mark III Containments to Early Failure from Hydrogen Combustion During a Severe Accident." Duke is in the process of reviewing this SAMA and plans to provide its position by a separate letter.

If there are any questions, please contact either Bill Miller at (704) 373-7900 or Bob Gill at (704) 382-3339.

Very truly yours,

M. S. Tuckman

Attachment

Affidavit

M. S. Tuckman, being duly sworn, states that he is Executive Vice President, Nuclear Generation Department, Duke Energy Corporation; that he is authorized on the part of said Corporation to sign and file with the U. S. Nuclear Regulatory Commission the attached comments on draft plant-specific Supplement 8 to NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Power Plants," and that all the statements and matters set forth herein are true and correct to the best of his knowledge and belief. To the extent that these statements are not based on his personal knowledge, they are based on information provided by Duke employees and/or consultants. Such information has been reviewed in accordance with Duke Energy Corporation practice and is believed to be reliable.

M. S. Tuckman

M. S. Tuckman, Executive Vice President  
Duke Energy Corporation

Subscribed and sworn to before me this 2<sup>ND</sup> day of August 2002.

Mary P. Debus  
Notary Public

My Commission Expires:

JAN 22, 2006

xc: (w/ Attachment)

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McGuire Master File MG01DM

Duke License Renewal Team

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Mary Hazeltine EC 12R  
Bill Miller EC12ZB  
Rounette Nader EC 12R  
Lisa Vaughn EC11X  
Debbie Keiser EC05Z  
Greg Robison EC12R  
Mike Semmler EC09O

*Attachment 1*

*Comments on Draft Plant-specific Supplement 8 to NUREG-1437,  
“Generic Environmental Impact Statement for License Renewal of Nuclear  
Power Plants”*

*McGuire Nuclear Station, Units 1 and 2*



*Attachment 1*  
*Comments on Draft NUREG-1437, Supplement 8*  
*McGuire Nuclear Station, Units 1 and 2*

**Chapter**     2.0   Description of Nuclear Power Plant and Site and Plant Interaction with the Environment  
**Section**     2.2.5 Aquatic Resources

| Comment Number | Page | Line  | Comment  |
|----------------|------|-------|--|
| 1              | 2-19 | 19    | <p>Line reads:<br/>           “The primary fish caught in the nearshore littoral zone include sunfish (<i>Lepomis</i> spp.), carp (<i>Cyprinus carpio</i>), and catfish including the blue catfish (<i>Ictalurus furcatus</i>), snail bullhead (<i>Ameiurus brunneus</i>), white catfish (<i>I. catus</i>), and flat bullhead (<i>I. platycephalus</i>). ”</p> <p>The inclusion of blue catfish as inhabitants of the nearshore littoral zone is incorrect as these fish are considered largely pelagic in nature and are only occasionally caught inshore. Additionally snail bullhead, white catfish, and flat bullhead are no longer found in significant numbers due in large part we believe by blue catfish and flathead catfish predation.</p> <p>Correct the sentence to read, “The primary fish caught in the nearshore littoral zone include sunfish (<i>Lepomis</i> spp.), largemouth bass, crappie, and carp (<i>Cyprinus carpio</i>). Numbers of previously abundant catfish species like snail bullhead (<i>Ameiurus brunneus</i>), white catfish (<i>I. catus</i>), and flat bullhead (<i>I. platycephalus</i>) have dwindled significantly due to suspected predation by blue catfish (<i>Ictalurus furcatus</i>), and flathead catfish (<i>Pylodictis olivaris</i>).”</p> |
| 2              | 2-19 | 27-29 | <p>Lines read:<br/>           “In 1999, 135 species of phytoplankton were collected, the dominant types being cryptophytes and diatoms (Duke 2001a).”</p> <p>It is more accurate to use the words ‘varieties and forms’ instead of species. Correct the sentence to read “In 1999, 135 varieties and forms of phytoplankton were collected, the dominant types being cryptophytes and diatoms (Duke 2001a).”</p>   |

*Attachment 1  
Comments on Draft NUREG-1437, Supplement 8  
McGuire Nuclear Station, Units 1 and 2*

**Chapter** 2.0 Description of Nuclear Power Plant and Site and Plant Interaction with the Environment  
**Section** 2.2.5 Aquatic Resources

| Comment Number | Page | Line | Comment  |
|----------------|------|------|--|
| 3              | 2-20 | 5-8  | <p>Lines read:</p> <p>“....--and three mussel species- Carolina heelsplitter (<i>Lasmigona decorata</i>), dwarf threetooth (<i>Triodopsis fulciden</i>), and Carolina creekshell (<i>Villosa vaughniana</i>)- could inhabit the region around McGuire (Table 2-1).”</p> <p>Although the word ‘could’ is used in this sentence, it creates the impression these mussels might be found in the area. This likelihood is extremely remote due to the lack of flowing water habitats around McGuire. Concurrence with this professional judgment is even stated in the SEIS on page 4-36, lines 25-28, “As described in Section 2.2.5, the only Federally or State-listed threatened or endangered aquatic species with the potential to inhabit waters near McGuire, the Carolina heelsplitter (<i>Lasmigona decorata</i>), is not present in the vicinity of the plant (Fridell 2001) and does not occur in impounded water.”</p> <p>Revise sentence to read “....--and three mussel species- Carolina heelsplitter (<i>Lasmigona decorata</i>), dwarf threetooth (<i>Triodopsis fulciden</i>), and Carolina creekshell (<i>Villosa vaughniana</i>)- could inhabit the region around McGuire (Table 2-1), but practically speaking the probability is extremely unlikely because of lack of lotic environments.”</p> |

*Attachment 1  
Comments on Draft NUREG-1437, Supplement 8  
McGuire Nuclear Station, Units 1 and 2*

**Chapter** 2.0 Description of Nuclear Power Plant and Site and Plant Interaction with the Environment  
**Section** 2.2.5 Aquatic Resources

| Comment Number | Page | Line  | Comment  |
|----------------|------|-------|--|
| 4              | 2-20 | 32-34 | <p>Lines read:</p> <p>“Menhinick (1991) lists the highfin carpsucker from Lake Norman considerably north of the study area and lists only historic records for the Santee chub in Lake Norman, but north of the study area (Gaddy 2001).”</p> <p>Although the above sentence is not factually incorrect, it leaves the impression that perhaps the highfin carpsucker and maybe even the Santee chub may exist in Lake Norman. It is well worth noting however that in the NC Heritage Program records the highfin carpsucker documentation is extremely sketchy and the EORANK (Element Occurrence Rank) designation is O (Obscure-date, location, and/or quality of the occurrence is unknown) and the survey date is listed only as pre-1991. The same paucity of rigorous documentation and species records is also true for the Santee Chub.</p> <p>Revise sentence to read “Menhinick (1991) lists the highfin carpsucker from Lake Norman considerably north of the study area and lists only historic records for the Santee chub in Lake Norman, but north of the study area (Gaddy 2001). However, detailed and thorough historical documentation on both species in the NC Natural Heritage Program records is incomplete or non-existent and there have been no citations of these species at all in the recent past.”</p> |

*Attachment 1*  
*Comments on Draft NUREG-1437, Supplement 8*  
*McGuire Nuclear Station, Units 1 and 2*

**Chapter**      Offsite Land Use  
**Section**      2.2.8.3

| <b>Comment Number</b> | <b>Page</b> | <b>Line</b> | <b>Comment</b>   |
|-----------------------|-------------|-------------|--|
| 5                     | 2-31        | 37          | Cowan's Ford Wildlife Refuge should be Cowan's Ford Waterfowl Refuge.  |
| 6                     | 2-33        | 1           | Cowan's Ford Wildfowl Refuge should be Cowan's Ford Wildlife Refuge.   |
| 7                     | 2-33        | 2           | Line should read: "... within an oxbow bend in the riverine section of Mountain Island Lake."  |
| 8                     | 2-33        | 1-6         | Section does not mention Crowder's Mountain State Park. Crowder's Mountain State Park is located approximately 24 miles south-west of McGuire. |

**Chapter**      4.0 Environmental Impacts of Operation  
**Section**      4.4.4 Public Services: Transportation Impacts During Operations

| <b>Comment Number</b> | <b>Page</b> | <b>Line</b> | <b>Comment</b>  |
|-----------------------|-------------|-------------|---|
| 9                     | 4-29        | 19-25       | McGuire's main entrance (west entrance) has been closed as a result of the events of Sept.11, 2001. This will probably be a permanent closure. All entrance and exit traffic must use the east entrance with the traffic light. |

*Attachment 1*  
*Comments on Draft NUREG-1437, Supplement 8*  
*McGuire Nuclear Station, Units 1 and 2*

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**Chapter**      5.0 Environmental Impacts of Postulated Accidents  
**Section**      5.2.2.1 Duke's Risk Estimates

| <b>Comment Number</b> | <b>Page</b> | <b>Line</b> | <b>Comment</b>  |
|-----------------------|-------------|-------------|---|
| 10                    | 5-6         | 23          | Line reads:<br><br>“... comments received during the McGuire peer review process, ...”<br><br>Including the above phrase in this location may lead a reader to assume that the peer review comments were incorporated into Revision 2 of the PRA which was used for the SAMA analysis. This is not the case; the peer review occurred after Revision 2 was complete. Suggest that the reference to the peer review be deleted here. |
| 11                    | 5-8         | 22          | 0.006 should be 0.06.   |
| 12                    | 5-8         | 23          | 0.0075 should be 0.07.  |

*Attachment 1*  
*Comments on Draft NUREG-1437, Supplement 8*  
*McGuire Nuclear Station, Units 1 and 2*

**Chapter** 5.0 Environmental Impacts of Postulated Accidents  
**Section** 5.2.2.2 Review of Duke's Risk Estimates

| Comment Number | Page    | Line      | Comment  |  |
|----------------|---------|-----------|--|--|
| 13             | 5-10    | 22        | The Revision 3 results provided at the time of the RAI response were preliminary and somewhat changed in the final approved version of Revision 3. Values from the final approved version of Revision 3 are provided in the following comment.   |  |
| 14             | 5-11    | Table 5-5 | The Revision 3 results provided by Duke at the time of the RAI were preliminary and somewhat changed in the final approved version of Revision 3. Values from the final approved version of Revision 3 are provided below. The format for these values is the same as provided in the RAI response dated January 31, 2002. |  |
|                |         |           | <b>Initiator</b>   | <b><u>Core Damage Frequency Contribution</u></b> |
|                |         |           | SEISMIC  | 8.9E-06  |
|                |         |           | TORNSW   | 1.6E-06  |
|                |         |           | FIRES  | 6.3E-06  |
|                |         |           | <b>Total External</b>  | <b>1.7E-05</b>                                   |
|                |         |           | Internal Floods  | 5.4E-06  |
|                |         |           | Transients   | 2.9E-06  |
|                |         |           | LOCAs  | 8.8E-06  |
|                |         |           | RPV Rupture  | 1.0E-06  |
|                |         |           | SGTR   | 5.2E-07  |
|                |         |           | ATWS   | 5.3E-07  |
|                |         |           | ISLOCA   | 9.8E-07  |
|                |         |           | <b>Total Internal</b>  | <b>2.0E-05</b>                                   |
|                |         |           | <b>Total CDF</b>   | <b>3.7E-05</b>                                   |
|                |         |           | <b>Total SBO Frequency</b>   | <b><u>SBO Frequency Contribution</u></b>         |
|                |         |           | Seismic  | 1.0E-05  |
| Tornado        | 7.4E-06 |           |  |  |
|                |         |           | 1.5E-06  |  |

*Attachment 1  
Comments on Draft NUREG-1437, Supplement 8  
McGuire Nuclear Station, Units 1 and 2*

**Chapter** 5.0 Environmental Impacts of Postulated Accidents  
**Section** 5.2.2.2 Review of Duke's Risk Estimates

| Comment Number | Page | Line               | Comment   |
|----------------|------|--------------------|---|
| 15             | 5-11 | Table 5-5, line 18 | The seismic CDF listed under the column heading PRA, Rev. 1 (IPE) is given as 1.1E-05. This is the value from the IPEEE not the IPE (1.4E-05). This should be more clearly identified in the table. |
| 16             | 5-11 | Table 5-5, line 20 | Table 8.1-1 of Revision 1 of the McGuire PRA (IPE), lists the fire CDF as 8.1E-08, not 2.3E-07. The IPEEE estimate of the fire CDF is 2.3E-07. Clarify which value and reference are intended.      |

**Chapter** 5.0 Environmental Impacts of Postulated Accidents  
**Section** 5.2.3.1 Potential Design Improvements

| Comment Number | Page | Line      | Comment   |
|----------------|------|-----------|---|
| 17             | 5-16 | Table 5-6 | Line in Table 5-6 reads: "align reactor vessel (RV) cooling/other Unit RN"...   |
|                |      |           | The Duke table used RV cooling. In this case RV is not an acronym for reactor vessel. RV is the shorthand notation for the Containment Ventilation Cooling Water System. This description should be added to the RV entry on page xxiii Abbreviations/Acronyms. |
| 18             | 5-16 | Table 5-6 | The zeros in the CDF column should be replaced with the CDF values from Table 4-2, found in Attachment K of the McGuire ER.   |

**Chapter** 5.0 Environmental Impacts of Postulated Accidents  
**Section** 5.2.4 Risk Reduction Potential of Design Improvements

| Comment Number | Page | Line | Comment   |
|----------------|------|------|---|
| 19             | 5-19 | 27   | The Revision 3 results provided at the time of the RAI response were preliminary and somewhat changed in the final approved version of Revision 3. Values from the final approved version of Revision 3 are provided Comment Number 14. |

*Attachment 1*  
*Comments on Draft NUREG-1437, Supplement 8*  
*McGuire Nuclear Station, Units 1 and 2*

**Chapter** 5.0 Environmental Impacts of Postulated Accidents  
**Section** 5.2.5 Cost Impacts of Candidate Design Improvements

| Comment Number | Page             | Line                | Comment  |
|----------------|------------------|---------------------|--|
| 20             | 5-21<br><br>5-17 | 28<br><br>Table 5-7 | <p>The cost estimate provided by Duke (\$205,000) is a per unit cost and should not be divided by 2.</p> <p>One of the major cost categories for the candidate modification is in the installation labor, primarily pulling cables. It was judged that finding a location for the diesel that would allow it to serve either unit would dramatically increase the cable pulling cost component. As such, it was judged that having a diesel for each unit would be less expensive (given the low cost of the hardware) than pulling cables to both units from a single location.</p> |
| 21             | 5-21             | 29                  | <p>Note that the pre-staged option was selected in order to provide confidence that the alignment could be established within a time frame that would allow mitigation for fast as well as slow station blackouts. Without pre-staging, the time needed to power the igniters would be long and may not be effective for all sequences. The estimated benefit would be reduced by some amount if a pre-staged diesel was not assumed.</p>  |
| 22             | 5-21             | 39                  | <p>The cost estimate provided by Duke (\$540,000) is a per unit cost and should not be divided by 2.</p>   |
| 23             | 5-22             | 3-5                 | <p>The sentence, "Duke further noted that ..." should be modified. The discussion that Duke provided relative to powering the air-return fans was in the context of powering the igniters. The mixing afforded by the fans may or may not be significant to the effectiveness of PARs, but in any case Duke provided no position on the need for fans when using PARs.</p>   |
| 24             | 5-22             | 9                   | <p>replace "reactor vessel cooling" with "the Containment Ventilation Cooling Water System"</p>  |
| 25             | 5-22             | 15-16               | <p>The two cost estimates, \$275,000 and \$291,000, are in the reverse order of the 2 SAMAs, (1) and (2), discussed earlier in the same paragraph. This may lead a reader to associate the costs incorrectly with the SAMAs.</p>   |



*Attachment 1*  
*Comments on Draft NUREG-1437, Supplement 8*  
*McGuire Nuclear Station, Units 1 and 2*

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**Chapter** 5.0 Environmental Impacts of Postulated Accidents  
**Section** 5.2.6.1 Duke Evaluation

| <b>Comment Number</b> | <b>Page</b> | <b>Line</b> | <b>Comment</b>   |
|-----------------------|-------------|-------------|--|
| 26                    | 5-25        | 4           | 3.81E+08 should be 3.1E+08<br><br>See page 12 of Attachment K, McGuire ER. |

**Chapter** 5.0 Environmental Impacts of Postulated Accidents  
**Section** 5.2.6.2 Staff Evaluation

| <b>Comment Number</b> | <b>Page</b> | <b>Line</b> | <b>Comment</b>   |
|-----------------------|-------------|-------------|--|
| 27                    | 5-27        | 17          | Update CDF discussion based on final Revision 3 results provided in Comment Number 14. |

*Attachment 1*  
*Comments on Draft NUREG-1437, Supplement 8*  
*McGuire Nuclear Station, Units 1 and 2*

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**Chapter**      6.0 Environmental Impacts of the Uranium Fuel Cycle and Solid Waste Management  
**Section**      6.1 The Uranium Fuel Cycle

| <b>Comment Number</b> | <b>Page</b> | <b>Line</b> | <b>Comment</b>   |
|-----------------------|-------------|-------------|--|
| 28                    | 6-6         | 25          | <p>This page presents a brief chronology of events that have occurred in the area of high level waste disposal subsequent to the GEIS being published in 1996. The chronology ends at the President's recommendation in February 2002.</p> <p>While it may seem a bit odd for this type of information to be contained in an environmental document, Duke believes that the chronology should remain in the SEIS and should be updated to reflect significant events that have taken place since then. For example:</p> <p>"On April 8, 2002, Governor Guinn of Nevada issued a "Notice of Disapproval" regarding the recommendation of the President. As required by the Nuclear Waste Policy Act, the matter was then referred to the Congress. Subsequently, [insert final decision of Congress and date]."</p> |

**Chapter**      Appendix E  
**Section**      Table E-1

| <b>Comment Number</b> | <b>Page</b> | <b>Line</b> | <b>Comment</b>   |
|-----------------------|-------------|-------------|--|
| 29                    | E-2         | 11          | Draft permit was issued May 30, 2002. Comments have been submitted to NCDENR for final approval. |



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M. S. Tuckman  
Executive Vice President  
Nuclear Generation

August 9, 2002

U.S. Nuclear Regulatory Commission  
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Subject: Comments on draft plant-specific Supplement 9 to NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Power Plants" Catawba Nuclear Station, Docket Nos. 50-413 and 50-414

By letter dated June 13, 2001, Duke Energy Corporation (Duke) submitted an Application to Renew the Facility Operating Licenses of McGuire Nuclear Station and Catawba Nuclear Station (Application). The staff has reviewed the information provided in the Environmental Report contained in the Application as well as the information provided in Duke letters dated February 1 and 8, 2002. By letter dated May 14, 2002, the staff forwarded a copy of the draft plant-specific Supplement 9 to NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Power Plants" for McGuire and provided Duke the opportunity to submit comments. Accordingly, please find Duke comments on draft Supplement 9 to NUREG-1437.

In addition to providing comments on the draft Supplement 9, Duke is also in the process of reviewing the conclusions contained in Section 5.2.7 of the draft Supplement 9. In this section, the staff concluded that two of the severe accident mitigation alternatives (SAMAs): one related to hydrogen control in SBO sequences is cost beneficial under certain assumptions, which are being examined in connection with the resolution of GSI-189, "Susceptibility of Ice-Condenser and Mark III Containments to Early Failure from Hydrogen Combustion During a Severe Accident" and a second SAMA related to the installation of flood protection around the 6900/4160 volt transformers. Duke is in the process of reviewing both of these SAMA and has provided its position in a separate letter dated August 8, 2002.

If there are any questions, please contact either Bill Miller at (704) 373-7900 or Bob Gill at (704) 382-3339.

Very truly yours,

M. S. Tuckman

Attachment

**Affidavit**

M. S. Tuckman, being duly sworn, states that he is Executive Vice President, Nuclear Generation Department, Duke Energy Corporation; that he is authorized on the part of said Corporation to sign and file with the U. S. Nuclear Regulatory Commission the attached comments on draft plant-specific Supplement 8 to NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Power Plants," and that all the statements and matters set forth herein are true and correct to the best of his knowledge and belief. To the extent that these statements are not based on his personal knowledge, they are based on information provided by Duke employees and/or consultants. Such information has been reviewed in accordance with Duke Energy Corporation practice and is believed to be reliable.

M. S. Tuckman

M. S. Tuckman, Executive Vice President  
Duke Energy Corporation

Subscribed and sworn to before me this 9<sup>TH</sup> day of August 2002.

Mary P. Nelson

Notary Public

My Commission Expires:

JAN 22, 2006

--

xc: (w/ Attachment)

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*Attachment 1*

*Comments on Draft Plant-Specific Supplement 9 to NUREG-1437,  
“Generic Environmental Impact Statement for License Renewal of Nuclear  
Power Plants”*

*Catawba Nuclear Station, Units 1 and 2*



*Attachment 1  
Comments on Draft NUREG-1437, Supplement 9  
Catawba Nuclear Station, Units 1 and 2*

**Chapter**      Executive Summary  
**Section**      Not Applicable

| Comment Number | Page | Line  | Comment  |
|----------------|------|-------|--|
| 1              | xix  | 12-14 | The staff's conclusion statement contained in these lines contradicts the staff conclusion statement contained in Section 5.2.7, page 5-28, lines 20-21. |

**Chapter**      1.0 Introduction  
**Section**      1.5 Compliance and Consultations

| Comment Number | Page | Line | Comment   |
|----------------|------|------|---|
| 2              | 1-9  | 8    | From Table 1-1, under Column reading "Permit Expiration or Consultation Date":<br><br>The permit expiration date is listed as "April 30, 2006".<br><br>The NPDES permit issue date was April 30, 2001, however the permit was not issued until well into the 5-year cycle. Therefore the expiration date on the permit is not the full 5 years from date of issue.<br><br>Correct the permit expiration date to be "June 30, 2005". |

**Chapter**      2.0 Description of Nuclear Power Plant and Site and Plant Interaction with the Environment  
**Section**      2.1.2 Reactor Systems

| Comment Number | Page | Line | Comment  |
|----------------|------|------|--|
| 3              | 2-4  | 38   | Line 38 should be revised to state:<br>"....5.0 percent by weight uranium-235." -- |

*Attachment 1*  
*Comments on Draft NUREG-1437, Supplement 9*  
*Catawba Nuclear Station, Units 1 and 2*

**Chapter** 2.0 Description of Nuclear Power Plant and Site and Plant Interaction with the Environment  
**Section** 2.1.7 Power Transmission Systems

| Comment Number | Page | Line | Comment  |
|----------------|------|------|--|
| 4              | 2-14 | 14   | The term "conservation easements" should be replaced with "protection of rare species".<br>Duke does not currently have conservation easements with SCDNR for transmission ROWs. |

**Chapter** 2.0 Description of Nuclear Power Plant and Site and Plant Interaction with the Environment  
**Section** 2.2.1 Land Use

| Comment Number | Page | Line | Comment   |
|----------------|------|------|---|
| 5              | 2-14 | 34   | "4916 ha (12,139 ac)" should read "4,917 ha (12,149 ac)"  |
| 6              | 2-14 | 35   | The statement "Full pond was achieved in 1904..." is somewhat misleading. Construction of a much smaller dam was completed in 1904. This dam was completely covered by the current and much larger Wylie dam which resulted in a significantly larger reservoir.<br><br>Change the statement to read: "The lake was initially impounded in 1904. Present full pond was obtained in 1924 with an increase in the dam height. |
| 7              | 2-16 | 1    | "Duke owns the land that underlays the lake..." is not entirely correct.<br><br>Change the statement to read: "Duke either owns the land under the lake or owns flood rights to the land under the lake".   |
| 8              | 2-16 | 9    | The fenced cemetery referenced as part of the site is not part of Catawba Nuclear site. The site is owned and operated by the Concord Cemetery Association.   |

*Attachment 1  
Comments on Draft NUREG-1437, Supplement 9  
Catawba Nuclear Station, Units 1 and 2*

**Chapter** 2.0 Description of Nuclear Power Plant and Site and Plant Interaction with the Environment  
**Section** 2.2.8.1 Housing

| Comment Number | Page | Line  | Comment  |
|----------------|------|-------|--|
| 9              | 2-27 | 24-25 | <p>From Table 2-4, under Column reading "Number of Personnel":<br/>           Currently reads:<br/>           Other – NC 95<br/>           Other – SC 96</p> <p>In order to correctly reflect the number counts as given in Table 2-5, change to:</p> <p>Other - NC 112<br/>           Other - SC 79</p> |

**Chapter** 2.0 Description of Nuclear Power Plant and Site and Plant Interaction with the Environment  
**Section** 2.2.8.2 Public Services

| Comment Number | Page | Line  | Comment  |
|----------------|------|-------|--|
| 10             | 2-32 | 24-25 | <p>Lines Read:<br/>           "There are 24 counties within the 80-km (50 mi) radius of the Catawba site: 13 in South Carolina and 10 in North Carolina. The 23-county area is served by 3 major interstate freeways."</p> <p>Correct the sentences to read:<br/>           "There are 24 counties within the 80-km (50 mi) radius of the Catawba site: 11 in South Carolina and 13 in North Carolina. The 24-county area is served by 3 major interstate freeways."</p> |

*Attachment 1  
Comments on Draft NUREG-1437, Supplement 9  
Catawba Nuclear Station, Units 1 and 2*

**Chapter** 2.0 Description of Nuclear Power Plant and Site and Plant Interaction with the Environment  
**Section** 2.2.8.4 Visual Aesthetics and Noise

| Comment Number | Page | Line | Comment  |
|----------------|------|------|--|
| 11             | 2-36 | 5    | "4912 ha (12,139 ac)" should read "4,917 ha (12,149 ac)" |

**Chapter** 2.0 Description of Nuclear Power Plant and Site and Plant Interaction with the Environment  
**Section** 2.2.8.5 Demography

| Comment Number | Page | Line | Comment  |
|----------------|------|------|--|
| 12             | 2-38 | 31   | "4912 ha (12,139 ac)" should read "4,917 ha (12,149 ac)"   |
| 13             | 2-38 | 34   | Duke owns eight (not nine) public recreational access locations on Lake Wylie and one additional access location immediately downstream of the lake. Of these nine access areas, only two (not 3) are leased to other operators. |

**Chapter** 2.0 Description of Nuclear Power Plant and Site and Plant Interaction with the Environment  
**Section** 2.2.9.2 Historic and Archaeological Resources at Catawba

| Comment Number | Page | Line | Comment  |
|----------------|------|------|--|
| 14             | 2-48 | 25   | The Concord Cemetery is not located within the Catawba site, but adjacent to it. The cemetery is owned and operated by the Concord Cemetery Association. |
| 15             | 2-48 | 37   | The Concord Cemetery is not located within the Catawba site, but adjacent to it. The cemetery is owned and operated by the Concord Cemetery Association. |

*Attachment 1*  
*Comments on Draft NUREG-1437, Supplement 9*  
*Catawba Nuclear Station, Units 1 and 2*

**Chapter** 2.0 Description of Nuclear Power Plant and Site and Plant Interaction with the Environment  
**Section** 2.2.10 Related Federal Project Activities and Consultations

| Comment Number | Page | Line | Comment  |
|----------------|------|------|--|
| 16             | 2-49 | 22   | Line Reads:<br>"This lake was formed by impounding the water of the Catawba River, and full pond was achieved in 1904."<br><br>Correct the sentence to read:<br>"This lake was formed by impounding the water of the Catawba River in 1904." |
| 17             | 2-49 | 24   | "4912 ha (12,139 ac)" should read "4,917 ha (12,149 ac)"   |

**Chapter** 4.0 Environmental Impacts of Operation  
**Section** 4.1.2 Microbiological Organisms (Public Health)

| Comment Number | Page | Line  | Comment   |
|----------------|------|-------|---|
| 18             | 4-14 | 40-41 | Statement reads: Based on Catawba-specific experience, a review of available technical literature on thermophilic organisms, and the fact that there is little heated<br><br>This sentence is incomplete. |

*Attachment 1*  
*Comments on Draft NUREG-1437, Supplement 9*  
*Catawba Nuclear Station, Units 1 and 2*

**Chapter**      5.0 Environmental Impacts of Postulated Accidents  
**Section**      5.2.2.1 Duke's Risk Estimates

| Comment Number | Page | Line          | Comment  |
|----------------|------|---------------|--|
| 19             | 5-6  | 20            | 5.8E-05/ry should be 5.8E-05/yr<br><br>Duke's reported risk estimates are base on a calendar year basis, not a reactor year basis. The capacity factor used in the PRA is 0.9. |
| 20             | 5-6  | 25<br>2 cases | "per reactor-year" should be "per year"  |
| 21             | 5-7  | 17            | Table 5-3 - Heading "Frequency (per reactor-year)" should be Frequency (per year)  |
| 22             | 5-8  | 23            | "reactor-year" should be "year"  |
| 23             | 5-8  | 26            | "per reactor-year" should be "per year"  |
| 24             | 5-9  | 2             | "per reactor-year" should be "per year"  |
| 25             | 5-9  | 3             | "per reactor-year" should be "per year"  |

**Chapter**      5.0 Environmental Impacts of Postulated Accidents  
**Section**      5.2.2.2 Review of Duke's Risk Estimates

| Comment Number | Page | Line | Comment                                 |
|----------------|------|------|---|
| 26             | 5-11 | 10   | "per reactor-year" should be "per year" |

*Attachment 1  
Comments on Draft NUREG-1437, Supplement 9  
Catawba Nuclear Station, Units 1 and 2*

**Chapter** 5.0 Environmental Impacts of Postulated Accidents  
**Section** 5.2.3.1 Process for Identifying Potential Design Improvements

| Comment Number | Page | Line | Comment  |
|----------------|------|------|--|
| 27             | 5-12 | 25   | "per reactor-year" should be "per year"  |
| 28             | 5-12 | 29   | "per reactor-year" should be "per year"  |
| 29             | 5-14 |      | Table 5-5 Footnote (a) "per reactor-year" should be "per year"   |
| 30             | 5-14 |      | Table 5-5 Footnote (b) "per reactor-year" should be "per year"   |
| 31             | 5-15 | 10   | <p>Table 5-6 - The cost of enhancement provided by Duke for the back-up power to the igniters (\$540,000) is a per unit cost and should not be divided by 2.</p> <p>One of the major cost categories for the candidate modification is in the installation labor, primarily pulling cables. It was judged that finding a location for the diesel that would allow it to serve either unit would dramatically increase the cable pulling cost component. As such, it was judged that having a diesel for each unit would be less expensive (given the low cost of the hardware) than pulling cables to both units from a single location.</p> |
| 32             | 5-15 | 22   | Table 5-6 – Delete Footnote (c)  |

**Chapter** 5.0 Environmental Impacts of Postulated Accidents  
**Section** 5.2.4 Risk Reduction Potential of Design Improvements

| Comment Number | Page | Line | Comment                                 |
|----------------|------|------|---|
| 33             | 5-17 | 28   | "per reactor-year" should be "per year" |
| 34             | 5-17 | 29   | "per reactor-year" should be "per year" |
| 35             | 5-17 | 35   | "per reactor-year" should be "per year" |

*Attachment 1*  
*Comments on Draft NUREG-1437, Supplement 9*  
*Catawba Nuclear Station, Units 1 and 2*

**Chapter** 5.0 Environmental Impacts of Postulated Accidents  
**Section** 5.2.5 Cost Impacts of Candidate Design Improvements

| Comment Number | Page | Line  | Comment   |
|----------------|------|-------|---|
| 36             | 5-19 | 17    | “\$205,000 per site” should be “\$205,000 per unit”<br><br>see comment 28   |
| 37             | 5-19 | 24    | “\$540,000 per site” should be “\$540,000 per unit”<br><br>see comment 28   |
| 38             | 5-19 | 27-29 | The sentence, “In order to provide ...” should be deleted as it is not appropriate to divide these costs by 2.  |
| 39             | 5-19 | 36-38 | The sentence, “Duke further noted that ...” should be modified. The discussion that Duke provided relative to powering the air-return fans was in the context of powering the igniters. The mixing afforded by the fans may or may not be significant to the effectiveness of PARs, but in any case Duke provided no position on the need for fans when using PARs. |

**Chapter** 5.0 Environmental Impacts of Postulated Accidents  
**Section** 5.2.6.1 Duke Evaluation

| Comment Number | Page | Line | Comment   |
|----------------|------|------|---|
| 40             | 5-22 | 34   | 3.81E+08 should be 3.1E+08<br><br>see page 12 of Attachment H |



*Attachment 1*  
*Comments on Draft NUREG-1437, Supplement 9*  
*Catawba Nuclear Station, Units 1 and 2*

**Chapter** 5.0 Environmental Impacts of Postulated Accidents  
**Section** 5.2.6.2 Staff Evaluation

| Comment Number | Page | Line          | Comment   |
|----------------|------|---------------|---|
| 41             | 5-25 | 14            | "30 percent" should be "24 percent"<br><br>See Table 5-3 of the SEIS  |
| 42             | 5-25 | 29            | "per reactor-year" should be "per year"   |
| 43             | 5-25 | 30            | "per reactor year" should be "per year"   |
| 44             | 5-26 | 3-5           | The discussion concerning NUREG/CR-6427 should more accurately characterize the insights from the NUREG. This NUREG provided a simplified level 2 analysis for the purpose of investigating the importance of DCH. The conservative assumptions applied in this analysis with regard to hydrogen generation and the probability of ignition make it useful for understanding the uncertainties associated with early containment failure probabilities. The NUREG should not be interpreted as the latest information with respect to a realistic or best-estimate evaluation of the potential for early containment failure as a result of hydrogen combustion during station blackouts. |
| 45             | 5-26 | 3             | "per reactor-year" should be "per year"   |
| 46             | 5-26 | 20<br>2 cases | "per reactor-year" should be "per year"   |
| 47             | 5-27 | 5 & 9         | Table 5-7 - \$270,000 should be \$540,000 and \$102,5000 should be \$205,000<br><br>The cost provided by Duke are per unit costs and should not be divided by 2   |
| 48             | 5-27 | 11-13         | Table 5-7 - Delete Footnote (a)   |

*Attachment 1  
Comments on Draft NUREG-1437, Supplement 9  
Catawba Nuclear Station, Units 1 and 2*

**Chapter** 6.0 Environmental Impacts of the Uranium Fuel Cycle and Solid Waste Management  
**Section** 6.1 The Uranium Fuel Cycle

| Comment Number | Page | Line | Comment  |
|----------------|------|------|--|
| 49             | 6-6  | 25   | <p>This page presents a brief chronology of events that have occurred in the area of high level waste disposal subsequent to the GEIS being published in 1996. The chronology ends at the President's recommendation in February 2002.</p> <p>While it may seem a bit odd for this type of information to be contained in an environmental document, Duke believes that the chronology should remain in the SEIS and should be updated to reflect significant events that have taken place since then. For example:</p> <p>"On April 8, 2002, Governor Guinn of Nevada issued a "Notice of Disapproval" regarding the recommendation of the President. As required by the Nuclear Waste Policy Act, the matter was then referred to the Congress. Subsequently, [insert final decision of Congress and date]."</p> |

**Chapter** Chapter 8.0 Environmental Impacts of Alternatives to Operating License Renewal  
**Section** Section 8.2.2.1 Oil and Natural-Gas-Fired (Combined Cycle) Closed-Cycle Cooling System

| Comment Number | Page | Line | Comment   |
|----------------|------|------|---|
| 50             | 8-32 | 23   | Reference to SCDNR should be replaced with SCDHEC |

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*Attachment 1*  
*Comments on Draft NUREG-1437, Supplement 9*  
*Catawba Nuclear Station, Units 1 and 2*

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**Chapter** Chapter 8.0 Environmental Impacts of Alternatives to Operating License Renewal  
**Section** Section 8.2.3.1 Nuclear Power Generation - Closed-Cycle Cooling System

| <b>Comment Number</b> | <b>Page</b> | <b>Line</b> | <b>Comment</b>                                     |
|-----------------------|-------------|-------------|--|
| 51                    | 8-41        | 18          | Reference to SCDENR should be replaced with SCDHEC |

**Chapter** Appendix E  
**Section** Table E-1

| <b>Comment Number</b> | <b>Page</b> | <b>Line</b> | <b>Comment</b>   |
|-----------------------|-------------|-------------|--|
| 52                    | E-2         | 11          | Expiration date of NPDES wastewater permit is 6/30/05 rather than 4/30/06. |

August 8, 2002

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

SUBJECT: Duke Energy Corporation  
Catawba Nuclear Station, Units 1 and 2  
Docket Numbers 50-413 and 50-414  
Severe Accident Mitigation Alternatives

REFERENCE: 1) Letter, USNRC to Duke Energy Corporation Dated May 14, 2002, SUBJECT: Request for Comments on the Draft Plant-Specific Supplement 9 to the Generic Draft Environmental Impact Statement Regarding Catawba Nuclear Station, Units 1 and 2.

Gentlemen:

Section 5.2.7 of Reference 1 identifies two Severe Accident Mitigation Alternatives (SAMAs): one to provide back-up power to the hydrogen igniters for Station Blackout (SBO) events and the other to install flood protection around the 6900/4160 volt transformers. The NRC staff states that since these SAMAs do not relate to adequately managing the effects of aging during the period of extended operation, they need not be implemented as part of license renewal pursuant to 10 CFR Part 54. The staff intends to pursue these two SAMAs as current operating license issues. Catawba has reviewed these two SAMAs and concurs with the NRC that these two SAMAs are not within the scope of license renewal and should be addressed separate from any license renewal proceedings. This letter provides the Catawba Nuclear Station position on these two SAMAs.

For the first SAMA, concerning the installation of back-up power to the hydrogen ignition system during a SBO event, Catawba agrees with the NRC staff that depending on the design requirements there may be a cost-beneficial modification that provides sufficient alternative power during a SBO to the hydrogen ignition system. The NRC staff has determined that this issue is sufficiently important for PWRs with ice-condenser containment and BWR Mark III containments that the NRC has made the issue a Generic Safety Issue (GSI), GSI-189 - Susceptibility of Ice-Condenser and Mark III Containments to Early Failure from Hydrogen Combustion During a Severe Accident. As part of the resolution of GSI-189, the NRC is evaluating potential

August 8, 2002

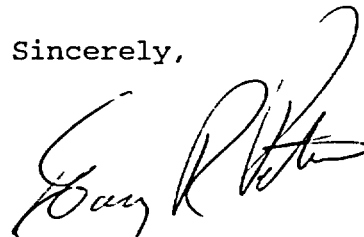
improvements to hydrogen control provisions in ice-condenser plants to reduce their vulnerability to hydrogen-related containment failures during a SBO. This will include an assessment of the costs and benefits of various options. Catawba will evaluate various possible plant design and procedural changes to address this issue. However, since this issue is being pursued by the NRC as a generic issue for ice-condenser and BWR Mark III containments, Catawba will monitor the NRC resolution of GSI-189 as a current operating license issue.

For the second SAMA, concerning the installation of flood protection around the 6900/4160 volt transformers, Catawba also agrees with the NRC staff conclusion in Reference 1. Catawba is currently in the process of designing and scheduling the installation of flood protection for the 6900/4160 volt transformers for Units 1 and 2. The current schedule is to have this modification completed by March 31, 2005. Catawba will keep the NRC Staff informed on the progress of this modification and any changes to the schedule. This is the only regulatory commitment contained in this letter.

Duke Energy and Catawba have been actively involved since before 1988 in the development of plant-specific probabilistic risk assessments (PRA), individual plant examinations (IPE/IPEEE), and component/system reliability studies to evaluate severe accidents at Catawba. Risk insights from various Catawba risk assessments have been identified and implemented to improve both the design and operation of the plant. These changes to the plant have been prioritized based on risk significance and implemented accordingly. The implementation of such improvements has reduced the risk associated with major contributors identified by the Catawba PRA and has enhanced overall plant safety. Consideration of the two issues identified in Reference 1 continues the activities previously taken by Duke Energy to use risk insights to continuously improve the safety of Catawba Nuclear Station.

If you have any questions regarding this submittal, please contact Randall D. Hart at 803-831-3622.

Sincerely,



Gary R. Peterson

U.S. Nuclear Regulatory Commission  
Page 3  
August 8, 2002

xc:

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H. B. Barron  
Vice President

August 19, 2002

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

SUBJECT: Duke Energy Corporation  
McGuire Nuclear Station, Units 1 and 2  
Docket Numbers 50-369 and 50-370  
Severe Accident Mitigation Alternatives

REFERENCE: 1) Letter, U.S. Nuclear Regulatory Commission to Duke Energy Corporation Dated May 6, 2002, SUBJECT: Request for Comments on the Draft Plant-Specific Supplement 8 to the Generic Draft Environmental Impact Statement Regarding McGuire Nuclear Station, Units 1 and 2 (TAC NOS. MB2021 and MB2022).

Section 5.2.7 of Reference 1 identifies one Severe Accident Mitigation Alternative (SAMA) that would provide back-up power to the hydrogen igniters for Station Blackout (SBO) event. The NRC staff states that since this SAMA does not relate to adequately managing the effects of aging during the period of extended operation, it does not need to be implemented as part of license renewal pursuant to 10 CFR 54. The NRC staff intends to pursue this SAMA as a current operating license issue. McGuire concurs with the NRC that this SAMA is not within the scope of license renewal and should be addressed separate from any license renewal proceedings.

McGuire concurs with the NRC staff that there may be a cost-beneficial plant design modification that can provide alternative power to the hydrogen ignition system during a SBO event. The NRC staff has determined that the hydrogen control issue is sufficiently important for PWRs with ice-condenser containment and BWR Mark III containments that the NRC has made the issue a Generic Safety Issue (GSI), GSI-189 - Susceptibility of Ice-Condenser and Mark III Containments to Early Failure from Hydrogen Combustion During a Severe Accident. McGuire has begun evaluating possible plant design and procedure changes to find a cost-beneficial resolution for this SAMA issue.

U.S. Nuclear Regulatory Commission  
August 19, 2002  
Page 2

Duke Energy has performed plant-specific probabilistic risk assessments (PRA), individual plant examinations, and system/component reliability studies to evaluate severe accidents at McGuire. Various design and procedure changes have been identified and implemented as a result of the above efforts. These changes have reduced the risk associated with major contributors identified by the McGuire PRA and have enhanced overall plant safety. Resolution of the SAMA issue identified in Reference 1 is consistent with the effort by Duke Energy to use risk insights to continuously improve the safety of McGuire Nuclear Station. McGuire is cooperating with the NRC in resolving GSI-189 as a current operating license issue.

If you have any questions regarding this submittal, please contact P.T. Vu at 704-875-4302.

Very Truly Yours,



H.B. Barron

HBB/PTV/s



U.S. Nuclear Regulatory Commission  
August 19, 2002  
Page 3

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