



Duke Power
McGuire Nuclear Station
12700 Hagers Ferry Road
Huntersville, NC 28078-9340
(704) 875-4000

D. M. Jamil
Vice President, McGuire
Nuclear Generation Department

(704) 875-5333 OFFICE
(704) 875-4809 FAX

June 25, 2003

U. S. Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, D.C. 20555

Subject: Duke Energy Corporation
McGuire Nuclear Station, Units 1 and 2
Docket Nos. 50-369 and 50-370

License Amendment Request for Technical
Specification 3.3.1, Reactor Trip System
Instrumentation, and Technical Specification
4.2.1, Design Features, Fuel Assemblies

Pursuant to 10 CFR 50.4 and 10 CFR 50.90, Duke Energy Corporation (Duke) is requesting an amendment to the McGuire Nuclear Station Facility Operating Licenses and Technical Specifications (TS). As described below, this amendment will correct two inadvertent editorial changes made by Duke during the submittal of TS Amendment 194/175 which revised TS 3.3.1 (Reactor Trip System Instrumentation) and TS Amendment 197/178 which revised TS 4.2.1 (Design Features, Fuel Assemblies).

Regarding TS 3.3.1, TS Amendment 194/175 inadvertently changed the new, lower reactor coolant low flow values in Table 3.3.1-1 back to the previous values that had been revised by TS Amendment 191/172.

Regarding TS 4.2.1, TS Amendment 197/178 inadvertently removed ZIRLO™ as an acceptable fuel rod cladding material which had been added by TS Amendment 188/169.

Please be advised that TS 4.2.1 has an additional pending revision related to the Mixed Oxide (MOX) fuel License Amendment Request submitted to the NRC on February 27, 2003.

The contents of this License Amendment Request (LAR) are as follows:

Attachment 1 provides a marked copy of the affected Technical Specifications showing the proposed changes.

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Attachment 2 provides reprinted pages of the affected Technical Specifications with the proposed changes incorporated.

Attachment 3 provides a description of the proposed changes and justifications.

Attachment 4, pursuant to 10 CFR 50.92, provides the determination that this LAR contains No Significant Hazards Consideration.

Attachment 5, pursuant to 10 CFR 51.22, provides the basis for the categorical exclusion from performing an Environmental Assessment/Impact Statement.

Implementation of this proposed amendment to the McGuire Technical Specifications will not impact the McGuire Updated Final Safety Analysis Report (UFSAR).

Duke is requesting NRC review and approval of this LAR at its earliest convenience so that the identified Technical Specifications may be editorially corrected.

In accordance with Duke administrative procedures and the Quality Assurance Program Topical Report, this LAR has been reviewed and approved by the McGuire Plant Operations Review Committee Chairman and the Duke Corporate Nuclear Safety Review Board Director.

Pursuant to 10 CFR 50.91, a copy of this LAR is being forwarded to the appropriate North Carolina State officials.

Inquiries on this matter should be directed to Lee A. Hentz at 704-875-4187.

Sincerely,

A handwritten signature in black ink, appearing to read 'D. M. Jamil', with a stylized flourish at the end.

D. M. Jamil

Attachments

U.S. Nuclear Regulatory Commission
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June 25, 2003

cc: w/attachments

Mr. L. A. Reyes
Regional Administrator, Region II
U.S. Nuclear Regulatory Commission
Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, GA 30323

Mr. R. E. Martin
Project Manager
U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Mail Stop O-8G9
Washington, D.C. 20555

Mr. J. B. Brady
NRC Senior Resident Inspector
McGuire Nuclear Station

Ms. B. O. Hall
Section Chief
Division of Radiation Section
1645 Mail Service Center
Raleigh, NC 27699

OATH AND AFFIRMATION

D. M. Jamil affirms that he is the person who subscribed his name to the foregoing statement, and that all the matters and facts set forth herein are true and correct to the best of his knowledge.



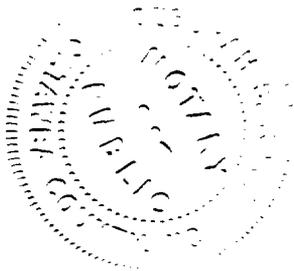
D. M. Jamil, Site Vice President

Subscribed and sworn to me: June 25, 2003
Date

Deborah S. Rome Deborah S. Rome

Notary Public

My commission expires: December 19, 2004
Date



bx: w/attachments

N. T. Simms (MG01RC)
J. W. Bryant (MG01RC)
P. T. Vu (MG01RC)
J. S. Warren (EC05N)
G. A. Copp (EC09A)

ELL (EC050)
McGuire Master File # 1.3.2.9
NSRB Support Staff (EC05N)

ATTACHMENT 1

MARKED PAGES OF AFFECTED TECHNICAL SPECIFICATIONS

Table 3.3.1-1 (page 2 of 7)
Reactor Trip System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	NOMINAL TRIP SETPOINT
6. Overtemperature ΔT	1,2	4	E	SR 3.3.1.1 SR 3.3.1.3 SR 3.3.1.6 SR 3.3.1.7 SR 3.3.1.12 SR 3.3.1.16 SR 3.3.1.17	Refer to Note 1 (Page 3.3.1-18)	Refer to Note 1 (Page 3.3.1-16)
7. Overpower ΔT	1,2	4	E	SR 3.3.1.1 SR 3.3.1.3 SR 3.3.1.6 SR 3.3.1.7 SR 3.3.1.12 SR 3.3.1.16 SR 3.3.1.17	Refer to Note 2 (Page 3.3.1-19)	Refer to Note 2 (Page 3.3.1-19)
8. Pressurizer Pressure						
a. Low	1(f)	4	M	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10 SR 3.3.1.16	≥ 1935 psig	1945 psig
b. High	1,2	4	E	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10 SR 3.3.1.16	≤ 2395 psig	2385 psig
9. Pressurizer Water Level - High	1(f)	3	M	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10	≤ 93%	92%
10. Reactor Coolant Flow - Low						
a. Single Loop	1(g)	3 per loop	N	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10 SR 3.3.1.16	≥ 87% ≥ 89%	88% 91%
b. Two Loops	1(f)	3 per loop	M	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10 SR 3.3.1.16	≥ 87% ≥ 89%	88% 91%
11. Undervoltage RCPs	1(f)	1 per bus	M	SR 3.3.1.9 SR 3.3.1.10 SR 3.3.1.16	≥ 6016 V	6082 V

Handwritten annotations in a cloud shape:
 ≥ 87% 88%
 ≥ 89% 91%
 ≥ 87% 88%
 ≥ 89% 91%

(continued)

(f) Above the P-7 (Low Power Reactor Trips Block) interlock.
 (g) Above the P-8 (Power Range Neutron Flux) interlock.
 (h) Above the P-7 (Low Power Reactor Trips Block) interlock and below the P-8 (Power Range Neutron Flux) interlock.

4.0 DESIGN FEATURES

4.1 Site Location

The McGuire Nuclear Station site is located at latitude 35 degrees, 25 minutes, 59 seconds north and longitude 80 degrees, 56 minutes, 55 seconds west. The Universal Transverse Mercator Grid Coordinates are E 504, 669, 256, and N 3, 920, 870, 471. The site is in northwestern Mecklenburg County, North Carolina, 17 miles north-northwest of Charlotte, North Carolina.

4.2 Reactor Core

4.2.1 Fuel Assemblies

The reactor shall contain 193 fuel assemblies. Each assembly shall consist of a matrix of Zircalloy fuel rods with an initial composition of natural or slightly-enriched uranium dioxide (UO_2) as fuel material. Limited substitutions of zirconium alloy, or stainless steel filler rods for fuel rods, in accordance with approved applications of fuel rod configurations, may be used. Fuel assemblies shall be limited to those fuel designs that have been analyzed with applicable NRC staff approved codes and methods and shown by tests or analyses to comply with all fuel safety design bases. A limited number of lead test assemblies that have not completed representative testing may be placed in nonlimiting core regions.

either ZIRLO™ or

(ZIRLO™)

4.2.2 Control Rod Assemblies

The reactor core shall contain 53 control rod assemblies. The control material shall be silver indium cadmium (Unit 1) silver indium cadmium and boron carbide (Unit 2) as approved by the NRC.

4.3 Fuel Storage

4.3.1 Criticality

- 4.3.1.1 The spent fuel storage racks are designed and shall be maintained with:
- Fuel assemblies having a maximum nominal U-235 enrichment of 4.75 weight percent;
 - $k_{eff} < 1.0$ if fully flooded with unborated water, which includes an allowance for uncertainties as described in Section 9.1 of the UFSAR;
 - $k_{eff} \leq 0.95$ if fully flooded with water borated to 850 ppm, which includes an allowance for uncertainties as described in Section 9.1 of the UFSAR;

ATTACHMENT 2

REPRINTED PAGES OF AFFECTED TECHNICAL SPECIFICATIONS

Table 3.3.1-1 (page 2 of 7)
Reactor Trip System Instrumentation

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9. Pressurizer Water Level - High	1(f)	3	M	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10	$\leq 93\%$	92%
10. Reactor Coolant Flow - Low						
a. Single Loop	1(g)	3 per loop	N	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10 SR 3.3.1.16	$\geq 87\%$	88%
b. Two Loops	1(h)	3 per loop	M	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10 SR 3.3.1.16	$\geq 87\%$	88%
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(continued)

(f) Above the P-7 (Low Power Reactor Trips Block) interlock.

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4.0 DESIGN FEATURES

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The McGuire Nuclear Station site is located at latitude 35 degrees, 25 minutes, 59 seconds north and longitude 80 degrees, 56 minutes, 55 seconds west. The Universal Transverse Mercator Grid Coordinates are E 504, 669, 256, and N 3, 920, 870, 471. The site is in northwestern Mecklenburg County, North Carolina, 17 miles north-northwest of Charlotte, North Carolina.

4.2 Reactor Core

4.2.1 Fuel Assemblies

The reactor shall contain 193 fuel assemblies. Each assembly shall consist of a matrix of either ZIRLO™ or Zircalloy fuel rods with an initial composition of natural or slightly enriched uranium dioxide (UO₂) as fuel material. Limited substitutions of ZIRLO™, zirconium alloy, or stainless steel filler rods for fuel rods, in accordance with approved applications of fuel rod configurations, may be used. Fuel assemblies shall be limited to those fuel designs that have been analyzed with applicable NRC staff approved codes and methods and shown by tests or analyses to comply with all fuel safety design bases. A limited number of lead test assemblies that have not completed representative testing may be placed in nonlimiting core regions.

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4.3.1 Criticality

- 4.3.1.1 The spent fuel storage racks are designed and shall be maintained with:
- a. Fuel assemblies having a maximum nominal U-235 enrichment of 4.75 weight percent;
 - b. $k_{\text{eff}} < 1.0$ if fully flooded with unborated water, which includes an allowance for uncertainties as described in Section 9.1 of the UFSAR;
 - c. $k_{\text{eff}} \leq 0.95$ if fully flooded with water borated to 850 ppm, which includes an allowance for uncertainties as described in Section 9.1 of the UFSAR;

ATTACHMENT 3

DESCRIPTION OF PROPOSED CHANGES AND TECHNICAL JUSTIFICATION

DESCRIPTION OF PROPOSED CHANGES AND JUSTIFICATIONS

TS 3.3.1, REACTOR TRIP SYSTEM INSTRUMENTATION

This proposed TS change will replace the reactor coolant low flow values in Table 3.3.1-1 with the values approved by TS Amendment 191/172 but were inadvertently revised by TS Amendment 194/175.

On June 24, 1999, and supplemented on November 24, 1999, Duke submitted an LAR to reduce the reactor coolant low flow trip setpoints and allowable values listed in Table 3.3.1-1, on page 3.3.1-15, from 91% to 88% and 90% to 87%, respectively, to preclude spurious reactor trips. This LAR was approved by the NRC on March 2, 2000 and became TS Amendment 191/172.

On January 6, 2000, and supplemented on July 20, 2000, Duke submitted an LAR to remove the inequalities associated with various instrumentation trip setpoints. This LAR affected the reactor coolant low flow values listed in TS Table 3.3.1-1 on page 3.3.1-15. When these proposed changes were submitted, they did not incorporate the pending changes to Table 3.3.1-1 described above. Due to an oversight, Duke failed to supplement this submittal with an updated TS page 3.3.1-15 upon issuance of TS Amendment 191/172. Therefore, when the LAR associated with the removal of inequalities was approved by the NRC on September 18, 2000 under TS Amendment 194/175, the reactor coolant low flow values listed in Table 3.3.1-1 were inadvertently changed back to the higher values.

TS 4.2.1, DESIGN FEATURES, FUEL ASSEMBLIES

This proposed TS change will replace ZIRLO™ as an acceptable fuel rod cladding material in TS 4.2.1 which was added and approved under TS Amendment 188/169 but was inadvertently removed by TS Amendment 197/178.

On July 22, 1998, and supplemented on October 22, 1998, Duke submitted an LAR related to the transition to Westinghouse fuel at McGuire and Catawba. This LAR included a change to TS 4.2.1, Fuel Assemblies, to include ZIRLO™ as an acceptable fuel cladding material on TS page 4.0-1. This LAR was approved by the NRC on September 22, 1999 and became TS Amendment 188/169.

On April 5, 1999, and supplemented on August 1, 2000, Duke submitted an LAR related to spent fuel storage. This LAR included a change to TS 4.3.1, Criticality, also on page 4.0-1, which added a new k_{eff} value. When the proposed

change to TS 4.3.1 was submitted, it did not incorporate the pending changes to TS 4.2.1 described above. Due to an oversight, Duke failed to supplement this submittal with an updated page 4.0-1 upon the issuance of TS Amendment 188/169. Therefore, when the spent fuel storage LAR was approved by the NRC on November 27, 2000 under TS Amendment 197/178, the reference to ZIRLO[™] was inadvertently removed.

Please be advised that TS 4.2.1 on page 4.0-1, has an additional pending change related to the Mixed Oxide (MOX) fuel LAR submitted to the NRC on February 27, 2003.

ATTACHMENT 4

NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

As required by 10 CFR 50.91(a)(1), this analysis is provided to demonstrate this License Amendment Request (LAR) does not involve a significant hazards consideration.

This LAR will correct inadvertent editorial changes made by Duke during subsequent License Amendments.

Conformance of this LAR to the standards for a determination of no significant hazards, as defined in 10 CFR 50.92, is shown in the following:

1. Does this LAR involve a significant increase in the probability or consequences of an accident previously evaluated ?

No. Approval and implementation of this LAR will have no affect on accident probabilities or consequences since the proposed changes are editorial in nature and were previously reviewed and approved by the NRC.

2. Does this LAR create the possibility of a new or different kind of accident from any accident previously evaluated ?

No. This LAR does not involve any physical changes to the plant. Therefore, no new accident causal mechanisms will be generated. The proposed changes are editorial in nature and were previously reviewed and approved by the NRC. Consequently, plant accident analyses will not be affected by these changes.

3. Does this LAR involve a significant reduction in a margin of safety ?

No. Margin of safety is related to the confidence in the ability of the fission product barriers to perform their design functions during and following accident conditions. These barriers include the fuel cladding, the reactor coolant system, and the containment system. The performance of these barriers will not be affected by the proposed changes since they are editorial in nature and have been previously reviewed and approved by the NRC.

CONCLUSION

Based on the preceding analysis, it can be concluded that this LAR does not involve a significant hazards consideration as defined in 10 CFR 50.92.

ATTACHMENT 5

ENVIROMENTAL ASSESSMENT/IMPACT STATEMENT

ENVIRONMENTAL ASSESSMENT / IMPACT STATEMENT

This License Amendment Request (LAR) has been reviewed against the criteria of 10 CFR 51.22 for environmental considerations. This LAR does not involve a significant hazards consideration, increase the types and amounts of effluents that may be released offsite, or result in the increase of individual or cumulative occupational radiation exposures. Therefore, this LAR to the McGuire Technical Specifications meets the criteria provided by 10 CFR 51.22(c)(9) for categorical exclusion from the requirement for an Environmental Impact Statement.