

July 22, 1988

Docket Nos.: 50-369
and 50-370

Mr. H. B. Tucker, Vice President
Nuclear Production Department
Duke Power Company
422 South Church Street
Charlotte, North Carolina 28242

Dear Mr. Tucker:

SUBJECT: ISSUANCE OF AMENDMENT NO. 90 TO FACILITY OPERATING LICENSE NPF-9 AND
AMENDMENT NO. 71 TO FACILITY OPERATING LICENSE NPF-17 - MCGUIRE
NUCLEAR STATION, UNITS 1 AND 2 (TACS 68727/68728)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 90 to Facility Operating License NPF-9 and Amendment No. 71 to Facility Operating License NPF-17 for the McGuire Nuclear Station, Units 1 and 2. These amendments consist of changes to the Technical Specifications (TS) in response to your applications dated July 15 and 19, 1988, and supplemented July 21, 1988. The changes were approved by telephone on July 15, 1988, and confirmed by letter on July 20, 1988.

The amendments correct TS 4.8.1.1.2.e.6(c) to recognize that four, rather than three, diesel generator trips are not automatically bypassed during tests simulating a loss-of-offsite power in conjunction with an engineered safety features actuation test signal.

A copy of the related safety evaluation supporting Amendment No. 90 to Facility Operating License NPF-9 and Amendment No. 71 to Facility Operating License NPF-17 is enclosed.

Notice of issuance of amendments and opportunity for hearing will be included in the Commission's next bi-weekly Federal Register notice.

Sincerely,

Original signed by:
Gus C. Lainas, Assistant Director
for Region II Reactors
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

- 1. Amendment No. 90 to NPF-9
- 2. Amendment No. 71 to NPF-17
- 3. Safety Evaluation

cc w/enclosures:
See next page

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PDR ADDCK 05000369
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Mr. H. B. Tucker
Duke Power Company

McGuire Nuclear Station

cc:

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Area Manager, Mid-South Area
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Pittsburgh, Pennsylvania 15230

DATED: July 22, 1988

AMENDMENT NO. 90 TO FACILITY OPERATING LICENSE NPF-9 - McGuire Nuclear Station, Unit 1
AMENDMENT NO. 71 TO FACILITY OPERATING LICENSE NPF-17 - McGuire Nuclear Station, Unit 2

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PD#II-3 R/F

McGuire R/F

S. Varga 14-E-4

G. Lainas 14-H-3

D. Matthews 14-H-25

M. Rood 14-H-25

D. Hood 14-H-25

OGC-WF 15-B-18

B. Grimes 9-A-2

E. Jordan MNBB-3302

W. Jones P-130A

T. Barnhart (8) P1-137

ACRS (10) H-1016

GPA/PA 17-F-2

ARM/LFMB AR-2015

E. Butcher 11-F-23

D. Hagan MNBB-3302

F. Rosa 8-D-20

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

DUKE POWER COMPANY

DOCKET NO. 50-369

McGUIRE NUCLEAR STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 90
License No. NPF-9

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the McGuire Nuclear Station, Unit 1 (the facility) Facility Operating License No. NPF-9 filed by the Duke Power Company (the licensee) dated July 15 and 19, 1988, and supplemented July 21, 1988, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations as set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is hereby amended by page changes to the Technical Specifications as indicated in the attachments to this license amendment, and Paragraph 2.C.(2) of Facility Operating License No. NPF-9 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 90, are hereby incorporated into the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment was effective as of July 15, 1988.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by:

Gus C. Lainas, Assistant Director
for Region II Reactors
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: July 22, 1988

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7/22/88

PM:PDII-3
DHood:pw
7/22/88

NRR:SELB
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7/22/88

OGC-WF
1/22/88

DMatthews
7/22/88

ADR2:NRR
GLainas
7/22/88



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

DUKE POWER COMPANY

DOCKET NO. 50-370

McGUIRE NUCLEAR STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 71
License No. NPF-17

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the McGuire Nuclear Station, Unit 2 (the facility) Facility Operating License No. NPF-17 filed by the Duke Power Company (the licensee) dated July 15 and 19, 1988, and supplemented July 21, 1988, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations as set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is hereby amended by page changes to the Technical Specifications as indicated in the attachments to this license amendment, and Paragraph 2.C.(2) of Facility Operating License No. NPF-17 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 71, are hereby incorporated into the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment was effective as of July 15, 1988.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by:

Gus C. Lainas, Assistant Director
for Region II Reactors
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: July 22, 1988

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LA:PDII-3
MRood
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PM:PDII-3
DSH
DHood:pw
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OGG-WF
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D:PDII-3
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7/22/88

ADP:NRR
GLainas
7/22/88

ATTACHMENT TO LICENSE AMENDMENT NO. 90

FACILITY OPERATING LICENSE NO. NPF-9

DOCKET NO. 50-369

AND

TO LICENSE AMENDMENT NO. 71

FACILITY OPERATING LICENSE NO. NPF-17

DOCKET NO. 50-370

Replace the following page of the Appendix "A" Technical Specifications with the enclosed page. The revised page is identified by Amendment number and contains vertical lines indicating the areas of change.

Amended Page

3/4 8-5

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- 5) Verifying that on an ESF actuation test signal, without loss-of-offsite power, the diesel generator starts on the auto-start signal and operates on standby for greater than or equal to 5 minutes. The generator voltage and frequency shall be at least 4160 volts and 57 Hz within 11 seconds after the auto-start signal; the steady-state generator voltage and frequency shall be maintained within 4160 ± 420 volts and 60 ± 1.2 Hz during this test;
- 6) Simulating a loss-of-offsite power in conjunction with an ESF actuation test signal, and
 - a) Verifying deenergization of the emergency busses and load shedding from the emergency busses;
 - b) Verifying the diesel starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 11 seconds, energizes the auto-connected emergency (accident) loads through the load sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with the emergency loads. After energization, the steady-state voltage and frequency of the emergency busses shall be maintained at 4160 ± 420 volts and 60 ± 1.2 Hz during this test; and
 - c) Verifying that all automatic diesel generator trips, except engine overspeed, lube oil pressure, generator time over-current and generator differential are automatically bypassed upon loss of voltage on the emergency bus concurrent with a Safety Injection Actuation signal.
- 7) Operating for one hour at 4000 kW to achieve temperature stability. Within 5 minutes, restart and perform Surveillance Requirement 4.8.1.1.2e.6)b).
- 8) Verifying the diesel generator operates for at least 24 hours. During the first 2 hours of this test, the diesel generator shall be loaded to greater than or equal to 4400 kW and during the remaining 22 hours of this test, the diesel generator shall be loaded to greater than or equal to 4000 kW. The generator voltage and frequency shall be at least 4160 volts and 57 Hz within 11 seconds after the start signal. The steady-state generator voltage and frequency shall be maintained within 4160 ± 420 volts and 60 ± 1.2 Hz during this test.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 90 TO FACILITY OPERATING LICENSE NPF-9
AND AMENDMENT NO. 71 TO FACILITY OPERATING LICENSE NPF-17

DUKE POWER COMPANY

DOCKET NOS. 50-369 AND 50-370

MCGUIRE NUCLEAR STATION, UNITS 1 AND 2

1.0 INTRODUCTION

By letters dated July 15 and 19, 1988, Duke Power Company (the licensee) proposed amendments to the operating licenses for McGuire Nuclear Station, Units 1 and 2, which would revise Technical Specification (TS) 4.8.1.1.2.e.6)c). This surveillance specification requires each diesel generator (DG) to periodically be demonstrated operable, in part, by simulating a loss-of-offsite power in conjunction with an engineered safety features (ESF) actuation test signal and verifying that all automatic trips, with three specified exceptions, are automatically bypassed upon loss of voltage on the emergency bus concurrent with a safety injection actuation signal (SIAS). The three exceptions are engine overspeed, lube oil pressure, and generator differential. The proposed change would add a fourth exception, generator time overcurrent.

TS 4.8.1.1.2.e.6)c) also requires as part of the above periodic test that all DG breaker trips, except generator time overcurrent, be verified to be automatically bypassed upon concurrent loss of voltage on the emergency bus and an SIAS. The proposed change would delete this portion of the TS in its entirety.

On July 15, 1988, the licensee informed the NRC by telephone call that it is not possible to demonstrate compliance with the TS as written because there are additional DG trips and DG breaker trips not automatically bypassed by design. However, previous tests had been performed using surveillance procedures for the DGs which were consistent with design although inconsistent with the TS. The results had verified the correct operation of the DG trips and, therefore, the DGs were considered to be operable. Accordingly, the licensee requested that the TS be corrected on an emergency basis to avoid all diesels being declared inoperable and the attendant requirement for shutdown of McGuire Unit 1 and extended outage for McGuire Unit 2. The NRC agreed during the telephone call that the additional DG trips and DG breaker trips should not be automatically bypassed when conducting this surveillance test and, as acknowledged by letter dated July 20, 1988, granted a temporary waiver of compliance while it completed the processing of the TS change on an expedited basis.

By letter dated July 21, 1988, the licensee provided additional information in support of the amendment request.

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2.0 EVALUATION

On February 1, 1985, the Commission issued McGuire Amendments 38 (Unit 1) and 19 (Unit 2). The amendments were based, in part, upon the licensee's letter of October 4, 1984, which erroneously described the generator time overcurrent protection to be only a DG breaker trip and proposed a corresponding change to the TS consistent with such a design. Specifically, TS 4.8.1.1.2.e.6)c) was changed to specify for this test that all DG breaker trips, except generator time overcurrent, were to be verified to be automatically bypassed upon concurrent loss of voltage on the emergency bus and an SIAS. The purpose of the test is to verify that trips which are automatically bypassed under these conditions do not trip the DG unit.

In reality, the McGuire design, which is described in FSAR Section 8.3.1.1.7, consists of four trips to protect the DG units at all times and which are not bypassed during starting of the DG by an ESF actuation signal. One of the four is the generator time overcurrent trip. The other three are engine overspeed, lube oil pressure and generator differential. These four are each both DG and DG breaker trips. Apart from these four, there are no additional DG trips that are not bypassed. Also, there are no DG breaker trips that are automatically bypassed on an ESF actuation signal. There are additional trips identified in the FSAR, which protect the DG units during testing periods that are bypassed in the event of an accident condition.

The purpose of TS 4.8.1.1.2.e.6)c) is to assure that spurious trips of the DG during emergency situations are prevented, while at the same time providing for protection of the DG from damage. Operation of a DG with a multiphase fault on the switch gear bus could quickly result in destruction of the associated generator. Under such conditions, the generator would not be able to maintain bus voltage and would not fulfill its safety function. It also could probably not be quickly restored. The generator time overcurrent protection trips the DG associated with the faulted bus to prevent such destruction. Three separate measurements of the overcurrent are provided by this device and a specific coincident (2 out of 3) logic is required to initiate a trip of the DG. This meets the position of Regulatory Guide 1.9 regarding coincident logic for trips that are not bypassed under accident conditions. The design also provides redundant DGs to ensure that essential equipment remains energized.

Because of its function to protect the DG from destruction, we agree that it is appropriate that the generator time overcurrent trip is not bypassed by the ESF actuation signal. Therefore, it should be added to the other three trips named in TS 4.8.1.1.2.e.6)c) as trips which are not automatically bypassed. Additionally, because the design does not include an automatic bypass feature for the DG breaker trips, such a feature cannot be tested. Therefore, we find that this portion of the test requirement should be deleted from the TS. Accordingly, the licensee's proposed correction to TS 4.8.1.1.2.e.6)c) are acceptable.

3.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The State of North Carolina was informed by telephone on July 19, 1988, of the staff's no significant hazards consideration determination. The State contact had no comments on the determination.

The staff has reviewed the licensee's request for the above amendments and finds the changes proposed to the TS to be of a corrective nature which are necessary to assure consistency of the test surveillance requirement with the actual design of the DG protection system. We have determined that should this request be implemented, it would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated because the changes do not affect any structure, systems, or components whose failure would result in an accident. Rather, by permitting appropriate testing of automatic DG trips, the corrected TS provides increased assurance that the bounding probabilities and consequences associated with the previously evaluated accidents will not be exceeded. Similarly, the licensee's proposed amendments would not (2) create the possibility of a new or different kind of accident from any accident previously evaluated because the corrected TS provides for appropriate testing and does not affect structures, systems, or components which could create an accident or significantly change the scenario of a previously evaluated accident to a new one. Finally, the proposed amendments would not (3) involve a significant reduction in a margin of safety because of the reasons stated above in items (1) and (2).

Accordingly, the Commission finds that this request does not involve a significant hazards consideration.

4.0 FINDINGS OF EMERGENCY WARRANTING AN AMENDMENT WITHOUT NOTICE

The licensee's application for the TS change has been timely. During the course of reviewing procedures for DG surveillance, the licensee discovered on July 15, 1988 that the McGuire DG surveillance procedures were not in compliance with TS 4.8.1.1.2.e.6)c). The licensee also realized that the TS was inconsistent with the design and that compliance with the TS as revised in February 1985 had not and could not be achieved. However, the DG surveillance procedures used were based upon the correct design and, thus, appropriate surveillances had been performed and had verified the correct operation of the DG trips. Therefore, the licensee considered the DGs to be operable.

On July 15, 1988, McGuire Unit 1 was at full power and McGuire Unit 2 was in a refueling outage scheduled to end about July 26, 1988. Because literal compliance with the TS had not been demonstrated, the DGs were required to be declared inoperable and subject to the action requirements of TS 3.8.1.1. which would have required Unit 1 to shut down and Unit 2 to remain in cold shutdown. The licensee promptly telephoned the NRC to request correction of the TS on an emergency basis and confirmed the call by letter on the same day. The NRC recognized that the DGs were, in fact, operable and granted a temporary waiver of compliance while the TS change was being processed.

The staff finds that failure to grant the proposed changes in a timely manner would result in shutdown of McGuire Unit 1 and would increase the outage time of McGuire Unit 2. We also find that the licensee could not reasonably have avoided this situation, that the licensee has responded in a timely manner, and has not delayed its application to take advantage of the Emergency License Amendments provisions of 10 CFR 50.91. Accordingly, the staff concludes that the licensee has satisfied the requirements of 10 CFR 50.91(a)(5), and that a valid emergency exists.

5.0 ENVIRONMENTAL CONSIDERATION

These amendments involve changes to the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20 and changes in surveillance requirements. The staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupational exposure. The NRC staff has made a final determination that the amendments involve no significant hazards consideration. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of these amendments.

6.0 CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) the amendment does not (a) significantly increase the probability or consequences of an accident previously evaluated, (b) create the possibility of a new or different kind of accident from any previously evaluated or (c) significantly reduce a safety margin and, therefore, the amendment does not involve a significant hazards consideration; (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations, and the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: D. Hood, PD#II-3/DRP-I/II

Dated: July 22, 1988



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

July 22, 1988

Docket Nos. 50-369
and 50-370

MEMORANDUM FOR: Sholly Coordinator

FROM: Darl S. Hood, Project Manager
Project Directorate II-3
Division of Reactor Projects-I/II

SUBJECT: REQUEST FOR PUBLICATION IN MONTHLY FR NOTICE - NOTICE OF
ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE AND
FINAL DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION
AND OPPORTUNITY FOR HEARING (EXIGENT OR EMERGENCY CIRCUMSTANCES)
(TACS 68727/68728)

Duke Power Company, Docket Nos. 50-369 and 50-370, McGuire Nuclear Station,
Units 1 and 2, Mecklenburg County, North Carolina

Date of application for amendments: July 15 and 19, 1988, as supplemented
July 21, 1988

Brief description of amendments: The amendments corrected Technical Specification
4.8.1.1.2.e.6(c) to recognize that four, rather than three, diesel generator
trips are not automatically bypassed during tests simulating a loss-of-offsite
power in conjunction with an engineered safety features actuation test signal.

Date of issuance: July 22, 1988

Effective date: July 15, 1988

Amendment Nos.: 90 and 71

Facility Operating License Nos. NPF-9 and NPF-17: Amendments revised the
Technical Specifications.

Public comments requested as to proposed no significant hazards consideration: No
The Commission's related evaluation is contained in a Safety Evaluation dated
July 22, 1988.

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Attorney for licensee: Mr. Albert Carr, Duke Power Company, 422 South Church Street, Charlotte, North Carolina 28242

Local Public Document Room location: Atkins Library, University of North Carolina, Charlotte (UNCC Station), North Carolina 28223

NRC Project Director: David B. Matthews

Original signed by:

Darl S. Hood, Project Manager
Project Directorate II-3
Division of Reactor Projects-I/II

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