

December 5, 2001

Mr. H. B. Barron  
Vice President, McGuire Site  
Duke Energy Corporation  
12700 Hagers Ferry Road  
Huntersville, NC 28078-8985

SUBJECT: MCGUIRE NUCLEAR STATION, UNITS 1 AND 2 ISSUANCE OF  
AMENDMENTS RE: LICENSE CONDITIONS (TAC NOS. MA9297 AND  
MA9298)

Dear Mr. Barron:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 200 to Facility Operating License NPF-9 and Amendment No. 181 to Facility Operating License NPF-17 for the McGuire Nuclear Station, Units 1 and 2. The amendments are in response to your application dated June 13, 2000, as supplemented on August 30 and September 10, 2001. The amendments revise the operating license of each unit to (1) delete license conditions (LCs) that have been fulfilled; and (2) make other corrections and editorial changes. Details of the staff's review of the changes are contained in the associated Safety Evaluation.

The staff has denied, in part, the request to delete LC 2.G for Unit 1 and 2.F for Unit 2 on reporting of violations. The staff has also denied the request to delete LC 2.C.11 for Unit 2 on protection of the environment. The enclosed Notice of Partial Denial of Amendment and Opportunity for Hearing has been forwarded to the Office of the Federal Register for publication.

A Notice of Issuance of Amendments will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA/

Robert E. Martin, Senior Project Manager, Section 1  
Project Directorate  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket Nos. 50-369 and 50-370

Enclosures:

1. Amendment No. 200 to NPF-9
2. Amendment No. 181 to NPF-17
3. Safety Evaluation
4. Notice of Partial Denial

cc w/encls: See next page

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Accession Number ML013410395

\* - See previous concurrence

OFFICE	PDII-1/PM	PDII-1/LA	SPLB*	EEIB *	IOLB*	IQMB *	IOLB *
NAME	RMartin	CHawes	EWeiss	EMarinos	KGibson	TQuay	DTrimble
DATE	10/31/01	10/31/01	10/01/01	08/16/01	09/10/01	08/16/01	08/30/01
OFFICE	SPLB *	RTSB *	EMCB*	IOLB *	EMEB*	EEIB *	RGEB *
NAME	GHubbard	WBeckner	KWichman	VOrdaz	KManoly	CHolden	MMalloy
DATE	08/21/01	08/16/01	08/31/01	08/27/01	09/02/01	08/20/01	08/24/01
OFFICE	SRXB*	PDII-1/SC(A)	OGC*				
NAME	FAkstulewicz	RLaufer	SUttal (NLO)				
DATE	08/31/01	10/31/01	09/21/01				

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DUKE ENERGY CORPORATION

DOCKET NO. 50-369

McGUIRE NUCLEAR STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 200  
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 Energy Corporation (licensee) dated June 13, 2000, as supplemented August 30 and September 10, 2001, 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, 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 Operating License is amended as indicated in the attachment to this license amendment.
3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

***/RA/***

Richard J. Laufer, Acting Chief, Section 1  
Project Directorate II  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment: Operating License  
Changes

Date of Issuance: December 5, 2001

ATTACHMENT TO LICENSE AMENDMENT NO. 200

FACILITY OPERATING LICENSE NO. NPF-9

DOCKET NO. 50-369

Replace the following pages of the Operating License with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the areas of change.

Remove

2 through 19a

Appendix C

Insert

2 through 10

Appendix C

DUKE ENERGY CORPORATION

DOCKET NO. 50-370

McGUIRE NUCLEAR STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 181  
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 Energy Corporation (licensee) dated June 13, 2000, as supplemented August 30 and September 10, 2001, 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, 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 Operating License is amended as indicated in the attachment to this license amendment.
3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

*/RA/*

Richard J. Laufer, Acting Chief, Section 1  
Project Directorate II  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment: Operating License  
Changes

Date of Issuance: December 5, 2001

ATTACHMENT TO LICENSE AMENDMENT NO. 181

FACILITY OPERATING LICENSE NO. NPF-17

DOCKET NO. 50-370

Replace the following pages of the Operating License with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the areas of change.

Remove

2 through 8a

Attachment 1

Appendix D

Insert

2 through 6

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Appendix D



SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 200 TO FACILITY OPERATING LICENSE NPF-9  
AND AMENDMENT NO. 181 TO FACILITY OPERATING LICENSE NPF-17

DUKE ENERGY CORPORATION

MCGUIRE NUCLEAR STATION, UNITS 1 AND 2

DOCKET NOS. 50-369 AND 50-370

1.0 INTRODUCTION

By letter dated June 13, 2000, as supplemented August 30 and September 10, 2001, Duke Energy Corporation (DEC the licensee), submitted a request to revise the Facility Operating License of each unit to delete license conditions that have been fulfilled, and to make other editorial changes. Commonly used acronyms in this safety evaluation are as follows: Facility Operating License (FOL), License Condition (LC), Duke Energy Corporation (DEC), Supplement No. X to Safety Evaluation Report NUREG-0422 (SSER-X), and McGuire Nuclear Station (MNS or McGuire). The August 30 and September 10, 2001, letters provided clarifying information that did not expand the scope of the original Federal Register notice.

When the FOLs, NPF-9 and NPF-17 for MNS Units 1 and 2, respectively, were issued to the licensee, the Nuclear Regulatory Commission (NRC) staff deemed certain issues essential to safety and/or essential to meeting certain regulatory requirements. These issues were imposed as LCs in the FOLs. Since the units were licensed to operate in the 1980s, most of these LCs have been fulfilled.

The NRC staff has reviewed the DEC application of June 13, 2000, as supplemented on August 30 and September 10, 2001, and for those LCs that have been deleted, the license condition numbers have been preserved in the revised FOL by the word "Deleted". The staff has denied, in part, the request to delete LC 2.G for Unit 1 and 2.F for Unit 2 on reporting of violations. The staff has also denied the request to delete LC 2.C.11 for Unit 2.

2.0 EVALUATION

2.1 McGuire Unit 1 FOL Number NPF-9

2.1.1 FOL Section 1.H states:

After weighing the environmental, economic, technical, and other benefits of the facility against environmental and other costs and considering available alternatives, the issuance of this Facility Operating License No. NPF-9, (subject to the conditions for protection of the environment set forth in the Environmental Protection Plan attached as Appendix B), is in accordance with 10 CFR Part 51, of the Commission's regulations and all applicable requirements have been satisfied;

Proposed Change:

DEC proposed to delete the clause, “subject to the conditions for protection of the environment set forth in the Environmental Protection Plan attached as Appendix B”.

Justification for Change:

The Environmental Protection Plan (formally Appendix B to the TSSs) was deleted from the Unit 1 and Unit 2 FOLs by License Amendments 164 and 146, respectively, on February 5, 1996<sup>1</sup>. Thus, deletion of the cited clause has no impact on the FOLs, is administrative, and is acceptable.

2.1.2 Condition 2.C.(1), Maximum Power Level, states:

The licensee is authorized to operate the facility at reactor core power levels not in excess of 3411 megawatts thermal (100% power).

Proposed Change:

DEC proposes to change FOL Section 2.C.(1) to state that the maximum authorized power level is a reactor core “full steady state power level of 3411 megawatts thermal (100%).”

Justification for Change:

The change would provide clarification as to when DEC would report a power level greater than 100%. DEC administrative controls define steady state and clarify when reporting is required.

The staff addressed this power wording issue for another of the licensee’s nuclear power stations, Catawba Units 1 and 2, in a safety evaluation dated April 23, 1998<sup>2</sup>. The staff found that the wording for FOLs fell into two categories, those containing the words “steady state” and those that did not. The staff concluded that (1) in general, older FOLs tend to have “steady state”; (2) since 1980, FOLs tend not to have “steady state”; and (3) when older FOLs were reissued as full-term FOLs, “steady state” is retained.

NRC Inspection Procedure (IP) 61706, “Core Thermal Power Evaluation,” provides guidance to verify that the calculation of core thermal power is correct. The IP notes that the thermal power of a reactor is determined by a heat balance in the power range to ensure that the core is operated at all times within the required thermal limits and/or fuel warranty requirements. The criterion provided by the IP is as follows:

“... the average power level over any 8-hour shift [should] not exceed the “full steady-state licensed power level” (and similarly worded terms). The exact 8-hour periods defined as “shifts” are up to the plant, but should not be varied from day to day (the easiest definition is a normal shift manned by a particular “crew”). It is permissible to briefly exceed the full, steady-state licensed power level by as much as 2% for as long as 15 minutes. In no case should 102% power be exceeded, but lesser power

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<sup>1</sup> February 5, 1996, Victor Nerses to Mr. M. S. Tuckman, Issuance of Amendments - McGuire Nuclear Station, Units 1 and 2, (TAC Nos. M90860 and M90861).

<sup>2</sup> Letter from P.S. Tam (USNRC) to G.R. Peterson, Duke Energy Corporation, “Issuance of Amendments - Catawba Nuclear Station, Units 1 and 2 (TAC NOS. MA0359 and MA0360),” dated April 23, 1998.

“excursions” for longer periods should be allowed, with the above as guidance. For example, 1% excess for 30 minutes and 1/2% for 1-hour should be allowed. There are no limits on the number of times these “excursions” may occur, or the time interval that must separate such “excursions.” The above requirement regarding the 8-hour average power will prevent abuse of this allowance.”

The staff’s IP 61706, “Core Thermal Power Evaluation,” consistently associates maximum thermal power with ‘steady-state’. It makes no distinction between plants whose FOLs have ‘steady-state’, and those whose FOLs do not contain this language. The proposed change would permit the licensee to use the staff’s guidance cited above. On the basis of the above discussion, the staff finds the proposed change to be acceptable.

2.1.3 Condition 2.C.3 Initial Test Program, states:

The licensee shall conduct the initial test program (set forth in Section 14 of the licensee’s Final Safety Analysis Report, as amended) without making any modifications to this program unless such modifications are in accordance with the provisions of 10 CFR Section 50.59. In addition, the licensee shall not make any major modifications to this program unless modifications have been identified and have received prior NRC approval. Major modifications are defined as:

- a. Elimination of any test identified as essential in Section 14 of the Final Safety Analysis Report, as amended;
- b. Modification of test objectives, methods or acceptance criteria for any test identified as essential in Section 14 of the Final Safety Analysis Report, as amended;
- c. Performance of any test at a power level different from that described in the program, as limited by this license authorization; and
- d. Failure to complete any tests included in the described program (planned or scheduled) for power levels up to the authorized power level.

Proposed Change: Delete License Condition 2.C.3.

Justification for Deletion:

This LC for the McGuire Unit 1 Initial Test Program was fulfilled as documented in the McGuire Unit 1 Startup Report as submitted to the NRC on March 10, 1982<sup>3</sup>, and November 29, 1983<sup>4</sup>. The deletion of this license condition is purely administrative and is acceptable.

2.1.4 Condition 2.C.4 Fire Protection Program, states:

Duke Energy Corporation shall implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report [(FSAR)], as updated, for the facility through the 1989 annual FSAR update and as approved in the SER dated March 1978 and supplements 2, 5 and 6 dated March 1979,

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<sup>3</sup> March 10, 1982, William O. Parker, Jr. to Mr. James P. O'Reilly, MNS, Unit 1, Docket No. 50-369, Startup Report.

<sup>4</sup> November 29, 1983, Hal B. Tucker to Mr. Harold R. Denton, MNS, Docket Nos. 50-369 and 50-370, Startup Test Program.

April 1981, and February 1983, respectively, and the safety evaluation dated May 15, 1989, subject to the following provision: The licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

- a. Duke shall implement a Standby Shutdown Facility System to assure shutdown capability during certain postulated fire events as indicated in Duke's letter, dated January 31, 1979. All required changes shall be completed three months after the first refueling of Unit 1, but not later than 24 months after initial fuel loading of Unit 1.
- b. Duke shall perform required modifications to the oil collection system and fire suppression system for the Reactor Coolant Pump (RCP) motor within three months after the first refueling of Unit 1, but not later than 24 months after initial fuel loading of Unit 1.

Prior to commercial operation the licensee shall complete to the satisfaction of the office of Inspection and Enforcement all required fire protection items identified in Table 9.5-1 and Appendix B of Supplement 5 to the Safety Evaluation Report (NUREG-0422).

Proposed Change:

Delete the clause which references the FSAR "through the 1989 annual FSAR update". Delete Items (4)a, (4)b and the last paragraph.

Justification for Change/Deletion:

DEC proposes deletion of the reference to a specific revision to the updated final safety analysis report (UFSAR) which would eliminate the need for DEC to request administrative license amendments to change the reference to UFSAR revision/update/supplement numbers. The regulations in 10 CFR 50.71(e) require that periodic revisions updating the UFSAR be prepared and submitted to the NRC. The frequency for updating the MNS FSAR was revised to be from 18 to 24 months by an exemption issued by NRC letter<sup>5</sup>. The staff finds that, with the controls provided for FSAR revisions by 10 CFR 50.71(e), the clause is no longer needed and that its deletion is acceptable.

DEC proposes that LC paragraph 2.C(4)(a) has been met and may be deleted. In SSER-2, the staff required submittal of the final design of the SSS for approval by March 1980 and that the system be fully operational as required in the reference LC. DEC provided the final design of the system and completed the system installation, which was made operational in January 1983. The staff reported in SSER-6 in February 1983 that it had reviewed the SSS for Units 1 and 2 in accordance with the criteria for alternate shutdown capability contained in 10 CFR Part 50, Appendix R. The staff concluded that the McGuire plant, including the SSS, met the requirements of 10 CFR Part 50, Appendix R, Paragraphs III.G and III.L and considered this matter resolved. On this basis, the staff concludes that the first part of LC paragraph 2.C(4)(a) has been met and that its deletion is acceptable. The staff finds that the second portion of LC paragraph 2.C(4)(a) has been met as discussed in SSER-6 wherein it is noted that the SSS was completely installed and made operational within 24 months after initial fuel loading of Unit 1. Accordingly deletion of this second part is acceptable.

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<sup>5</sup> June 10, 1997, Herbert N. Berkow to Mr. M. S. Tuckman, Issuance of Exemption to 10 CFR 50.71 (e)(4), Catawba and MNS (TAC M98043, M98044, M98100 and M98101).

DEC states that Condition 2.C(4)(b) has been met on the basis that, as documented in SSER-6, Section 9.5.1, Fire Protection System, the staff concluded that Sections III.G, III.J and III.O of Appendix R to 10 CFR Part 50 were satisfied in all areas of the plant. Accordingly, the staff concludes that the requirements of this part of the LC have been met and that its deletion is acceptable.

DEC states that Condition 2.C(4), last paragraph, has been met on the basis that installation of the items identified in Table 9.5-1 were required prior to initial fuel loading or prior to commercial operation, which occurred in December 1981, and that, in SSER-5, the staff found the fire protection program to be adequate. Subsequently, the staff found in SSER-6, issued in February 1983, well after commercial operation of Unit 1, that the licensee had provided a revised Fire Hazards Analysis which reflected the modifications made to satisfy previous commitments. The staff also found that this information indicated that the modifications were in conformance with previous commitments and were acceptable. On this basis, the staff finds that the requirements of the last paragraph of LC 2.C(4) have been met and that its deletion is acceptable.

2.1.5 Condition 2.C.5, Compliance with Regulatory Guide 1.97, states:

In accordance with the schedule submitted by the licensee, or as directed by the Commission, the licensee shall implement modifications necessary to comply with Revision 2 of Regulatory Guide 1.97, "Instrumentation for Light Water Cooled Nuclear Power Plants to Assess Plant Conditions During and Following an Accident," dated December 1980 as modified by the licensee's commitments to NUREG-0588 and NUREG-0737.

**Proposed Change:**

Delete License Condition 2.C.5.

**Justification for Deletion:**

Regulatory Guide (RG) 1.97 describes an acceptable method for complying with the requirements for providing instrumentation to monitor plant variables and systems during and following an accident in a light-water-cooled nuclear power plant. The McGuire UFSAR, Section 1.11, "Regulatory Guide 1.97, Revision 2 - Review for McGuire Nuclear Station," documents the review of RG 1.97, Revision 2, for McGuire. This section of the UFSAR describes DEC's method of satisfying NUREG-0737 Supplement 1 (which references RG 1.97, Revision 2) for MNS. This UFSAR section describes DEC accident monitoring instrumentation positions and provides a detailed comparison table, as requested in Supplement 1 to NUREG-0737. This table contains information regarding the comparison of the particular variable with the recommendation of the Regulatory Guide. Instrument ranges, design, environmental qualification, type of display and position statements are provided for each variable named in Table 2, "PWR Variables" of RG 1.97, Revision 2.

The NRC staff and its contractor, EG&G Idaho, Inc's., review of the McGuire submittals<sup>6,7</sup> in response to Supplement 1 to NUREG-0737 (transmitted by Generic Letter 82-33), is

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<sup>6</sup> March 29, 1984, Hal B. Tucker to Mr. Harold R. Denton, DPC, MNS Docket Nos. 50-369 and 50-370, Revision 3 to the DPC Response to Supplement 1 to NUREG-0737 for MNS.

<sup>7</sup> April 14, 1986, Hal B. Tucker to Mr. Harold R. Denton, MNS Docket Nos. 50-369 and 50-370, Duke's response to eight deviations from Regulatory Guide 1.97.

documented in a safety evaluation and contractor Technical Evaluation Report (TER), as issued on March 23, 1987<sup>8</sup>. The staff found that McGuire instrumentation either conformed to, or was justified in deviating from, the guidance of RG 1.97 for each post-accident monitoring variable with the exception of accumulator tank level and pressure, containment sump water temperature, and steam generator level.

The NRC staff later determined that the environmental qualification requirements for the accumulator level and pressure instrumentation could be relaxed from RG 1.97 Category 2 to Category 3 requirements. The resolution of this issue is documented in the staff's letter and SE transmitted on April 3, 1992<sup>9</sup>.

Steam generator level was addressed in the staff's safety evaluation of March 23, 1987, which noted deficiencies in the licensee's response to the requirement that qualified instrumentation be provided to monitor steam generator level over the range from tube sheet to separators. DEC's letter<sup>10</sup>, described upgrading plans for the wide-range level transmitters and documented plans to install and make operational this instrumentation during the end of Cycle 5 refueling outages for each McGuire unit. The NRC staff's letter of March 17, 1988, responded to DEC's August 17, 1987, proposal and found that DEC's use of narrow-range monitors in combination with the upgraded wide-range instrumentation is an acceptable deviation from RG 1.97 criteria for steam generator level monitoring. Subsequently, DEC implemented Nuclear Station Modification 12061 for Unit 1 on December 5, 1988, and Nuclear Station Modification 22061 for Unit 2 on July 28, 1989. These modifications provided four environmentally and seismically qualified transmitters for steam generator wide-range levels. Both the narrow-range and the wide-range monitors are described in FSAR Table 1-6. Accordingly, the staff concludes that the issue of steam generator level instrumentation has been resolved.

Containment sump water temperature is addressed in UFSAR Table 1-6, page 51 of 69. The UFSAR states that this variable is not utilized in the management of a design basis accident and, therefore, is not provided. By letter<sup>11</sup>, the staff noted that no further plant-specific reviews were anticipated with regard to containment sump temperature instrumentation. The staff performed a generic review of the need for RG 1.97 Category 2 containment sump water temperature instrumentation. The attached generic safety evaluation accepts either Category 2 residual heat removal heat exchanger inlet or outlet temperature instrumentation as an acceptable alternative for Category 2 containment sump water temperature instrumentation. The Category 2 residual heat removal heat exchanger outlet temperature instrumentation at McGuire is an acceptable alternative for Category 2 containment sump water temperature instrumentation.

As noted above, the NRC staff has found that the remaining issues of the RG 1.97 review have been resolved. Therefore, the staff finds that the requirements imposed by this license condition have been fulfilled and that its deletion is acceptable.

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<sup>8</sup> March 23, 1987, B. J. Youngblood to Mr. H. B. Tucker, Post-Accident Monitoring Instrumentation - MNS, Units 1 and 2.

<sup>9</sup> April 3, 1992, Timothy A. Reed to Mr. T. C. McMeekin, Conformance to Regulatory Guide 1.97 - MNS, Units 1 and 2 (TAC NOS. M66188/M66189).

<sup>10</sup> August 17, 1987, Hal B. Tucker to U. S. NRC, Document Control Desk, MNS, Docket Nos. 50-369, 50-370, Conformance to Regulatory Guide (RG) 1.97, Revision 2.

<sup>11</sup> April 3, 1992, Timothy A. Reed to Mr. T. C. McMeekin, Conformance to Regulatory Guide 1.97 - MNS, Units 1 and 2 (TAC NOS. M66188/M66189).

2.1.6 Condition 2.C.6, Steam Generator Inspection, states:

Prior to start-up after the first refueling, the licensee shall install inspection ports in each steam generator or have an acceptable alternative for inspection. This condition references item 5.3.1 in SER Supplement 4, NUREG-0422.

Proposed Change:

Delete License Condition 2.C.6.

Justification for Deletion:

The original basis for requiring upper inspection ports was an NRC concern regarding early detection of a denting phenomenon associated with the type of support plate deformation known as "hourglassing." Since that time, as subsequently reported in SSER-6, detecting the onset of denting and associated support plate cracking and hourglassing of flow slots has progressed to the point where adequate alternative means of detection are available. The NRC staff concluded in SSER-6 that its requirement for installing upper inspection ports is no longer applicable and is not required. Accordingly, the staff finds that this LC is no longer required and that its deletion is administrative and is acceptable.

2.1.7 Condition 2.C.7, Environmental Qualification, states:

The licensee shall take the following remedial actions, or alternative acceptable actions, with respect to the environmental qualification requirements for Class IE equipment (SSER #5-7.8)\*:

- a. No later than June 30, 1982, all safety-related electrical equipment exposed to a harsh environment in the facility shall be qualified in accordance with the requirements of NUREG-0588, "Interim Staff Position on Environmental Qualification of Safety-Related Electrical Equipment".
- b. Pursuant to SECY-80-370, dated August 6, 1980, complete and auditable records must be available and maintained at a central location which describes the environmental qualification method used for all safety-related electrical equipment in sufficient detail to document the degree of compliance with NUREG-0588. Such records shall be updated and maintained current as equipment is replaced, further tested, or otherwise further qualified to document complete compliance no later than June 30, 1982.
- c. Provide the NRC with a description of the required equipment qualification corrective action no later than July 15, 1981.

\*Reference is to the appropriate sections of the Safety Evaluation Report, Supplement No. 5 (NUREG-0422, April 1981)

Proposed Change:

Delete License Condition 2.C.7

Justification for Deletion:

Item (a) - DEC states that this LC has been met on the basis that, with regard to 10 CFR 50.49(b)(1), safety-related electrical equipment located in a harsh environment is identified in Duke Power Company's updated response to NUREG-0588<sup>12</sup>.

Item (b) - DEC states that this LC has been met on the basis that an auditable record of the McGuire 10CFR50.49/NUREG-0588 equipment is maintained in the Environmental Qualification Master list.

Item (c) - DEC states that this LC has been met on the basis that DEC provided the requested information in a letter<sup>13</sup>, which addressed equipment inside containment in accordance with Condition 2.C.(7)(c). DEC's letter<sup>14</sup> contained information related to equipment located outside containment in potentially harsh environments, including high radiation and high energy line break (HELB) areas. The deletion of this License Condition eliminates the need for the associated footnote.

DEC's basis, as provided above, refers to DEC actions taken in response to the LC and did not include references to previous NRC evaluations that conclude that the requirement of the LC have been met. However, on December 1, 1986, NRC issued Inspection Report Number 50-369,370/86-20 documenting the results of an NRC team inspection of DEC's program for establishing and maintaining the environmental qualification of electrical equipment within the scope of 10 CFR 50.49. The NRC inspectors determined that DEC had implemented a program to meet the requirements of 10 CFR 50.49 except for certain identified deficiencies. These deficiencies were acceptably dealt with in subsequent NRC correspondence dated October 5, 1987, and July 13, 1989. On this basis, the staff concludes that the requirements of this LC have been met and that its deletion is acceptable.

2.1.8 Condition 2.C.8, Radioactive Waste Treatment Systems, states:

Prior to initial criticality, the licensee shall ensure the operability of radwaste systems to the satisfaction of the Office of Inspection and Enforcement including completion of testing of HEPA filters and charcoal absorbers associated with all ventilation systems.

Proposed Change:

Delete License Condition 2.C.8.

Justification for Deletion:

The staff finds that the provisions contained in section 16.11 of the McGuire Selected Licensee Commitments Manual, "Commitments Related To Radioactive Waste Management and Radiological Effluent Control" and the requirements of the TS for testing of the control room area ventilation system, the auxiliary building filtered ventilation exhaust system and the fuel handling ventilation exhaust system filters in accordance with the licensee's ventilation filter

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<sup>12</sup> June 30, 1982, William O. Parker, Jr. to Mr Harold R. Denton, MNS, Docket Nos. 50-369, 50-370, Updated response to NUREG-0588.

<sup>13</sup> July 15, 1981, William O. Parker, Jr. to Mr. Harold R. Denton, MNS, Docket Nos. 50-369, 50-370, Information in compliance with provisions of License No. NPF-9, Condition 2.C.(7)(c).

<sup>14</sup> August 17, 1981, William O. Parker Jr. to Mr. Harold R. Denton, MNS, Docket Nos. 50-369, 50-370, Environmental Qualification of Equipment.



testing program, demonstrate that the requirements of this LC have been met. Accordingly, the staff concludes that the requirements of this LC have been met and that its deletion is acceptable.

2.1.9 Condition 2.C.9, Piping Systems Analysis, states:

The licensee shall provide the NRC with the results of its seismic system piping reanalysis within 90 days of the issuance of this license. (SSER #5-3.7.2)

Proposed Change:

Delete License Condition 2.C.9.

Justification for Deletion:

DEC states that this LC has been met. This issue addressed a deviation from the Standard Review Plan (NUREG-0800) regarding the choice of correct spectra to be used for seismic design of piping systems. In SSER-5, section 3.7.2, dated April 1981, the staff discussed its request for a reanalysis of 22 piping math models to supplement this justification. DEC submitted the results of the reanalysis, using an approach specified in the Standard Review Plan. The staff reported the results of its review of that information in SSER-6 in February 1983. The staff found that the results demonstrated that the existing piping systems were designed conservatively and contained adequate safety margins and that the results were acceptable to satisfy the LC as stated in SSER-5.

Accordingly, the staff finds that the requirements imposed by this LC have been fulfilled and that its deletion is administrative and is acceptable.

2.1.10 Condition 2.C.10, Category I Masonry Walls, states:

Prior to startup following the first refueling or as directed by the Commission, the licensee shall evaluate all Category I Masonry Walls to final staff criteria and implement required modifications that are indicated by the evaluation.

Proposed Change:

Delete License Condition 2.C.10.

Justification for Deletion:

DEC states that this LC has been met. A reanalysis program was carried out and resulted in commitments to implement certain structural modifications. The completion of the Unit 1 modifications was evaluated in section 3.8.4 of SSER-5. By DEC letter<sup>15</sup>, Attachment 6, DEC documented completion of the Unit 2 modifications. The NRC concluded in section 3.8.4 of SSER-6 that this issue is satisfactorily resolved.

The staff finds that the requirements imposed by this LC have been fulfilled and that its deletion is administrative and is acceptable.

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<sup>15</sup> December 22, 1982, Hal B. Tucker to Mr. Harold R. Denton, MNS, Docket Nos. 50-369, 50-370, Outstanding Information Responses.

2.1.11 CONDITION 2.C.11, NUREG-0737 Conditions:  
FROM SSER 4 and 5, SECTION 22.2, FUEL LOADING AND LOW POWER TESTING

The licensee shall complete the following conditions to the satisfaction of the NRC. These conditions reference the appropriate items in Section 22.2, "Fuel-Loading and Low Power Testing Requirements," in SER Supplements 4 & 5, NUREG-0422.

a. Shift Technical Advisor (I.A.1.1)

The licensee shall continue to provide a fully-trained on-shift technical advisor to the shift supervisor.

Proposed Change:

Delete License Condition 2.C.(11)(a).

Justification for Deletion:

DEC states that this LC has been met. SSER- 4 stated that DEC committed to a Shift Technical Advisor (STA) being on duty for each operating shift in accordance with staff guidelines. SSER-4 identified a need for additional information which was provided by DEC on February 6, 1981<sup>16</sup>. In SSER-5, the staff concluded that qualification of the STAs as described in this submittal met the necessary training requirements.

TS 5.2.2g continues to reflect the STA functional requirements. This TS states, "The Shift Work Manager, whose functions include those of a Shift Technical Advisor (STA), shall provide advisory technical support to the Shift Supervisor in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the unit. In addition, the Shift Work Manager shall meet the qualification for STA specified by the Commission Policy Statement on Engineering Expertise on Shift."

On the basis that appropriate requirements already exist in the TS, the staff finds that LC 2.C.11(a) is no longer needed and its deletion is acceptable.

b. Independent Safety Engineering Group (I.B.1.2)

The licensee shall continue to have an onsite Independent Safety Engineering Group.

Proposed Change:

Delete License Condition 2.C.(11)(b).

Justification for Deletion:

DEC states that this LC has been met on the basis that the current commitment regarding an onsite Independent Safety Engineering Group (ISEG) is contained in the DEC Quality Assurance (QA) Topical Report in Section 17.3.3.2.4. DEC submitted, on December 14, 2000, Amendment Number 27 to the DEC Topical Report, "Quality Assurance Program", DUKE-1-A. Standard Review Plan (SRP) Section 13.4, "Operational Review", Revision 2, dated July 1981,

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<sup>16</sup> February 6, 1981, William O. Parker, Jr. to Mr. Harold R. Denton, MNS, Docket Nos. 50-369 and 50-370, Updated responses to the document "Duke Power Company, MNS, Response to TMI Concerns."

provides acceptance criteria related to ISEG. The staff finds that Section 17.3.3.2.4 of DUKE-1-A continues to provide requirements for the staffing, qualifications and responsibilities of a Safety Review Group which are consistent with the acceptance criteria in SRP 13.4 for the ISEG. Changes to the commitments in the DEC QA Topical Report are appropriately controlled pursuant to 10 CFR 50.54(a). Because the DEC QA Topical Report contains appropriate commitments for the ISEG function and because changes to those commitments are appropriately controlled, the staff concludes that LC 2.C.(11)(b) is no longer required and that its deletion is acceptable .

c. Operating Activities (I.C.6)

Prior to exceeding 1% power the licensee shall provide adequate procedures to verify the correct performance of the licensee's operating activities. These procedures shall be maintained by the licensee.

Proposed Change:

Delete License Condition 2.C.(11)(c).

Justification for Deletion:

SSER-6, Section 22.3, documents this item as complete on the basis of DEC's June 18, 1982, submittal<sup>17</sup> and finds the response to be acceptable. The staff finds that the requirements imposed by this license condition have been fulfilled and that its deletion is administrative and is acceptable.

d. Control Room Design (I.D.1)

The licensee shall complete the following conditions to the satisfaction of the Commission prior to resuming power operation after the first refueling:

- (1) Controllers with revised scales (0 at top and 100% at bottom) shall be replaced and signal reversing relays shall be incorporated where applicable.
- (2) All applicable meter scales shall be permanently marked.
- (3) The licensee shall rescale circular displays for clarify and eliminate double ranges on circular displays.
- (4) Strip chart selector switches which can be placed in an intermediate (no-selection) position shall be replaced.
- (5) Appropriate modifications to the normal and emergency lighting systems shall be made to ensure adequate illumination of the control room under all operating conditions.

As a reference, these conditions are further described in supplement No. 4 to the SER (NUREG-0422), appendix D, Items 3b, 4a, 4f and 9b, respectively.

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<sup>17</sup> June 18, 1982, William O. Parker, Jr. to Mr. Harold R. Denton, McGuire Nuclear Station, Docket Nos. 50-369, 50-370, Updated responses to the document "Duke Power Company, McGuire Nuclear Station, Response to TMI Concerns."

Proposed Change:

Delete License Condition 2.C.11(d).

Justification for Deletion:

DEC states that SSER-6, Section 22.3, documents this item as complete on the basis of DEC's submittal<sup>18</sup>. The basis cited by DEC in Section 22.3 of SSER-6 for deletion of the LC, indicates that the licensee's documented response of February 18, 1983, is complete. However DEC's basis for deletion of the LC does not address verification of implementation. DEC provided additional information in its letter dated August 30, 2001, that documents the specific implementation of each of the five items of the LC. The staff has reviewed this information and finds that the specific confirmation of implementation of the five items resolves the staff's concerns. Accordingly, the staff finds that deletion of this LC to be acceptable.

Condition: From SSER 5, Section 22.3, Full Power Requirements

The licensee shall complete each of the following conditions to the satisfaction of the NRC by the times indicated. Each of the following conditions references the appropriate item in Section 22.3, "Full-Power Requirements," in SER Supplement 5, NUREG-0422:

a. NSSS Vendor Review Procedures (I.C.7)

Prior to exceeding 5% power, the licensee shall document that the Westinghouse review of the power ascension test procedures is complete.

Proposed Change:

Delete Item "a".

Justification for Deletion:

The NRC documented completion of this item in SSER-6 based on DEC's submittal<sup>19</sup> and found the response to be acceptable. The NRC documented verification of completion of all conditions of the McGuire license required for operation above 1% and 5% power via Inspection Report 50-369/81-23 and 50-370/81-11. The staff finds that the requirements imposed by this license condition have been fulfilled and that its deletion is administrative and is acceptable.

b. Training During Low-Power Testing (I.G.1)

Prior to exceeding 5% power the licensee shall complete the required Special Tests and the low-power test training program. The results of the test program shall be provided to the NRC within 30 days.

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<sup>18</sup> February 18, 1983, Hal. B. Tucker to Mr. Harold R. Denton, McGuire Nuclear Station, Docket No. 50-370, Responses and clarifications to NRC requested information.

<sup>19</sup> June 18, 1982, William O. Parker, Jr. to Mr. Harold R. Denton, McGuire Nuclear Station, Docket Nos. 50-369, 50-370, Updated responses to the document "Duke Power Company, McGuire Nuclear Station, Response to TMI Concerns."

Proposed Change:

Delete Item "b".

Justification for Deletion:

The NRC documented completion of this item in SSER-6 based on DEC's submittals and found the response to be acceptable. The NRC documented verification of completion of all conditions of the McGuire license required for operation above 1% and 5% power via Inspection Report 50-369/81-23 and 50-370/81-11. The staff finds that the requirements imposed by this license condition have been fulfilled and that its deletion is administrative and is acceptable.

c. Post Accident Sampling (II.B.3)

The licensee shall install a high radiation sampling system for obtaining reactor coolant and containment atmosphere sampling under degraded core accident conditions without excessive exposure by January 1, 1982.

Status: This LC was deleted on September 17, 2001, by amendment number 199 issued in response to DEC's application dated July 2, 2001, "Application for Technical Specification Improvement to Eliminate Requirements for Post-Accident Sampling Systems (PASS) using the Consolidated Line Item Improvement Process."

d. Training for Mitigating Core Damage (II.B.4)

Prior to exceeding 5% power the licensee shall complete training for mitigating core damage.

Proposed Change:

Delete Item "d".

Justification for Deletion:

The NRC documented completion of this item in SSER-6 based on DEC's submittal<sup>20</sup> and found the response, which documented the completion of a special training program for the mitigation of core damage, to be acceptable. The staff finds that the requirements imposed by this LC have been fulfilled and that its deletion is administrative and is acceptable.

e. Auxiliary Feedwater System Evaluation (II.E.1.1)

Prior to exceeding 5% power the licensee shall complete performance testing of the auxiliary feedwater system pumps and shall submit a report within 30 days after all tests are completed.

Proposed Change:

Delete Item "e".

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<sup>20</sup> June 18, 1982, William O. Parker, Jr. to Mr. Harold R. Denton, MNS, Docket Nos. 50-369, 50-370, Updated responses to the document "Duke Power Company, MNS, Response to TMI Concerns."

Justification for Deletion:

SSER-5, Item 8.B.2, recommended performance of a 48-hour endurance test on all auxiliary feedwater pumps, if such a test or continuous period of operation had not been accomplished. McGuire documented by letter<sup>21</sup> that the motor-driven pumps were run several days during the hot functional test period. By Duke letter<sup>22</sup>, McGuire provided the results for the turbine driven auxiliary feedwater pump. The NRC documented completion of this item in SSER-6 based on DEC's submittals and found the response to be acceptable. The staff finds that the requirements imposed by this LC have been fulfilled and that its deletion is administrative and is acceptable.

f. Inadequate Core Cooling Instruments (ICCI) (II.F.2)

- (1) The licensee shall install a reactor vessel water level instrumentation system prior to startup after the first refueling.
- (2) Prior to exceeding 5% power the licensee shall install a full range in-core thermocouple temperature (2300 °F) backup display; and
- (3) The licensee shall upgrade the in-containment portion of the incore thermocouple system prior to startup following the first refueling outage, and shall provide a schedule for upgrade of the remainder of the system in the Regulatory Guide 1.97 Accident Monitoring Review Report submittal pursuant to NUREG-0737, Supplement 1.

Proposed Change:

Delete Item "f", including its three subparts.

Justification for Deletion:

Item (1): The licensee proposes to delete the LC regarding installation of a reactor vessel water level instrumentation system (RVLIS) on the basis that this action was completed. A letter<sup>23</sup> from T.M. Novak (NRC) to H.B. Tucker (DPC) stated the following: "The currently installed RVLIS system for Unit 1 is acceptable, and the same type of RVLIS partially installed in Unit 2 will be acceptable upon completion of the installation and calibration test". The McGuire UFSAR, Section 7.5.4.3, indicates that RVLIS is installed for both units. NRC Inspection report 50-369/89-24 and 50-370/89-24 also indicates that ICCI, including RVLIS, has been implemented. On these bases, the staff finds that the requirements imposed by this LC have been fulfilled and that its deletion is acceptable.

Item (2): The licensee proposes to delete the LC regarding installation of a full range in-core thermocouple temperature (2300°F) backup display on the basis that this was completed. Inspection reports 50-369/81-23 and 50-370/81-11 documented the observed backup display to

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<sup>21</sup>September 18, 1980, William O. Parker, Jr. to Mr. Harold R. Denton, McGuire Nuclear Station, Docket Nos. 50-369, 50-370, Discussion of Bulletins and Orders Task Force recommendations on Auxiliary Feedwater Systems as they apply to McGuire Nuclear Station.

<sup>22</sup>October 5, 1981, William O. Parker, Jr. to Mr. Harold R. Denton, McGuire Nuclear Station, Docket Nos. 50-369, 50-370, Test of the turbine driven auxiliary feedwater pump.

<sup>23</sup>September 17, 1984, Thomas M. Novak to Mr. H. B. Tucker, Inadequate Core Cooling Instrumentation (McGuire Nuclear Station, Units 1 and 2).

be installed and operational. On this basis, the staff finds that the requirement imposed by this LC has been fulfilled and that its deletion is acceptable.

Item (3): The licensee proposes to delete the requirement to upgrade the in-containment portion of the in-core thermocouple system (ITS) on the basis that this has been completed. ITS and core exit thermocouple (CET) are used interchangeably in this discussion. The NRC's letter<sup>24</sup> and safety evaluation of September 17, 1984, concluded that McGuire's commitment and schedule to upgrade the CET system were acceptable. DEC's letter<sup>25</sup> documented the completion of the installation, functional testing and calibration of the ITS. The NRC staff and its contractor conducted a post-implementation audit at McGuire to discuss Duke's experience with the ICCI systems which was documented by the staff's memorandum<sup>26</sup>. The audit confirmed that the ICCI system of McGuire Units 1 and 2 included the CET. The CETs are described in section 1.8.27, Table 1-6 and section 7.5.4.1 of the UFSAR. NRC Inspection Report 50-369/89-24 and 50-370/89-24 reported that DEC had implemented CETs as described in the FSAR at that time. On these bases, the NRC staff finds that the requirements of this LC item have been completed and that the deletion of this item is acceptable.

g. Anticipatory Reactor Trip (II.K.3.10)

Prior to exceeding 50% power the licensee shall complete the described turbine trip tests to verify that PORVs will not be challenged when the anticipatory trip bypass is in effect.

Proposed Change:

Delete Item "g".

Justification for Deletion:

Testing was performed and the results reported in the McGuire Startup Report submitted by DEC'S letter<sup>27</sup>, section 8.11. The NRC staff reported the results of its review of the Startup Report in Section 22.3 of SSER-6 wherein it concluded that the test had not met the requirements of the LC. By letter<sup>28</sup>, DEC provided additional details regarding the actual test conditions. A further DEC letter<sup>29</sup> provided additional information stating that a loss of electrical load test satisfied this LC. NRC's letter and safety evaluation<sup>30</sup> concluded that "... The licensee has effectively simulated the required Turbine Trip test from 48% rated power, and completed

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<sup>24</sup> September 17, 1984, Thomas M. Novak to Mr. H. B. Tucker, Inadequate Core Cooling Instrumentation (McGuire Nuclear Station, Units 1 and 2).

<sup>25</sup> June 25, 1985, Hal B. Tucker to Dr. J. Nelson Grace, McGuire Nuclear Station, Docket Nos. 50-369, 50-370, Status of ICCI Implementation Milestones.

<sup>26</sup> May 27, 1988, Darl Hood to Duke Power Company, Summary of April 28, 1988 Meeting on Inadequate Core Cooling Instrumentation Systems (TACS 67755 and 67756).

<sup>27</sup> March 10, 1982, William O. Parker, Jr. to Mr. James P. O'Reilly, McGuire Nuclear Station, Unit 1, Docket No. 50-369, Startup Report.

<sup>28</sup> February 22, 1983, Hal B. Tucker to Mr. Harold R. Denton, MNS, Docket Nos. 50-369, 50-370, Revised description of test method per License Condition 2.C.(11)g.

<sup>29</sup> May 5, 1983, Hal B. Tucker to Mr. Harold R. Denton, MNS, Docket Nos. 50-369, 50-370, Loss of electrical load test per License Condition 2.C.(11)g.

<sup>30</sup> May 17, 1983, Thomas M. Novak to Mr. Hal B. Tucker, OL Condition 2.C.(11)g, Anticipatory Reactor Trip (II.K.3.10) (MNS, Unit 1).

the requirements of license condition 2.C(11)g ...” The staff finds that the requirements imposed by this LC have been fulfilled and that its deletion is acceptable.

Condition: From SSER-5, Section 22.4, NRC Actions

The licensee shall complete the following conditions to the satisfaction of the staff by the times indicated. These conditions reference the appropriate item in Section 22.4, “NRC Actions” in SER Supplement 5, NUREG-0422:

h. Hydrogen Control Measures (II.B.7)

- (1) Prior to startup following the first refueling outage, the Commission must confirm that an adequate hydrogen control system for the plant is installed and will perform its intended function in a manner that provides adequate safety margins.
- (2) During the interim period of operation, the licensee shall continue a research program on hydrogen control measures and the effects of hydrogen burns on safety functions and shall submit to the NRC quarterly reports on the research program.
  - (a) The first quarterly report shall contain a detailed description of the Duke Power Company’s program which shall generally conform to pertinent portions of the program outlined in “Research on Hydrogen Combustion and Control Quarterly Report”, Tennessee Valley Authority, Sequoyah Nuclear Plant, December 15, 1981, but which shall also include, but not be limited to the following items:
    - 1) Improved calculational methods for containment temperature and ice condenser response to hydrogen combustion.
    - 2) Research to address the potential for local detonation.
    - 3) Confirmatory tests on selected equipment exposed to hydrogen burns.
    - 4) New calculations to predict differences between expected equipment temperature environments and containment temperature.
    - 5) Evaluate and resolve any anomalous results occurring during the course of its ongoing test program.
  - (b) The results of these investigations will be provided to the staff for review in October 1981. A schedule for confirmatory tests beyond this date will be provided consistent with the requirement to meet the January 31, 1982, deadline, Section (11)h(1) of the license.

Operation of the hydrogen igniter system shall be activated upon a safety injection signal with accompanying indications of a loss of coolant accident.



Proposed Change:

Delete Item "h".

Justification for Deletion:

SSER-7, issued in May 1983, updated the staff's evaluation of hydrogen control measures at McGuire Units 1 and 2, as follows:

Accordingly, subject to meeting the conditions discussed herein dealing with igniter number and locations and system status indication, and subject to completing installation, the staff finds the McGuire Units 1 and 2 license conditions dealing with hydrogen control during postulated degraded core accidents to be satisfactorily resolved.

Thus, the review of the hydrogen control was continued during the operating license review for Unit 2 and resolution of the issue, as applicable to both units, was reported in SSER-7. Section 2.2.9(e) of this safety evaluation provides the staff's evaluation of the remaining issues to be resolved, as discussed in the above paragraph, and has found the responses to the hydrogen control issue to be acceptable. Accordingly, deletion of this LC is acceptable.

Condition: From SSER-5, Section 22.5, Dated Requirements

The licensee shall complete each of the following conditions to the satisfaction of the NRC by the times indicated. Each of the following conditions references the appropriate item in Section 22.5, "Dated Requirements" in SER supplement 5, NUREG-0422:

i. Reactor Coolant Vents (II.B.1) states:

Prior to exceeding 1% power the licensee shall provide information on procedures and testing including measures to preclude inadvertent operation;

Proposed Change:

Delete License Condition 2.C.(11)i.

Justification for Deletion:

DEC's submittals<sup>31, 32</sup>, provided conceptual design information for installation of reactor coolant system vents. The NRC documented a preliminary review and evaluation of this design in SSER-4, Section 22.3 which contained a provisional acceptance pending additional evaluation by the NRC staff. DEC notified the NRC of the actual installation for McGuire Units 1 & 2 by letter<sup>33</sup>, and in a further letter<sup>34</sup>, DEC provided information regarding procedures and testing. The NRC concluded that DEC satisfied this LC in SSER-6 based on DEC's submittals and

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<sup>31</sup> May 23, 1980, William O. Parker, Jr. to Mr. Harold R. Denton, MNS, Docket Nos. 50-369 and 50-370, Response to TMI Concerns.

<sup>32</sup> September 8, 1980, William O. Parker, Jr. to Mr. Harold R. Denton, MNS, Docket Nos. 50-369 and 50-370, Updated response to "DPC, MNS, Response to TMI Concerns."

<sup>33</sup> February 6, 1981, William O. Parker, Jr. to Mr. Harold R. Denton, MNS, Docket Nos. 50-369 and 50-370, Updated response to "DPC, MNS, Response to TMI Concerns."

<sup>34</sup> August 26, 1981, William O. Parker, Jr. to Mr. Harold R. Denton, MNS, Docket Nos. 50-369 and 50-370, Procedure for "Venting of Non-Condensable Gases from the Reactor Vessel Head."

found the response to be acceptable. The staff finds that the requirements imposed by this LC have been fulfilled and that its deletion is administrative and is acceptable.

j. Relief and Safety Valve Tests (II.D.1) states:

Prior to July 1, 1982, the licensee shall provide documentation for relief valves, safety valves and associated piping in accordance with the EPRI December 15, 1980, letter as approved by the NRC and shall qualify block valves by July 1, 1982, and shall submit a report demonstrating said qualification;

Proposed Change:

Delete License Condition 2.C.(11)j.

Justification for Deletion:

DEC's letter<sup>35</sup>, provided information on the results of the EPRI valve test program that applied to McGuire Units 1 and 2. DEC also provided information in a letter<sup>36</sup> which stated that the safety and relief valve discharge piping and supports had been verified to ensure functionality and that there were no adverse effects on valve operability. In SSER-6, Section 22.3, the NRC staff found the licensee's response to be complete and acceptable. The staff finds that the requirements imposed by this LC have been fulfilled and that its deletion is administrative and is acceptable.

k. Commission Orders on Babcock & Wilcox Plants, Subsequently Applied to all PWR Plants (II.K.2) states:

Prior to January 1, 1982, the licensee as a participant in the Westinghouse Owners Group shall:

- (1) Submit a detailed analysis of the thermal mechanical conditions in the reactor vessel during recovery from small break loss-of-coolant accidents (LOCAs) with an extended loss of all feedwater (II.K.2.13)
- (2) Provide an analysis of the potential for voiding in the reactor coolant system during anticipated transients (II.K.2.17)
- (3) Provide a bench mark analysis of sequential auxiliary feedwater flow to the steam generators following a loss of main feedwater (II.K.2.19)

Proposed Change:

Delete License Condition 2.C.(11)k.

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<sup>35</sup> June 30, 1982, William O. Parker, Jr. to Mr. Harold R. Denton, MNS, Docket Nos. 50-369, 50-370, Qualification/Operability of pressurizer power operated relief valves (PORVs), safety valves, PORV block valves and associated piping and supports.

<sup>36</sup> November 1, 1982, Hal B. Tucker to Mr. Harold R. Denton, MNS, Docket Nos. 50-369, 50-370, Safety/Relief Valve Piping Evaluation, NUREG-0737, Item II.D.1.A.

Justification for Deletion:

Item (1), II.K.2.13 - SSER-6 reported that the McGuire Unit 1 and 2 reactor vessels would not be jeopardized by pressurized thermal shock events such as small breaks with an extended loss of feedwater for 32 effective full-power years because the predicted end of life reference temperature - nil-ductility temperature for these vessels is less than 200°F. SSER-6 also reported that the staff found the DEC response to the issue to be complete and acceptable.

Item (2), II.K.2.17 - DEC provided a response by letter<sup>37</sup> documenting a Westinghouse study addressing the potential for void formation in Westinghouse-designed nuclear steam supply systems during natural circulation cooldown/depressurization transients. This study was submitted to the staff by the Westinghouse Owners Group (letter OG-57, dated April 20, 1981) and was applicable to McGuire. SSER-6 reported that the staff found the DEC response to the issue to be complete and acceptable. Item (3), II.K.2.19 - The NRC staff's letter<sup>38</sup> of June 29, 1981, stated that the concerns expressed in NUREG-0737, Item II.K.2.19, were not considered applicable to nuclear steam supply systems with inverted U-tube steam generators such as those designed by Westinghouse and Combustion Engineering. SSER-6 concluded that McGuire met the requirements of NUREG-0737, Item K.2.19 in an acceptable manner and that DEC's response was complete and acceptable.

On the basis that the staff's SSER-6 concluded that the three parts of the above LC for TMI Action Plan item II.K.2 have been acceptably resolved, the staff finds that the requirements imposed by this LC have been fulfilled and that its deletion is administrative and acceptable.

I. Final Recommendations of B&O Task Force (II.K.3) states:

- (1) With respect to installation of the anticipatory reactor trip (II.D.3.12), prior to exceeding 5% rated power the licensee shall install a trip that meets the stated criteria.
- (2) With respect to a revised small break LOCA model (II.K.3.30), the licensee shall submit prior to May 1, 1982, to the NRC a revised model to account for recent experimental data including data from the LOFT Test Facility and the Semiscale Test Facility.

Proposed Change:

Delete License Condition 2.C.(11)l.

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<sup>37</sup> December 14, 1981, William O. Parker, Jr. to Mr. Harold R. Denton, McGuire Nuclear Station, Docket No. 50-369, Status of License Conditions related to NUREG-0737 requirements.

<sup>38</sup> June 29, 1981, Steven A. Varga to Mr. J. J. Carey (Duquesna Light Company), Elimination of Item II.K.2.19 (Sequential Auxiliary Feedwater Flow Analysis) Requirement for Licensees with NSSSs Designed by W and CE.

Justification for Deletion:

Item (1) - By letter<sup>39</sup>, Duke documented the installation of a direct reactor trip on turbine trip to provide additional protection against PORV challenges. SSER-6 found the response to this LC to be complete and acceptable.

Item (2) - Westinghouse submitted a revised model to the NRC for review on March 26, 1982 (NS-EPR-2581, E. P. Rahe, Jr. to Darrell G. Eisenhut). Duke notified the NRC by letter<sup>40</sup> of the subject submittal and the completion of this LC. SSER-6 found the response to this LC to be complete and acceptable.

On the basis that the staff's SSER-6 concluded that the two parts of the above LC for Three Mile Island (TMI) Action Plan item II.K.3 have been acceptably resolved, the staff finds that the requirements imposed by this LC have been fulfilled and that its deletion is administrative and acceptable.

m. Upgrade Emergency Preparedness states:

The licensee shall submit by July 1, 1981 a description of how the augmented staffing guidance of Table B-1, NUREG-0654, Rev. 1, will be met by July 1, 1982. (III.A.1-1, and Appendix C, page c-13).

Proposed Change:

Delete License Condition 2.C.(11)m.

Justification for Deletion:

DEC provided information pertaining to McGuire's augmented staffing in the event of an emergency in letters<sup>41,42</sup>. The staff documented satisfaction of this LC in NRC Inspection Report No. 50-369/82-06 and in SSER-6, section 13.3.1, wherein the staff concludes that LC 2.C.11.m is satisfactorily completed. The staff finds that the requirements imposed by this LC have been fulfilled and that its deletion is administrative and is acceptable.

n. Upgrade Emergency Support Facilities states:

- (1) The licensee shall submit by June 15, 1981, the conceptual design description of emergency response facilities in sufficient detail to describe how the guidance of NUREG-0696 will be met (III.A.2, and Appendix C, Section H, page C-8)

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<sup>39</sup> June 18, 1982, William O. Parker, Jr. to Mr. Harold R. Denton, McGuire Nuclear Station, Docket Nos. 50-369, 50-370, Updated response to Duke Power Company, McGuire Nuclear Station, Response to TMI Concerns.

<sup>40</sup> April 30, 1982, William O. Parker, Jr. to Mr. Harold R. Denton, McGuire Nuclear Station, Docket Nos. 50-369, 50-370, License Condition 2.C.(11)1.(2).

<sup>41</sup> April 3, 1981, William O. Parker, Jr. to Mr. Harold R. Denton, McGuire Nuclear Station, Docket Nos. 50-369, 50-370, Response to Generic Letter 81-10.

<sup>42</sup> July 1, 1981, William O. Parker, Jr. to Mr. Harold R. Denton, McGuire Nuclear Station, Docket Nos. 50-369 and 50-370, Submittal of a description of emergency staffing provisions per License Condition (11)m.

- (2) The licensee shall provide meteorological and dose assessment capability to meet the guidance of Appendix 2, NUREG-0654, Rev. 1, as follows: (1) a functional description of upgraded capabilities by January 1, 1982, and (2) full operational capability by July 31, 1983. (III.A.2, and Appendix C, Section H, page C-8)
- (3) The licensee shall revise, prior to exceeding 1% power, the emergency plan implementing procedures to incorporate the following in dose projections:
  - (a) actual source terms, rather than design basis accident source terms.
  - (b) realistic meteorological conditions over the dose time period.
  - (c) actual containment pressure. (III.A.2, Appendix C, and Section H, page C-8).

Proposed Change:

Delete License Condition 2.C.(11)n.

Justification for Deletion:

Paragraph (1): SSER-6, section 13. 3.1, states that the requested information was provided by DEC letter<sup>43</sup> and that this portion of the condition is satisfactorily completed.

Paragraph (2), Item (1); The functional description for this LC (as amended by Amendment 15 to Facility Operating License NPF-9<sup>44</sup>) was provided by Duke letter<sup>45</sup>. In section 13.3.1 of SSER-6, the NRC staff concluded that this portion of the LC is satisfactorily completed.

Paragraph (2), Item (2): This part of the LC, as revised by FOL Amendment 15 through August 25, 1982, required full-operation capability of the system to be established by July 31, 1983. Then, as discussed in section 13.3.1 of SSER-6, Generic Letter 82-33, ("Supplement 1 to NUREG-0737, Requirements for Emergency Response Capability,"<sup>46</sup>) was issued on December 17, 1982, which provided additional clarification to licensees. Previous guidance concerning the implementation schedule for emergency systems and facilities was revised and licensees were instructed to develop plant-specific schedules by April 15, 1983. DEC's response was provided on April 14, 1983. On June 15, 1984, the NRC issued an Order<sup>47</sup> confirming the commitments made in DEC's April 14, 1983, letter on emergency response capability for Units 1 and 2. Attachment 1 to that letter "Licensee's Commitments on Supplement 1 to NUREG-0737," Item #5, documented full functional capability of McGuire's

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<sup>43</sup> June 1, 1981, William O. Parker, Jr. to Mr. Harold R. Denton, McGuire Nuclear Station, Docket Nos. 50-369 and 50-370, Duke Power Company's plans for complying with guidance of NUREG-0696.

<sup>44</sup> August 25, 1982, Elinor G. Adensam to Mr. Hal B. Tucker, Issuance of Amendment No. 15 to Facility Operating License NPF-9, McGuire Nuclear Station, Unit 1.

<sup>45</sup> December 21, 1981, William O. Parker, Jr. to Mr. Harold R. Denton, McGuire Nuclear Station, Docket Nos. 50-369, 50-370, Upgraded Meteorological System.

<sup>46</sup> December 17, 1982, Darrell G. Eisenhut to All Licensees of Operating Reactors, Applicants for Operating Licenses, and Holders of Construction Permits, Supplement 1 to NUREG-0737 - Requirements for Emergency Response Capability (Generic Letter No. 82-33).

<sup>47</sup> June 15, 1984, Elinor G. Adensam to Mr. H. B. Tucker, Issuance of Order Confirming Licensee Commitments on Emergency Response Capability.

Technical Support Center, Operational Support Center and the Emergency Operations Facility. The NRC staff concludes, on these bases, that the requirements of this part of the LC have been met and that its deletion is acceptable.

Paragraph (3): The revised procedures and amplifying information was provided in a DEC letter<sup>48</sup>. SSER-6 concluded that the revised procedures adequately incorporated the aforementioned items and that this part of condition 2.C.(11).n was satisfactorily completed.

On the basis that the staff's SSER-6, section 13.3.1, and the NRC Order issued June 15, 1984, concluded that the parts of the above LC have been acceptably resolved, the staff finds that the requirements imposed by this LC have been fulfilled and that its deletion is acceptable.

2.1.12 Condition 2.C.(12), Steam Generator Design Modification, states:

The licensee shall conduct the inspection, testing and monitoring program as described in the attachment to Hal B. Tucker's letters of February 3 and April 28, (revised), 1983. The licensee shall not make any major modifications to this program unless prior NRC approval is received.

Major modifications are defined as:

- a. Elimination of any identified testing, inspection or monitoring,
- b. Changes in the frequency of performing the identified testing, inspection or monitoring, and
- c. Reduction in the scope of any of the identified testing, inspection or monitoring.

Proposed Change: Delete License Condition 2.C.(12).

Justification for Deletion:

A generic problem was identified concerning vibration-induced wear in the preheater section specific to Westinghouse Model D steam generators. McGuire replaced the Model D steam generators in both units with feedring steam generators designed by Babcock & Wilcox International by approved License Amendment 175/157<sup>49</sup>. The staff finds that the requirements imposed by this LC are no longer applicable and that its deletion is acceptable.

2.1.13 Condition 2.C.(13) states:

Additional Conditions

The Additional Conditions contained in Appendix C, as revised through Amendment No. 188, are hereby incorporated into this license. Duke Energy Corporation shall operate the facility in accordance with the Additional Conditions.

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<sup>48</sup> June 15, 1981, William O. Parker, Jr. to Mr. Harold R. Denton, McGuire Nuclear Station, Docket Nos. 50-369 and 50-370, Revisions to Emergency Plan Implementing Procedures as required by License Condition (11).n.(3).

<sup>49</sup> May 5, 1997, Victor Nerses to Mr. H. B. Barron, Issuance of Amendments - McGuire Nuclear Station, Units 1 and 2, (TAC Nos. M90590 and M90591).

Proposed Change:

Revise Appendix C to delete the following LC reflecting the relocation of certain requirements of the former TSs.

The licensee is authorized to relocate certain requirements included in Appendix A to licensee-controlled documents. Implementation of this amendment shall include the relocation of these requirements to the appropriate documents, as described in the licensee's letters dated May 27, 1997, and amended by letters dated March 9, March 20, April 20, June 3, June 24, July 7, July 21, August 5, September 8, and September 15, 1998, and evaluated in the NRC staff's Safety Evaluation associated with this amendment.

Justification for Deletion:

DEC states that this portion of the LC has been met. Appendix C contains an LC introduced by Amendment Number 184<sup>50</sup>. This amendment involved implementation of Improved Standardized Technical Specifications consistent with NUREG-1431, "Standard Technical Specifications - Westinghouse Plants", for McGuire Units 1 and 2. The amendment approved the relocation of certain requirements included in Appendix A to licensee-controlled documents. DEC states that this relocation was completed simultaneous with the implementation of the Improved Standardized Technical Specifications on November 14, 1998.

The NRC staff finds that the licensee's statement under oath and affirmation that the license condition was satisfied with regard to the relocated requirements from the previous TS sufficient basis to remove this part of the LC. Accordingly, the staff finds deletion of this portion of the LC to be acceptable.

2.1.14 Condition 2.D, Appendix G Exemption, states:

The facility requires an exemption from certain requirements of Appendix G to 10 CFR Part 50. This exemption is described in the Office of Nuclear Reactor Regulation's Safety Evaluation Report, Supplement No. 2 and in Supplement No. 4. This exemption is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest. The exemption is, therefore, hereby granted. With the granting of this exemption, the facility will operate, to the extent authorized therein, in conformity with the application, as amended, the provisions of the Act; and the rules and regulations of the Commission.

Proposed Change:

Delete License Condition 2.D.

Justification for Deletion:

In Appendix B of the staff's SSER-2, the staff found that exemptions from 10 CFR Part 50, Appendix G, "Fracture Toughness Requirements", were appropriate for McGuire Unit 1 as regards to Section III.C of Appendix G and for McGuire Units 1 and 2 as regards Section IV.A.4 of Appendix G. Exemptions were also found appropriate for Units 1 and 2 from 10 CFR Part 50, Appendix H, "Reactor Vessel Material Surveillance Program Requirements", Section II.C.2.

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<sup>50</sup>September 30, 1998, Frank Rinaldi to Mr. H. B. Barron, Issuance of Amendments - McGuire Nuclear Station, Units 1 and 2, (TAC NOS. M98964 and M98965).

Subsequently, in SSER-4, section 5.2.3, the staff determined that the exemptions for Units 1 and 2 from Appendix G, Section IV.A.4 and Appendix H, Sections II.C.2, were no longer necessary since the McGuire Units 1 and 2 complied with the regulations, as revised. Accordingly, on the basis of the findings in SSER-4 that two of the three exemptions applicable to Unit 1 (Appendix G, Section IV.A.4 and Appendix H, Section II.C.2) are no longer necessary, the staff finds the deletion of this LC to be acceptable to this extent.

SSER-4 also indicated that future revisions to Appendix G would obviate the need for the Unit 1 exemption from Appendix G, Section III.C since the revisions would allow plants that were constructed to an ASME Code earlier than the Summer 1972 Addenda to use alternative methods to demonstrate compliance with the fracture toughness requirements. Appendix G was subsequently revised such that the present Section III.A now permits supplementation of fracture toughness data and data analyses to demonstrate equivalence with the fracture toughness requirements of Appendix G for a reactor vessel constructed to an ASME Code earlier than the Summer 1972 Addenda. In SSER-4, the staff found that this equivalence had been demonstrated as follows: "Data and analyses supplied by the staff for Unit No. 1 demonstrate that this unit has a level of quality and safety equivalent to that required by Appendix G, paragraph [III].C."

On these bases, the staff finds that the requirements of LC 2.D have been met, that it is redundant to existing regulations and that its deletion is acceptable.

#### 2.1.15 Condition 2.E, Security, states:

Duke Energy Corporation shall fully implement and maintain in effect all provision of the Commission-approved physical security, guard training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plans, which contain safeguards information protected under 10 CFR 73.21, are entitled: "McGuire Nuclear Station Physical security Plan," with revisions submitted through September 25, 1987; "McGuire Nuclear Station Training and Qualification Plan," with revisions submitted through July 3, 1986; and "McGuire Nuclear Station Safeguards Contingency Plan," with revisions submitted through March 21, 1986. Changes made in accordance with 10 CFR 73.55 shall be implemented in accordance with the schedule set forth therein.

Proposed Change:

Change the document titles for the above referenced plans as follows:

Change "McGuire Nuclear Station Physical Security Plan" to "Nuclear Security and Contingency Plan, Revision 12, as revised per 10 CFR 50.46(p)."

Change "McGuire Nuclear Station Training and Qualification Plan" to "The plan which does not contain safeguards information is entitled "Nuclear Security Training and Qualification Plan", Revision 6, as revised per 10 CFR 50.54(p)."

Delete "McGuire Nuclear Station Safeguards Contingency Plan," since this information is now included in the "Nuclear Security and Contingency Plan."



Justification for Change:

The titles of the referenced security documents have changed since initial issuance of the McGuire FOLs. The "Nuclear Security and Contingency Plan" was submitted to the NRC by Duke letter<sup>51</sup>. The "Nuclear Security Training and Qualification Plan" was submitted to the NRC by Duke letter<sup>52</sup>. These changes are administrative in nature and are acceptable.

2.1.16 Condition 2.F:

Proposed Change: Add a line item, "2.F (Deleted)", that reflects the previous deletion of Condition 2.F when 2.E and 2.F were combined into current condition 2.E.

Justification for Addition:

Amendment Number 79<sup>53</sup>, to the Unit 1 license combined LCs 2.E and 2.F into a new condition 2.E. Condition 2.F was deleted at that time. The addition of the reference documents the deletion of this LC and facilitates consistent format and numbering and is acceptable.

2.1.17 Condition 2.G, Reporting of Violations, states:

The licensee shall report any violations of the requirements contained in Section 2 Items C.(1), C.(3) through C.(11), E and F of this license within 24 hours by telephone and confirm by telegram, mailgram, or facsimile transmission to the Director of the Regional Office, or his designate, no later than the first working day following the violation, with a written followup report within 14 days.

Proposed Change:

Delete License Condition 2.G.

Justification for Deletion:

The LC applies to LCs 2.C.(1), 2.C.(3) through 2.C.(11), 2.E and 2.F. The staff has found acceptable DEC's proposal to delete LCs 2.C(3), 2.C(5), 2.C(6), 2.C(7), 2.C(8), 2.C(9), 2.C(10), and 2.C(11). LC 2.F was deleted by prior Amendment Number 79 to the FOL. Accordingly, since these LCs are no longer a part of the McGuire Unit 1 FOL, their deletion from the reporting requirements of LC 2.G is acceptable.

LCs 2.C(1), 2.C(4) and 2.E remain in the FOL. DEC states that the primary reporting requirements for these LCs are covered by 10 CFR 50.72 and 10 CFR 50.73 but provides no information to support that position for the remaining LCs. Therefore, based on an insufficiency

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<sup>51</sup> July 1, 1994, M. S. Tuckman to U. S. Nuclear Regulatory Commission, Document Control Desk , Nuclear Security and Contingency Plan, Revision 0.

<sup>52</sup> January 7, 1993, Oconee Nuclear Station, Docket Nos. 50-269, -270, , -287, McGuire Nuclear Station, Docket Nos. 50-369, -370, Catawba Nuclear Station, Docket Nos. 50-413, -414, Revision 0, Duke Power Company Nuclear Security Training and Qualification Plan.

<sup>53</sup> March 28, 1988, Darl Hood to Mr. H. B. Tucker, Issuance of Amendment No. 79 to Facility Operating License NPF-9 and Amendment No. 60 to Facility Operating License NPF-17 - McGuire Nuclear Station, Units 1 and 2 (TACS 65372/65373).

of information, the staff denies the request to delete the LC in its entirety. Therefore DEC's proposal to delete LC 2.G is granted in part and the LC is revised as follows:

The licensee shall report any violations of the requirements contained in Section 2 Items C.(1), C.(4) and E of this license within 24 hours by telephone and confirm by telegram, mailgram, or facsimile transmission to the Director of the Regional Office, or his designate, no later than the first working day following the violation, with a written followup report within 14 days.

2.1.18 Condition 2.H, Notification of Accidents, states:

The licensee shall immediately notify the NRC of any accident at this facility which could result in an unplanned release of quantities of fission products in excess of allowable limits for normal operation established by the Commission.

Proposed Change:

Delete License Condition 2.H.

Justification for Deletion:

DEC states that the primary reporting requirements for these license conditions are covered by 10 CFR 50.72 and 10 CFR 50.73. On October 25, 2000, the NRC published a final rule amending the event reporting requirements in 10 CFR 50.72 and 50.73 (65 FR 63769). As stated in the preamble to the rule, under the heading "Summary," the final rule continues to provide the Commission with reporting of significant events where Commission action may be needed to maintain or improve reactor safety or to respond to heightened public concern. (Underlining added). Since the final rule provides the reporting the Commission needs, it is not necessary to maintain a special LC at McGuire to require reporting of an accident that could result in a release of radioactive material. Accordingly, the staff finds that the LC is unnecessary and that its deletion is acceptable.

2.1.19 2.K.(f), OCONEE Fuel Storage Condition, states:

- f. The spent fuel pool crane travel shall be restricted by administrative controls to the paths required by Technical Specification 3/4 9.7 whenever a spent fuel cask is being handled.

Proposed Change:

Replace "Technical Specification 3/4 9.7" with "Selected Licensee Commitment 16.9.20".

Justification for Change:

DEC states that the basis for this proposed change is that TS 3/4.9.7 no longer exists since license amendment 184/166<sup>54</sup> for McGuire Units 1 and 2, converted the McGuire TSs to the new Improved Technical Specifications based on NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." TS 3/4.9.7 was relocated to the McGuire Selected Licensee Commitments Manual, Section 16.9.20. The staff finds that this change is editorial in

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<sup>54</sup> September 30, 1998, Frank Rinaldi to Mr. H. B. Barron, Issuance of Amendments - McGuire Nuclear Station, Units 1 and 2 (TAC NOS. M98964 and M98965)

nature to reflect the change approved in amendments 184 and 166 for Units 1 and 2 and is acceptable.

## 2.2 MCGUIRE UNIT 2 FOL NPF-17

### 2.2.1 Condition 1.H states:

After weighing the environmental, economic, technical, and other benefits of the facility against environmental and other costs and considering available alternatives, the issuance of this Facility Operating License No. NPF-17, subject to the conditions for protection of the environment set forth in the Environmental Protection Plan attached as appendix B, is in accordance with 10 CFR part 51, of the Commission's regulations and all applicable requirements have been satisfied;

#### Proposed Change:

Delete the clause, "subject to the conditions for protection of the environment set forth in the Environmental Protection Plan attached as appendix B".

#### Justification for Change:

The Environmental Protection Plan (formally Appendix B to the FOL) was deleted from the Unit 1 and Unit 2 FOLs by License Amendment 164 and 146, respectively, on February 5, 1996<sup>55,56</sup>. Thus, deletion of the cited clause has no impact on the FOLs, is administrative, and is acceptable.

### 2.2.2 Condition 2.C.(1), Maximum Power Level, states:

The licensee is authorized to operate the facility at reactor core power levels not in excess of 3411 megawatts thermal (100% power) in accordance with the conditions specified herein and in Attachment 1 to this license. The pre-operational tests, startup tests and other items identified in Attachment 1 to this license shall be completed as specified. Attachment 1 is hereby incorporated into this license.

#### Proposed Change:

Change FOL Section 2.C.(1) to state that the maximum authorized power level is "full steady state power level of 3411 megawatts thermal (100%)" and delete Attachment 1.

#### Justification for Change:

The first change would provide clarification as to when DEC would report a power level greater than 100%. DEC administrative controls define steady state and clarify when reporting is required.

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<sup>55</sup> February 5, 1996, Victor Nerses to Mr. M. S. Tuckman, Issuance of Amendments - McGuire Nuclear Station, Units 1 and 2, (TAC Nos. M90860 and M90861).

<sup>56</sup> The elimination of this reference was also approved for Catawba Nuclear Station by License Amendment 164/156. April 23, 1998, Peter S. Tam to Mr. Gary R. Peterson, Issuance of Amendments - Catawba Nuclear Station, Units 1 and 2, (TAC Nos. MA0359 and MA0360).

The staff addressed this power wording issue for another of the licensee's nuclear power stations, Catawba Units 1 and 2, in a safety evaluation dated April 23, 1998<sup>57</sup>. The staff found that the wording for FOLs fell into two categories, those containing the words "steady state" and those that did not. The staff concluded that (1) in general, older FOLs tend to have "steady state"; (2) since 1980, FOLs tend not to have "steady state"; and (3) when older FOLs were reissued as full-term FOLs, "steady state" is retained.

NRC Inspection Procedure (IP) 61706, "Core Thermal Power Evaluation," provides guidance to verify that the calculation of core thermal power is correct. The IP notes that the thermal power of a reactor is determined by a heat balance in the power range to ensure that the core is operated at all times within the required thermal limits and/or fuel warranty requirements. The criterion provided by the IP is as follows:

"... the average power level over any 8-hour shift [should] not exceed the "full steady-state licensed power level" (and similarly worded terms). The exact 8-hour periods defined as "shifts" are up to the plant, but should not be varied from day to day (the easiest definition is a normal shift manned by a particular "crew"). It is permissible to briefly exceed the "full, steady-state licensed power level" by as much as 2 % for as long as 15 minutes. In no case should 102 % power be exceeded, but lesser power "excursions" for longer periods should be allowed, with the above as guidance. For example, 1% excess for 30 minutes and 1/2% for 1 hour should be allowed. There are no limits on the number of times these "excursions" may occur, or the time interval that must separate such "excursions." The above requirement regarding the 8-hour average power will prevent abuse of this allowance."

The staff's IP 61706, "Core Thermal Power Evaluation," consistently associates maximum thermal power with "steady-state". It makes no distinction between plants whose FOLs have "steady-state", and those whose FOLs do not contain this language. The proposed change would permit the licensee to use the staff's guidance cited above. On the basis of the above discussion, the staff finds the proposed change to be acceptable.

Attachment 1 to the McGuire Unit 2 FOL identified certain preoperational tests, system demonstrations and other items which were required to be completed to the satisfaction of NRC Region II. The NRC's Inspection Report 50-369/83-21 and 50-370/83-29<sup>58</sup> addressed the items in Attachment 1, Section 1, listed as (a) through (r), and found all of them to be closed. Therefore, the staff finds the deletion of Attachment 1, Section 1, to be acceptable.

Attachment 1, Section 2, Item II.B.3 required the completion of system installation and the performance of a satisfactory functional checkout test of the post accident sampling system (PASS) prior to exceeding 100% power. The requirement for the PASS was deleted on September 17, 2001, by an amendment issued in response to DEC's application dated July 2, 2001, "Application for Technical Specification Improvement to Eliminate Requirements for Post-Accident Sampling Systems (PASS) using the Consolidated Line Item Improvement Process." Accordingly, there is no longer a requirement for the PASS and the staff finds deletion of this part of Attachment 1 to be acceptable.

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<sup>57</sup> Letter from P.S. Tam (USNRC) to G.R. Peterson, Duke Energy Corporation, "Issuance of Amendments - Catawba Nuclear Station, Units 1 and 2 (TAC NOS. MA0359 and MA0360)," dated April 23, 1998.

<sup>58</sup> June 28, 1983, R. C. Lewis to Mr. H. B. Tucker, Report Nos. 50-369/83-21 and 50-370/83-29.

2.2.3 Condition 2.C.(4), Thermal Sleeves (Section 3.9.2 of SSER #6) states:

By December 31, 1983, the licensee shall provide, for NRC staff review and approval, justification for continued operation with the seven thermal sleeves removed from selected locations in the reactor coolant system;

Proposed Change:

Delete License Condition 2.C.(4).

Justification for Deletion:

DEC's letter<sup>59</sup>, provided the results of evaluations performed by Westinghouse and DEC as a basis for continued operation of McGuire Units 1 and 2 without thermal sleeves installed in the reactor coolant system nozzles. NRC's letter and safety evaluation<sup>60</sup>, concluded that continued operation was acceptable and that the requirements of the LC had been completed. The staff's acceptance recognized that McGuire TS 3/4 3.5.2 required reporting of the usage factor of each nozzle whenever its value exceeds 0.70. Since, during the implementation of Improved TS, this reporting requirement was removed, the staff requested DEC to indicate how the usage factor is currently monitored. DEC's letter dated August 30, 2001, provided a licensee commitment to ensure proper NRC notification is accomplished in the event the usage factor of affected safety injection nozzles exceeds the 0.70 value. The staff concludes, on this basis, that the requirements of the LC have been completed and that its deletion is acceptable.

2.2.4 Condition 2.C.(5), Model D-3 Steam Generator (Section 5.3.1 of SSER #6)

Prior to operation in excess of 2,000 hours at power levels in excess of 5% power or operation at power levels in excess of 50% power, the licensee shall provide appropriate steam generator hardware modifications and implement appropriate surveillance measures with respect to the steam generator modification.

Proposed Change:

Delete License Condition 2.C.(5).

Justification for Deletion:

A generic problem was identified concerning vibration-induced wear in the pre-heater section specific to Westinghouse Model D steam generators. McGuire replaced the Model D steam generators in both units with feed-ring steam generators designed by Babcock & Wilcox International by approved License Amendment 175/157<sup>61</sup>. The staff finds that the requirements imposed by this LC are no longer applicable and that its deletion is acceptable.

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<sup>59</sup> December 14, 1983, Hal B. Tucker to Mr. Harold R. Denton, McGuire Nuclear Station, Docket Nos. 50-369, 50-370, Justification for Continued Operation with seven thermal sleeves removed.

<sup>60</sup> December 30, 1986, Darl Hood to Mr. H. B. Tucker, Reactor Coolant System Thermal Sleeves - McGuire Nuclear Station, Units 1 and 2.

<sup>61</sup> May 5, 1997, Victor Nerses to Mr. H. B. Barron, Issuance of Amendments - McGuire Nuclear Station, Units 1 and 2, (TAC Nos. M90590 and M90591).

2.2.5 Condition 2.C.(6), Environmental Qualification (Section 7.8 of SER, SSER #4, #5, #6, #7)

The licensee shall environmentally qualify all electrical equipment within the scope of 10 CFR 50.49 in accordance with the implementation requirements of 10 CFR 50.49 (g).

Proposed Change:

Delete License Condition 2.C.(6).

Justification for Deletion:

DEC states that this LC may be deleted on the basis that it has been met. DEC notes that the NRC amended its regulations to clarify and strengthen the criteria for environmental qualification (EQ) of electric equipment important to safety in a revision to 10 CFR 50.49, "Environmental Qualification of Electric Equipment Important to Safety for Nuclear Power Plants" that was transmitted as Generic Letter 84-24<sup>62</sup>. Pursuant to 10 CFR 50.54(f), each licensee was required to submit, under oath or affirmation, a certification that: (a) the utility had in place and was implementing an EQ program that satisfied the requirements of 10 CFR 50.49 within the approved schedule for the plant, (b) the plant had at least one path to safe shutdown using fully qualified equipment, or had submitted a justification for continued operation (JCO) pending full qualification of any equipment not fully qualified; and (c) all other equipment within the scope of 10 CFR 50.49 is either fully qualified or a JCO has been submitted pending full qualification. DEC's letter<sup>63</sup>, provided a response to the subject Generic Letter which certified that a program was in place to satisfy the requirements of 10 CFR 50.49.

Subsequent to DEC's certification, the NRC conducted a team inspection of DEC's EQ program. The report documenting the results of the inspection was issued on December 1, 1986, as Inspection Report Number 50-369,370/86-20. The NRC inspectors determined that DEC had implemented a program to meet the requirements of 10 CFR 50.49 except for certain identified deficiencies. These deficiencies were acceptably dealt with in subsequent NRC correspondence dated October 5, 1987, and July 13, 1989. On the bases of DEC's certification of the program and the NRC staff's inspection of its implementation, the staff concludes that the requirements of this LC have been met and that its deletion is acceptable.

2.2.6 Condition 2.C.(7), Fire Protection, states:

Duke Energy Corporation shall implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report, as updated, for the facility through the 1989 annual FSAR update and as approved in the SER dated March 1978 and Supplements 2, 5 and 6 dated March 1979, April 1981, and February 1983, respectively, and the safety evaluation dated May 15, 1989, subject to the following provision: the licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

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<sup>62</sup> December 27, 1984, Darrell G. Eisenhut to All Licensees of Operating Reactors and Applicants for an Operating License, Certification of Compliance to 10 CFR 50.49, Environmental Qualification of electric Equipment Important to safety for Nuclear Power plants (Generic letter 84-24).

<sup>63</sup> January 28, 1985, Hal B. Tucker to Mr. Harold R. Denton, Oconee Nuclear Station, McGuire Nuclear Station, Catawba Nuclear Station, Docket Nos. 50-269, -270, -287, 50-369, -370, 50-413, -414, Response to Generic Letter 84-24.

- (b). The licensee shall perform required modifications to the oil collection system and fire suppression system for the Reactor Coolant Pump (RCP) motor no later than March 1, 1984.
- (c). Prior to exceeding 5% power, the licensee shall submit a schedule for installation of system instrumentation provisions for source range neutron flux and reactor coolant system temperature ( $T_{\text{cold}}$ ) monitors as an integral part of the Standby Shutdown System.

Proposed Change:

Paragraph 1 - Delete the clause referencing the FSAR "through the 1989 annual FSAR update". Delete items (7)(b) and (7)(c).

Justification for Change:

In paragraph 1, DEC proposes deletion of the reference to a specific revision to the UFSAR which would eliminate the need for DEC to request administrative license amendments to change the reference to UFSAR revision/update/supplement numbers. The regulations in 10 CFR 50.71(e) require that periodic revisions updating the UFSAR be prepared and submitted to the NRC. The frequency for updating the MNS FSAR was revised to be from 18 to 24 months by an exemption issued by NRC letter<sup>64</sup>. The staff finds that, with the controls provided for FSAR revisions by 10 CFR 50.71(e), the clause is no longer needed and that its deletion is acceptable.

DEC states that Condition 2.C(7)(b) has been met on the basis that, as documented in SSER-6, Section 9.5.1, Fire Protection System, the staff concluded that Sections III.G, III.J and III.O of Appendix R to 10 CFR Part 50 were satisfied in all areas of the plant. Accordingly, the staff concludes that the requirements of this part of the LC have been met and that its deletion is acceptable.

DEC stated that LC 2.C(7), item (c) had been met on the basis that its letter<sup>65</sup>, provided a schedule for installation of reactor coolant system cold-leg temperature (T-cold) monitors as part of the standby shutdown system and that a second letter<sup>66</sup>, provided a schedule for installation of source-range neutron flux instrumentation. Since these letters provided only a provisional schedule for the installation of this instrumentation, the staff requested additional information. DEC's response dated August 30, 2001, stated that the instrumentation had been installed. DEC's response also provided a commitment to include the instrumentation in the Selected Licensee Commitments, where it would be subject to the same change controls as the FSAR. Accordingly, the staff concludes that the requirements of this part of the LC have been met and that its deletion is acceptable.

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<sup>64</sup> June 10, 1997, Herbert N. Berkow to Mr. M. S. Tuckman, Issuance of Exemption to 10 CFR 50.71 (e) (4), Catawba and MNS (TAC M98043, M98044, M98100, and M98101).

<sup>65</sup> May 13, 1983, Hal B. Tucker to Harold R. Denton, MNS, Docket No. 50-370, License Condition 2.C.7.(c), schedule for installation of reactor coolant system cold-leg temperature (T-cold) monitors.

<sup>66</sup> May 13, 1983, Hal B. Tucker to Mr. Harold R. Denton, MNS, Docket No. 50-370, License Condition 2.C.7.(c), Provisional schedule for installation of source-range neutron flux instrumentation.

2.2.7 Condition 2.C.(8), Heavy Loads (Section 9.1.5 of SSER #6), states:

Prior to startup following the first refueling outage, the license shall comply with the guidelines of Section 5.1.1 of NUREG-0612 (Phase I – the six-month response to the NRC generic letter dated December 22, 1980) and prior to startup following the second refueling outage, the licensee shall have made commitments acceptable to the NRC regarding the guidelines of Sections 5.1.2 through 5.1.6 of NUREG-0612 (Phase II – nine-month responses to the NRC generic letter dated December 22, 1980);

Proposed Change:

Delete License Condition 2.C.(8).

Justification for Deletion:

The NRC letter and safety evaluation of March 12, 1985<sup>67</sup>, reported the resolution of both the Phase I and Phase II portions of LC 2.C.(8) in its entirety and indicated that no further action is required. In addition, the NRC issued amendment 79<sup>68</sup>, to FOL NPF-17 which deleted LC 2.C.(8), although no corrected FOL page was provided. This change, with its correction to the pages for FOL NPF-17, will provide clarification that LC 2.C.(8) is deleted. Accordingly, this change is administrative and is acceptable.

2.2.8 Condition 2.C.(9), Initial Test Program, (Section 14.0 of SER), states:

The licensee shall conduct the initial test program (set forth in Section 14 of the licensee's Final Safety Analysis Report, as amended through Revision No. 45) without making any modifications to this program unless such modifications are in accordance with the provisions of 10 CFR Section 50.59. In addition, the licensee shall not make any major modifications to this program unless modifications have been identified and have received prior NRC approval. Major modifications are defined as:

- a. Elimination of any test identified as essential in Section 14 of the Final Safety analysis Report, as amended through Revision No. 45,
- b. Modification of test objectives, methods or acceptance criteria for any test identified as essential in Section 14 of the Final Safety Analysis Report, as amended through Revision No. 45,
- c. Performance of any test at a power level different from that described in the program, as limited by this license authorization, and
- d. Failure to complete any tests included in the described program (planned or scheduled) for power levels up to the authorized power level.

Proposed Change:

Delete License Condition 2.C.(9).

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<sup>67</sup> March 12, 1985, Thomas M. Novak to Mr. H. B. Tucker, Control of Heavy Loads.

<sup>68</sup> June 6, 1989, Darl Hood to Mr. H. B. Tucker, Issuance of amendment No. 97 to FOL NPF-9 and Amendment No. 79 to FOL NPF-17 - MNS, Units 1 and 2 (TACS 64744/64745).



Justification for Deletion:

DEC's letter<sup>69</sup> submitted Supplement 8 to the startup report for Unit 2/Cycle 1 which documented completion of the Startup Testing Program. The Unit 2 startup report was completed pursuant to Technical Specification 6.9.1.1 and addressed the results of startup testing from Initial Fuel Loading through testing at the 90% power level. The deletion of this LC is administrative and is acceptable.

2.2.9 Condition 2.C (10), states:

NUREG-0737 Conditions (Section 22.3, 22.4, 22.5 of SSER #5 & #6, Section 13.3 of SSER #6)

a. Short Term Accident Analysis and Procedures Review (I.C.I)

Prior to exceeding 5% power, all of the Emergency Operating Procedures shall use the same format (either narrative or columnar).

Proposed Change:

Delete License Condition 2.C.(10)a.

Justification for Deletion:

DEC states that this LC has been met. DEC's letter<sup>70</sup>, submitted Revision 4 to the Duke response to Supplement 1 to NUREG-0737. This revision contained a revised Writer's Guide for Emergency and Abnormal procedures. All Emergency Operating Procedures are written in the same columnar format. Therefore, the requirements of the LC have been met and the staff finds that its deletion is acceptable.

b. Postaccident Sampling (II.B.3)

Prior to exceeding 5% power, a high-radiation sampling system for obtaining reactor coolant and containment atmosphere sampling under degraded core accident conditions shall be operable.

Status: This LC was deleted by amendment issued in response to DEC's application dated July 2, 2001, "Application for Technical Specification Improvement to Eliminate Requirements for Post-Accident Sampling Systems (PASS) using the Consolidated Line Item Improvement Process."

c. Inadequate Core Cooling Instruments (II.F.2)

- (1) Prior to startup following the first refueling outage, the licensee shall install a reactor vessel water level instrumentation system, and

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<sup>69</sup> December 17, 1985, Hal B. Tucker to Dr. J. Nelson Grace, McGuire Nuclear Station, Unit 2, Docket No. 50-370, Startup Report (Cycle 1) - Supplement 8.

<sup>70</sup> August 30, 1988, Hal B. Tucker to Document Control Desk, Duke Power Company, McGuire Nuclear Station, Docket Nos. 50-369 and 50-370, Revision 4 to Duke power Company Response to Supplement 1 to NUREG-0737 for McGuire Nuclear Station.

- (2) Prior to startup following the first refueling outage, the licensee shall upgrade the in-containment portion of the incore thermocouple system and provide a schedule for update of the remainder of the system.

Proposed Change:

Delete LC 2.C.(10)c.

Justification for Deletion:

Item 1): The licensee proposes to delete the LC regarding installation of a reactor vessel water level instrumentation system (RVLIS) on the basis that this action was completed. A letter<sup>71</sup> stated the following: "The currently installed RVLIS system for Unit 1 is acceptable, and the same type of RVLIS partially installed in Unit 2 will be acceptable upon completion of the installation and calibration test." The McGuire UFSAR, Section 7.5.4.3, indicates that RVLIS is installed for both units. NRC Inspection Report 50-369/89-24 and 50-370/89-24 also indicates that ICCI, including RVLIS, has been implemented. On these bases, the staff finds that the requirements imposed by this LC have been fulfilled and that its deletion is acceptable.

Item 2): The licensee proposes to delete the requirement to upgrade the in-containment portion of the in-core thermocouple system (ITS) on the basis that this has been completed. ITS and core exit thermocouple (CET) are used interchangeably in this discussion. The NRC's letter<sup>72</sup> and safety evaluation of September 17, 1984, concluded that McGuire's commitment and schedule to upgrade the CET system were acceptable. DEC's letter<sup>73</sup> of June 25, 1985, documented that installation of the ITS had been completed during the end-of-cycle 1 refueling outage and that functional testing and calibration of the ITS was scheduled for the end-of-cycle 2 outage and committed to provide another status report at that time. DEC's letter dated August 30, 2001, stated that the final upgrade of the system has been completed, that information from the system is available to the operators in the control room and that all applicable emergency operating procedures have been upgraded.

The NRC staff and its contractor conducted a post-implementation audit at McGuire to discuss Duke's experience with the ICCI systems which was documented by the staff's memorandum<sup>74</sup>. The audit confirmed that the ICCI system of McGuire Units 1 and 2 included the CET. The CETs are described in section 1.8.27, Table 1-6 and section 7.5.4.1 of the UFSAR. NRC Inspection Report 50-369/89-24 and 50-370/89-24 reported that DEC had implemented CETs as described in the FSAR at that time. On these bases, the NRC staff finds that the requirements of this LC item have been completed and that the deletion of this item is acceptable.

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<sup>71</sup> September 17, 1984, Thomas M. Novak to Mr. H. B. Tucker, Inadequate Core Cooling Instrumentation (McGuire Nuclear Station, Units 1 and 2).

<sup>72</sup> September 17, 1984, Thomas M. Novak to Mr. H. B. Tucker, Inadequate Core Cooling Instrumentation (McGuire Nuclear Station, Units 1 and 2).

<sup>73</sup> June 25, 1985, Hal B. Tucker to Dr. J. Nelson Grace, McGuire Nuclear Station, Docket Nos. 50-369, 50-370, Status of ICCI Implementation Milestones.

<sup>74</sup> May 27, 1988, Darl Hood to Duke Power Company, Summary of April 28, 1988 Meeting on Inadequate Core Cooling Instrumentation Systems (TACS 67755 and 67756).

d. Anticipatory Reactor Trip (II.K.3.10)

Prior to exceeding 50% power the licensee shall complete the described turbine trip tests to verify that PORVs will not be challenged when the anticipatory trip bypass is in effect.

Proposed Change:

Delete License Condition 2.C.(10)d.

Justification for Deletion:

DEC states that this LC has been met. The NRC's letter<sup>75</sup> concluded that, for Unit 1, DEC effectively simulated the required turbine trip test and completed the requirements of LC 2.C.(11)g for Unit 1. DEC's letter<sup>76</sup>, notified the NRC that the same test methods used for Unit 1 would be used for Unit 2. The staff requested additional information to confirm that this test had been completed and that the test acceptance criteria had been met. DEC's letter of August 30, 2001, referenced the Unit 2 Startup Test Report, submitted with its letter of February 8, 1984. DEC stated that the subject test had been completed and that the acceptance criteria were met. On these bases, the staff finds that the requirements imposed by this LC have been met and that its deletion is acceptable.

e. Hydrogen Control Measures (II.B.7)

- (1) Prior to startup following the first refueling outage, the licensee shall:
  - (a) Install two additional igniter units in the containment lower compartment and four additional igniter units in the containment upper compartment in locations acceptable to the NRC staff.
  - (b) Provide a means acceptable to the NRC staff of verifying the operational status of the hydrogen control system in the main control room.
  - (c) Provide the capability to actuate the Hydrogen Mitigation system from the control room.
- (2) Operation of the hydrogen mitigation igniter system shall be activated upon a safety injection signal with accompanying indications of a loss of coolant accident.

Proposed Change:

Delete LC 2.C.(10)e.

Justification for Change:

SSER-7, issued in May 1983 provides information related to issuance of the full power license for McGuire Unit 2 on May 27, 1983. SSER-7 evaluated a 66 igniter design. Section C.2.3,

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<sup>75</sup> May 17, 1983, Thomas M. Novak to Mr. H. B. Tucker, OL condition 2.C.(11)g, Anticipatory Reactor Trip (II.K.3.10) (MNS, Unit 1).

<sup>76</sup> June 9, 1983, Hal B. Tucker to Mr. Harold R. Denton, McGuire Nuclear Station, Docket No. 50-370, Test method for turbine trip tests.

Igniter Coverage, discusses the need for two additional igniters in lower elevations of the Lower Compartment and four additional igniters in the lower portion of the Upper Compartment. This would bring the total to 72 igniters and these requirements were included in LC 2.C.10(e)(1)(a). The staff's conclusions in SSER-7 were as follows:

Accordingly, subject to meeting the conditions discussed herein dealing with igniter number and locations and system status indication, and subject to completing installation, the staff finds the McGuire Units 1 and 2 license conditions dealing with hydrogen control during postulated degraded core accidents to be satisfactorily resolved.

DEC submitted a report<sup>77</sup>, "An Analysis of Hydrogen Control Measures at McGuire Nuclear Station." On February 29, 1984, DEC submitted Revision 10 to that report which responded to SSER-7 and the LC by indicating that the committed system modifications would be installed during the first refueling outages of each McGuire unit. On July 1, 1985, and July 1, 1986, DEC submitted its annual report on 10 CFR 50.59 changes indicating that Modification MG-1-1253 and MG-2-208 for Units 1 and 2, respectively had been implemented. These modifications added six igniters and modified controls and indication such that activities and system status indication is in the control room. The NRC staff requested additional information and DEC replied on August 27, 2001. DEC's response confirmed that the six additional igniters discussed in this LC item and in SSER-7 have been installed. DEC's response also clarified that the correct current total numbers of igniters is 70. This resolves the staff's concerns in this regard.

DEC responded to item (1)(b) of the above LC in Section 3.6 of its February 29, 1984, submittal by stating that when the system is actuated, two status annunciators are energized in the control room indicating that the two trains of the system have power supplied. Also, when the system is actuated, 12 computer alarms occur indicating the presence of power on the load side of the 12 system circuit breakers. The operator may obtain an indication of the presence or absence of power on each of the 12 igniter strings by consulting the corresponding computer point in the control room.

DEC responded to item (1)(c) of the above LC in section 3.6 of its February 29, 1984, submittal by stating that actuation of the system occurs when the power panels containing the system circuit breakers are energized through the use of two control room switches, one for each train.

DEC responded to item (2) of the above LC in Section 3.6 of its February 29, 1984, submittal by stating that upon automatic actuation of the safety injection system, the operator is required to initiate an emergency procedure. When the presence of a LOCA has been verified, or when a containment high pressure signal is received, the hydrogen mitigation system will be energized. The system will remain energized until safe shutdown has been achieved or it is confirmed that a LOCA has not occurred. The requirements of this item are also reflected in section 6.2.7 of the UFSAR. Both the UFSAR and the emergency operating procedures that it refers to for operator response to an event may be changed only if an evaluation pursuant to 10 CFR 50.59 is conducted. The staff concludes that this provides sufficient control for this issue and that, accordingly, its deletion from the LC is acceptable.

The NRC staff has reviewed these responses to the items of the above LC and concludes that the requirements of the LC have been met. Accordingly, the staff concludes that deletion of the LC is acceptable.

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<sup>77</sup> October 30, 1981, William O. Parker, Jr. to Mr. Harold R. Denton, McGuire Nuclear Station, Docket Nos. 50-369, 50-370, "An Analysis of Hydrogen Control Measures at McGuire Nuclear Station."

In Section C.9 of SSER-7, the staff indicated that it had identified a number of technical concerns that it would be continuing to investigate as confirmatory items. These issues were discussed in Supplements 5 and 6 of the Safety Evaluation Report (NUREG-0954) for the Catawba Nuclear Station. By letter<sup>78</sup>, "Closure of the Hydrogen Control Issue Pursuant to 10 CFR 50.44 for Catawba and McGuire Nuclear Stations", the NRC staff reported on the closure of those issues.

f. Emergency Response Capability (I.C.1, I.D.1, I.D.2, III.A.1.2, III.A.2.2)

- (1) By April 15, 1983, the licensee shall submit a response to NRC Generic Letter 82-33, dated December 17, 1982, related to emergency response capabilities.
- (2) The licensee shall maintain interim emergency support facilities (Technical Support Center, Operations Support Center and the Emergency Operations Facility) until the upgraded facilities are completed.

Proposed Change: Delete LC 2.C.(10)f.

Justification for Deletion:

Item 1) DEC responded to Generic Letter 82-33 by letter<sup>79</sup>.

Item 2) DEC's response to Item 1 described McGuire's emergency response facilities. DEC documented the operation of the Emergency Operations Facility as an interim facility. The staff's letter<sup>80</sup>, documented the full functional capability of the McGuire Technical Support Center, Operational Support Center and Emergency Operations Facility.

On the basis that DEC responded to item 1 as required and the staff's acceptance of DEC's response to item 2, the staff finds that the requirements imposed by this LC have been fulfilled and that its deletion is acceptable.

2.2.10 Condition 2.C(11) Protection of the Environment, states:

Before engaging in additional construction or operational activities which may result in a significant adverse environmental impact that was not evaluated or that is significantly greater than that evaluated in the Final Environmental Statement dated April 1976, the licensee shall provide written notification to the office of Nuclear Reactor Regulation.

Proposed Change:

Delete License Condition 2.C.(11).

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<sup>78</sup> May 26, 1993, David B. Matthews to Mr. Hal B. Tucker, Safety Evaluation - Closure of the Hydrogen Control Issue Pursuant to 10 CFR 50.44 for Catawba and McGuire Nuclear Stations (TAC Nos. M63034, M63035, M63032, M63033.)

<sup>79</sup> April 14, 1983, Hal B. Tucker to Mr. Harold R. Denton, Duke Power Company, Catawba Nuclear Station, McGuire Nuclear Station, Oconee Nuclear Station, Docket Nos. 50-413, -414, -369, -370, -269, -270, -287, Response to Supplement 1 to NUREG-0737 (Generic letter 82-33).

<sup>80</sup> June 15, 1984, Elinor G. Adensam to Mr. Hal B. Tucker, Issuance of Order Confirming Licensee Commitments on Emergency Response Capability.

Justification for Deletion:

The licensee proposes to delete this license condition based on the following justification:

This License Condition has been met. This condition provided assurance that any construction or operating activities remained within the scope of the original Environmental Impact Statement [Final Environmental Statement]. Activities of this nature are currently regulated by the Environmental Protection Agency, the state of N.C. [North Carolina], and must meet the requirements of the Duke Corporate Environmental Program.

The NRC staff has reviewed this proposal and the associated justification and determined that the LC must be retained. The LC is an ongoing requirement and will be germane for the life of the license. Licensee compliance with some environmental regulations is, in fact, monitored by the State of North Carolina and the U.S. Environmental Protection Agency. However, in its role as a licensing agency, the NRC is responsible for monitoring compliance with other regulations. Examples include the Endangered Species Act and the Historic Preservation Act. In order to meet its responsibilities, the NRC must be made aware of planned licensee activities which may result in a significant adverse environmental impact that was not evaluated or that is significantly greater than that evaluated in the Final Environmental Statement or any other environmental impact statement (EIS) relevant to the site (e.g., an EIS associated with license renewal). Therefore, staff finds that this requirement must remain in place and that its request for deletion is denied.

2.2.11 Condition 2.C(12), Reactor Trip Breakers (Section 7.2 of SSER #7), states:

On failure of any reactor trip breaker or reactor trip bypass breaker, either in service or during testing (on either undervoltage or shunt coils), preserve evidence of failure and notify the Commission pursuant to TS 6.9.1.10.

Proposed Change:

Delete License Condition 2.C.(12).

Justification for Deletion:

LC 2.C.(12) was added to the FOL for McGuire Unit 2 to require specific measures to improve the reliability of reactor trip breakers (RTBs). This was in response to failures of Westinghouse DS-416 circuit breakers throughout the industry. DEC submitted a proposed TS change in 1985<sup>81</sup> which incorporated testing and surveillance requirements for RTBs which generally conformed to Generic Letter 85-09. Operability of the RTBs is addressed under TS 3.3.1. The LCO requires both the undervoltage and shunt trip mechanisms to be OPERABLE for each RTB that is in service. TS Surveillance Requirement 3.3.1.4 requires that a Trip Actuating Device Operational Test be performed on the reactor trip bypass breaker prior to placing the bypass breaker in service. This testing is required on a 31 day staggered test basis. Any failure of a RTB or a reactor trip bypass breaker would be documented in Duke's 10 CFR Part 50, Appendix B, Criterion XVI, Corrective Action Program (Problem Investigation Process.) This process requires a cause analysis, corrective actions and evaluation of reporting criteria.

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<sup>81</sup> December 7, 1985, Hal B. Tucker to Mr. Harold R. Denton, McGuire Nuclear Station, Docket Numbers 50-369/370, Proposed Technical Specification Changes for Reactor Trip Breaker Testing (Generic Letter 85-09).

DEC's submittal in 1985 also proposed the deletion of the previously existing LC 2.C.(12) and addressed the issues in Section 7.2 of SSER-7. By letter<sup>82</sup>, the NRC approved the subject change and issued amendment number 75 to the McGuire Unit 2 FOL which deleted the previously existing LC 2.C.(12) and its referenced Table 1 from the FOL. The safety evaluation accompanying Amendment 75 noted that Table 1 contained a footnote that was not redundant to requirements expressed elsewhere in the license. The staff concluded that evidence of failures needed to be preserved and wished to receive timely reporting if such failures did occur. Therefore, the footnote was retained as the current LC 2.C.(12). DEC states that the intent of the current LC 2.C.(12) is met by the requirements of the current TSs and reporting criteria of 10 CFR 50.72, 10 CFR 50.73 and 10 CFR Part 21.

The NRC staff has previously completed a task action plan to assess the industry's implementation of programs and processes that ensure the reliability of medium-voltage and low-voltage circuit breakers. The staff found that industry appears to be taking reasonable actions to improve circuit breaker reliability by establishing guidelines to improve circuit breaker maintenance programs as well as technical practices used in the maintenance and surveillance of these breakers. The staff finds that, on the basis provided by DEC, and the results of the staff's task action plan which found the industry was taking sufficient action to address breaker reliability, that the need for a special reporting requirement for this specific component no longer exists and that the deletion of LC 2.C.(12) is acceptable.

#### 2.2.12 Condition - Page 7a – Table 1 Periodic Surveillance/Maintenance of Reactor Trip Breakers and Reactor Trip Bypass Breakers

Proposed Change:

Delete Table 1.

Justification for Deletion:

DEC proposed this change to provide clarification that the Table 1, "Periodic Surveillance/Maintenance of Reactor Trip Breakers and Reactor Trip Bypass Breakers" accompanying the original version of LC 2.C.(12) is deleted from the FOL. As discussed above in Section 2.2.11 of this report, the NRC staff issued Amendment 75<sup>83</sup> for McGuire Unit 2 which deleted the previously existing LC 2.C.(12) and its associated Table 1 from the FOL. A revised LC 2.C.(12) was issued which consists only of the footnote from the previous Table 1. Therefore, this action, the deletion of Table 1, was previously approved by Amendment 75 and its omission from the FOL is acceptable.

#### 2.2.13 Condition 2.C.(13), Additional Conditions, states:

The Additional Conditions contained in Appendix D, as revised through Amendment No. 169, are hereby incorporated into this license. Duke Energy Corporation shall operate the facility in accordance with the Additional Conditions.

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<sup>82</sup> March 28, 1989, Darl Hood to Mr. H. B. Tucker, Issuance of Amendment No. 75 to FOL NPF-17 - McGuire Nuclear Station, Unit 2 (TAC 66086).

<sup>83</sup> March 28, 1989, Darl Hood to Mr. H. B. Tucker, Issuance of Amendment No. 75 to Facility Operating License NPF-17 - McGuire Nuclear Station, Unit 2 (TAC 66086).

Proposed Change:

Revise License Condition 2.C.(13) to reflect revised amendment number. Revise Appendix D to delete the License Condition associated with the relocation of certain requirements of Appendix A.

Justification for Change:

DEC states that this portion of the LC has been met. Appendix D contains an LC introduced by Amendment Number 166<sup>84</sup>. This amendment involved implementation of the Improved Standardized Technical Specifications consistent with NUREG-1431, "Standard Technical Specifications - Westinghouse Plants", for McGuire Units 1 and 2. The amendment approved the relocation of certain requirements included in Appendix A to licensee-controlled documents. This relocation was completed simultaneous with the implementation of the Improved Standardized Technical Specifications on November 14, 1998.

The NRC staff finds that the licensee's statement under oath and affirmation that the license condition was satisfied with regard to the relocated requirements from the previous TS sufficient basis to remove this part of the LC. Accordingly, the staff finds deletion of this portion of the LC to be acceptable.

2.2.14 Condition 2.D, Appendix G Exemption, states:

The facility requires an exemption from certain requirements of Appendix G to 10 CFR 50. This exemption is described in the Office of Nuclear Reactor Regulation's Safety Evaluation Report, Supplement No. 2 and in Supplement No. 4 (Section 5.2.3). This exemption is authorized by law and will not endanger life or property interest. The exemption is, therefore, hereby granted pursuant to 10 CFR 50.12. With the granting of this exemption, the facility will operate, to the extent authorized therein, in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission.

Proposed Change:

Delete License Condition 2.D.

Justification for Deletion:

In Appendix B of the staff's SSER-2, the staff found that exemptions from 10 CFR Part 50, Appendix G, "Fracture Toughness Requirements", were appropriate for McGuire Unit 1 as regards to Section III.C of Appendix G and for McGuire Units 1 and 2 as regards Section IV.A.4 of Appendix G. Exemptions were also found appropriate for Units 1 and 2 from 10 CFR part 50, Appendix H, "Reactor Vessel Material Surveillance Program Requirements", Section II.C.2. Subsequently, in SSER-4, section 5.2.3, the staff determined that the exemptions for Units 1 and 2 from Appendix G, Section IV.A.4 and Appendix H, Sections II.C.2, were no longer necessary. Accordingly, on the basis of the findings in SSER-4 that the exemptions applicable to Unit 2 (Appendix G, Section IV.A.4 and Appendix H, Section II.C.2) are no longer necessary, the staff finds the deletion of this LC to be acceptable.

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<sup>84</sup> September 30, 1998, Frank Rinaldi to Mr. H. B. Barron, Issuance of Amendments - McGuire Nuclear Station, Units 1 and 2, (TAC NOS. M98964 and M98965).



2.2.15 Condition 2.E, Security and Safeguards, states:

Duke Energy Corporation shall fully implement and maintain in effect all provisions of the Commission-approved physical security, guard training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10CFR 50.90 and 10 CFR 50.54(p). The plans, which contain safeguards information protected under 10 CFR 73.21, are entitled: "McGuire Nuclear Station Physical Security Plan," with revisions submitted through September 25, 1987; "McGuire Nuclear Station Training and Qualification Plan," with revisions submitted through July 3, 1986; and McGuire Nuclear Station Safeguards Contingency Plan," with revisions submitted through March 21, 1986. Changes made in accordance with 10 CFR 73.55 shall be implemented in accordance with the schedule set forth therein.

Proposed Change (as revised by DEC's letter of August 30, 2001):

Change the document titles for the above referenced plans as follows:

Change "McGuire Nuclear Station Physical Security Plan" to "Nuclear Security and Contingency Plan, Revision 12, as revised per 10 CFR 50.46(p)."

Change "McGuire Nuclear Station Training and Qualification Plan" to the plan which does not contain safeguards information is entitled "Nuclear Security Training and Qualification Plan" Revision 6, as revised per 10 CFR 50.54(p)."

Delete "McGuire Nuclear Station Safeguards Contingency Plan." This information is now included in the "Nuclear Security and Contingency Plan."

Justification for Change:

The titles of the referenced security documents have changed since the initial issuance of the McGuire FOLs. The "Nuclear Security and Contingency Plan" was submitted to the NRC by letter<sup>85</sup>. The "Nuclear Security Training and Qualification Plan" was submitted to the NRC by letter<sup>86</sup>. These changes are administrative in nature and are acceptable.

2.2.16 Condition 2.F, Reporting of Violations, states:

The licensee shall report any violation of the requirements contained in Section 2 Items C.(1), C.(4) through C.(11), and E of this license within 24 hours by telephone and confirm by telegram, mailgram, or facsimile transmission to the NRC Regional Administrator, Reg.II, or his designate, no later than the first working day following the violation, with a written followup report within 14 days;

Proposed Change:

Delete License Condition 2.F.

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<sup>85</sup> July 1, 1994, M. S. Tuckman to U. S. Nuclear Regulatory Commission, Document Control Desk, Nuclear Security and Contingency Plan, Revision 0.

<sup>86</sup> January 7, 1993, Hal B. Tucker to Document Control Desk, Revision 0 to Duke Power Company Nuclear Security Training and Qualification Plan.

Justification for Deletion:

The LC applies to LCs 2.C.(1), 2.C.(4) through 2.C.(11), and 2.E. The staff has found acceptable DEC's proposal to delete LCs 2.C.(4), 2.C.(5), 2.C.(6), 2.C.(8), 2.C.(9), and 2.C.(10). Accordingly, since these LCs are no longer a part of the McGuire Unit 1 FOL, their deletion from the reporting requirements of LC 2.F is acceptable.

LCs 2.C.(1), 2.C.(7), 2.C.(11) and 2.E remain in the FOL. DEC states that the primary reporting requirements for these LCs are covered by 10 CFR 50.72 and 10 CFR 50.73 but provides no information to support that position for the remaining LCs. Therefore, based on an insufficiency of information, the staff denies the request to delete the LC in its entirety. Therefore DEC's proposal to delete LC 2.G is granted in part and the LC is revised as follows:

The licensee shall report any violation of the requirements contained in Section 2 Items C.(1), C.(7), C.(11) and E of this license within 24 hours by telephone and confirm by telegram, mailgram, or facsimile transmission to the NRC Regional Administrator, Reg.II, or his designate, no later than the first working day following the violation, with a written followup report within 14 days;

2.2.17 Condition 2.G, Notification, states:

The licensee shall notify the Commission, as soon as possible but not later than one hour, of any accident at this facility which would result in an unplanned release of quantities of fission products in excess of allowable limits for normal operation established by the Commission.

Proposed Change:

Delete License Condition 2.G.

Justification for Deletion:

DEC states that the primary reporting requirements for these license conditions are covered by 10 CFR 50.72 and 10 CFR 50.73. On October 25, 2000, the NRC published a final rule amending the event reporting requirements in 10 CFR 50.72 and 50.73 (65 FR 63769). As stated in the preamble to the rule, under the heading "Summary," the final rule continues to provide the Commission with reporting of significant events where Commission action may be needed to maintain or improve reactor safety or to respond to heightened public concern. (Underlining added). Since the final rule provides the reporting the Commission needs, it is not necessary to maintain a special LC at McGuire to require reporting of an accident that could result in a release of radioactive material. Accordingly, the staff finds that the LC is unnecessary and may be deleted.

2.2.18 Condition 2.J.(f) states:

The spent fuel pool crane travel shall be restricted by administrative controls to the paths required by Technical Specification 3/4.9.7 whenever a spent fuel cask is being handled.

Proposed Change:

Change reference from TS 3/4.9.7 to Selected Licensee Commitment 16.9.20.

Justification for Change:

DEC states that the basis for this proposed change is that TS 3/4.9.7 no longer exists since license amendments 184/166<sup>87</sup> for McGuire Units 1 and 2, converted the McGuire TS to the new Improved Technical Specifications based on NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." TS 3/4.9.7 was relocated to the McGuire Selected Licensee Commitments Manual, Section 16.9.20. The staff finds that this change is editorial in nature to reflect the change approved in amendments 184 and 166 for Units 1 and 2 and is acceptable.

### 3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the North Carolina State official, Mr. Johnny James, was notified of the proposed issuance of the amendments. The State official had no comments.

### 4.0 ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.21, 51.32, and 51.35, an Environmental Assessment and Finding of No Significant Impact was published in the Federal Register on August 30, 2001 (66 FR 45875).

Accordingly, based on the Environmental Assessment, the Commission has determined that issuance of this amendment will not have a significant effect on the quality of the human environment.

### 5.0 CONCLUSION

The staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Attachment: Safety Evaluation for RG 1.97

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Date: December 5, 2001

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<sup>87</sup> September 30, 1998, Frank Rinaldi to Mr. H. B. Barron, Issuance of Amendments - McGuire Nuclear Station, Units 1 and 2 (TAC NOS. M98964 and M98965)

# SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

## PRESSURIZED WATER REACTORS

### CONTAINMENT SUMP WATER TEMPERATURE

#### REGULATORY GUIDE 1.97

#### 1.0 INTRODUCTION

Section 6.2 of Generic Letter (GL) 82-33 requested licensees to provide a report on their implementation of Regulatory Guide (RG) 1.97, Revision 2, and methods for complying with the Commission's regulations including supporting technical justification of any proposed alternatives and deviations. RG 1.97 recommends instrumentation to assist the control room operators in preventing and mitigating the consequences of reactor accidents. Qualification criteria of RG 1.97 instrumentation are established based on the safety function of the system whose variables are being monitored. The selection criteria for RG 1.97 variable qualification category is based upon whether monitoring of system parameters is needed during and following an accident and whether subsequent operator actions in the operating procedures are dependent on the information provided by this instrumentation.

A review of the licensees' submittals was performed by the staff and a safety evaluation report (SER) was issued for each plant. These SERs concluded that the licensees either conformed to, or adequately justified deviations from the guidance of RG 1.97 for each post-accident monitoring variable except for the variables identified in the SERs.

A large number of pressurized water reactor (PWR) licensees requested deviations from the Category 2 criteria for containment sump water temperature monitoring instrumentation, but a number of the requests did not provide sufficient justification for granting the deviations. Deviation requests were denied to licensees whose SERs were issued by the staff before 1987. Since 1987, deviations for containment sump water temperature instrumentation were considered by the staff as an open item until a generic resolution was achieved. This resolution is described below.

#### 2.0 EVALUATION

RG 1.97 recommends Category 2 containment sump water temperature instrumentation that monitors the operation of containment cooling systems. A number of licensees either do not have containment sump water temperature instrumentation or their system is qualified to Category 3 requirements.

Licensees have provided the following justifications for not providing Category 2 containment sump water temperature monitoring instrumentation:

Containment sump water temperature is not used by the Emergency Operating Procedures in the management of a design basis accident.

The available net positive suction head (NPSH) for the residual heat removal (RHR) pumps is conservatively calculated with a sufficient safety margin such that an indication of containment sump water temperature is not required to insure adequate NPSH.

No automatic or manual actions are initiated based on containment sump water temperature.

For the purpose of monitoring containment cooling, containment pressure is the variable of primary importance. Alternate indication of containment cooling status is provided by RHR heat exchanger outlet temperature, RHR heat exchanger flow, containment atmosphere temperature, containment spray flow, containment pressure, and various other instruments.

We have reviewed the justification provided by the licensees and have concluded that containment cooling status can be determined without the use of direct containment sump water temperature instrumentation. Since the containment sump is directly connected to the RHR system, in the recirculation mode, monitoring of RHR temperature provides an adequate alternative indication of containment cooling status. Therefore, the staff has determined that either Category 2 RHR heat exchanger inlet or outlet temperature is an acceptable alternative for Category 2 containment sump water temperature.

In some plants the containment cooling function is provided by the recirculation spray system and not the RHR system. In these plants, either Category 2 recirculation spray system heat exchanger inlet or outlet temperature is an acceptable alternative for Category 2 containment sump water temperature.

### 3.0 CONCLUSION

Based on our review, we have concluded that PWR post-accident containment cooling status can be determined without monitoring containment sump water temperature. Therefore, in lieu of Category 2 containment sump water temperature instrumentation, either Category 2 RHR heat exchanger inlet or outlet temperature is an acceptable alternative. In plants where the containment cooling function is provided by the recirculation spray system, either Category 2 recirculation spray system heat exchanger inlet or outlet temperature is an acceptable alternative.

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Date: December 5, 2001

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