

June 2, 1998

Mr. H. L. Sumner, Jr.
Vice President - Nuclear
Hatch Project
Southern Nuclear Operating
Company, Inc.
Post Office Box 1295
Birmingham, Alabama 35201-1295

SUBJECT: ISSUANCE OF AMENDMENTS - EDWIN I. HATCH NUCLEAR PLANT,
UNITS 1 AND 2 (TAC NOS. M99073 AND M99074)

Dear Mr. Sumner:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 211 to Facility Operating License DPR-57 and Amendment No. 152 to Facility Operating License NPF-5 for the Edwin I. Hatch Nuclear Plant, Units 1 and 2. The amendments consist of changes to the Technical Specifications (TS) in response to your application dated May 30, 1997, as supplemented April 1, 1998.

The amendments revise the TS requirements to reflect a design modification that changes the power sources to valves associated with the low pressure coolant injection mode of the residual heat removal system.

A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

ORIGINAL SIGNED BY:

Leonard N. Olshan, Senior Project Manager
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-321 and 50-366

Enclosures:

1. Amendment No. 211 to DPR-57
2. Amendment No. 152 to NPF-5
3. Safety Evaluation

DISTRIBUTION

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cc w/encl: See next page

DOCUMENT NAME: G:\HATCH\HA99073.AMD

| | | | | |
|--------|--------------|--------------|--------|-------------|
| OFFICE | DRPE/PD22/PM | DRPE/PD22/LA | OGC | DRPE/RD22/D |
| NAME | L.OLSHAN:cn | L.BERRY | CBATT | H/BERKOW |
| DATE | 4/29/98 | 4/29/98 | 5/7/98 | 6/2/98 |
| COPY | YES NO | YES NO | YES NO | YES NO |

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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

June 2, 1998

Mr. H. L. Sumner, Jr.
Vice President - Nuclear
Hatch Project
Southern Nuclear Operating
Company, Inc.
Post Office Box 1295
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SUBJECT: ISSUANCE OF AMENDMENTS - EDWIN I. HATCH NUCLEAR PLANT,
UNITS 1 AND 2 (TAC NOS. M99073 AND M99074)

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The amendments revise the TS requirements to reflect a design modification that changes the power sources to valves associated with the low pressure coolant injection mode of the residual heat removal system.

A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

A handwritten signature in black ink, appearing to read "L. N. Olshan".

Leonard N. Olshan, Senior Project Manager
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-321 and 50-366

Enclosures:

1. Amendment No. 211 to DPR-57
2. Amendment No. 152 to NPF-5
3. Safety Evaluation

cc w/encl: See next page

Edwin I. Hatch Nuclear Plant

cc:

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SOUTHERN NUCLEAR OPERATING COMPANY, INC.

GEORGIA POWER COMPANY

OGLETHORPE POWER CORPORATION

MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA

CITY OF DALTON, GEORGIA

DOCKET NO. 50-321

EDWIN I. HATCH NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 211
License No. DPR-57

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the Edwin I. Hatch Nuclear Plant, Unit 1 (the facility) Facility Operating License No. DPR-57 filed by Southern Nuclear Operating Company, Inc. (Southern Nuclear), acting for itself, Georgia Power Company, Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and City of Dalton, Georgia (the licensees), dated May 30, 1997, as supplemented April 1, 1998, 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.

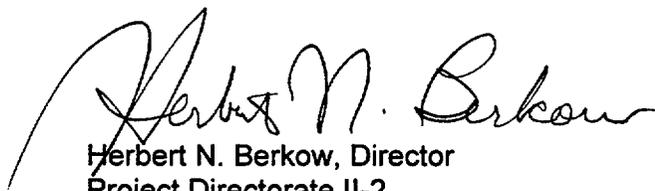
2. Accordingly, the license is hereby amended by page changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-57 is hereby amended to read as follows:

- (2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 211, are hereby incorporated in the license. Southern Nuclear shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented prior to startup from the next refueling outage.

FOR THE NUCLEAR REGULATORY COMMISSION



Herbert N. Berkow, Director
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: June 2, 1998

ATTACHMENT TO LICENSE AMENDMENT NO. 211

FACILITY OPERATING LICENSE NO. DPR-57

DOCKET NO. 50-321

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.

| <u>Remove</u> | <u>Insert</u> |
|---------------|---------------|
| 3.5-3 | 3.5-3 |
| 3.8-1 | 3.8-1 |
| 3.8-2 | 3.8-2* |
| 3.8-3 | 3.8-3* |
| 3.8-4 | 3.8-4 |
| 3.8-6 | 3.8-6 |
| 3.8-19 | 3.8-19 |
| 3.8-20 | 3.8-20 |
| 3.8-28 | 3.8-28 |

*overflow pages

SURVEILLANCE REQUIREMENTS

| SURVEILLANCE | | FREQUENCY |
|--------------|--|-----------|
| SR 3.5.1.1 | Verify, for each ECCS injection/spray subsystem, the piping is filled with water from the pump discharge valve to the injection valve. | 31 days |
| SR 3.5.1.2 | <p>-----NOTE----- Low pressure coolant injection (LPCI) subsystems may be considered OPERABLE during alignment and operation for decay heat removal with reactor steam dome pressure less than the Residual Heat Removal (RHR) low pressure permissive pressure in MODE 3, if capable of being manually realigned and not otherwise inoperable.</p> <p>-----</p> Verify each ECCS injection/spray subsystem manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position. | 31 days |
| SR 3.5.1.3 | Verify ADS air supply header pressure is ≥ 90 psig. | 31 days |
| SR 3.5.1.4 | Verify the RHR System cross tie valve is closed and power is removed from the valve operator. | 31 days |
| SR 3.5.1.5 | (Not used.) | |

(continued)

SURVEILLANCE REQUIREMENTS (continued)

| SURVEILLANCE | | FREQUENCY |
|--------------|---|-----------|
| SR 3.5.1.2 | <p>-----NOTE----- Low pressure coolant injection (LPCI) subsystems may be considered OPERABLE during alignment and operation for decay heat removal with reactor steam dome pressure less than the Residual Heat Removal (RHR) low pressure permissive pressure in MODE 3, if capable of being manually realigned and not otherwise inoperable.</p> <p>-----</p> <p>Verify each ECCS injection/spray subsystem manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position.</p> | 31 days |
| SR 3.5.1.3 | Verify ADS air supply header pressure is ≥ 90 psig. | 31 days |
| SR 3.5.1.4 | Verify the RHR System cross tie valve is closed and power is removed from the valve operator. | 31 days |
| SR 3.5.1.5 | (Not used.) | |

(continued)

3.8 ELECTRICAL POWER SYSTEMS

3.8.1 AC Sources — Operating

- LCO 3.8.1 The following AC electrical power sources shall be OPERABLE:
- a. Two qualified circuits between the offsite transmission network and the Unit 1 onsite Class 1E AC Electrical Power Distribution System;
 - b. Two Unit 1 diesel generators (DGs);
 - c. The swing DG;
 - d. One Unit 2 DG capable of supplying power to one Unit 2 Standby Gas Treatment (SGT) subsystem required by LCO 3.6.4.3, "SGT System;"
 - e. One qualified circuit between the offsite transmission network and the Unit 2 onsite Class 1E AC Electrical Power Distribution subsystem(s) needed to support the Unit 2 SGT subsystem(s) required by LCO 3.6.4.3;
 - f. Two DGs (any combination of Unit 2 DGs and the swing DG), each capable of supplying power to one Unit 1 low pressure coolant injection (LPCI) valve load center; and
 - g. One qualified circuit between the offsite transmission network and the applicable onsite Class 1E AC electrical power distribution subsystems needed to support each Unit 1 LPCI valve load center required by LCO 3.5.1, "ECCS — Operating."

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|--|--|--|
| <p>A. One required offsite circuit inoperable.</p> | <p>A.1 Perform SR 3.8.1.1 for OPERABLE required offsite circuits.</p> <p><u>AND</u></p> <p>A.2 Declare required feature(s) with no offsite power available inoperable when the redundant required feature(s) are inoperable.</p> <p><u>AND</u></p> <p>A.3 Restore required offsite circuit to OPERABLE status.</p> | <p>1 hour</p> <p><u>AND</u></p> <p>Once per 8 hours thereafter</p> <p>24 hours from discovery of no offsite power to one 4160 V ESF bus concurrent with inoperability of redundant required feature(s)</p> <p>72 hours</p> <p><u>AND</u></p> <p>10 days from discovery of failure to meet LCO 3.8.1.a, b, or c</p> |
| <p>B. One Unit 1 or the swing DG inoperable.</p> | <p>B.1 Perform SR 3.8.1.1 for OPERABLE required offsite circuit(s).</p> <p><u>AND</u></p> | <p>1 hour</p> <p><u>AND</u></p> <p>Once per 8 hours thereafter</p> <p>(continued)</p> |

ACTIONS

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|----------------|---|---|
| B. (continued) | <p>B.2 Declare required feature(s), supported by the inoperable DG, inoperable when the redundant required feature(s) are inoperable.</p> | <p>4 hours from discovery of Condition B concurrent with inoperability of redundant required feature(s)</p> |
| | <p><u>AND</u></p> | |
| | <p>B.3.1 Determine OPERABLE DG(s) are not inoperable due to common cause failure.</p> | <p>24 hours</p> |
| | <p><u>OR</u></p> | |
| | <p>B.3.2 Perform SR 3.8.1.2.a for OPERABLE DG(s).</p> | <p>24 hours</p> |
| | <p><u>AND</u></p> | |
| | <p>B.4 Restore DG to OPERABLE status.</p> | <p>72 hours for a Unit 1 DG</p> |
| | | <p><u>AND</u></p> |
| | | <p>7 days for the swing DG</p> |
| | | <p><u>AND</u></p> |
| | | <p>10 days from discovery of failure to meet LCO 3.8.1.a, b, or c</p> |

(continued)

ACTIONS (continued)

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|--|--|---|
| <p>C. One required Unit 2 DG inoperable.</p> | <p>C.1 Perform SR 3.8.1.1 for OPERABLE required offsite circuit(s).</p> | <p>1 hour <u>AND</u> Once per 8 hours thereafter</p> |
| | <p><u>AND</u> C.2 Declare required feature(s), supported by the inoperable DG, inoperable when the redundant required feature(s) are inoperable.</p> | <p>4 hours from discovery of Condition C concurrent with inoperability of redundant required feature(s)</p> |
| | <p><u>AND</u> C.3.1 Determine OPERABLE DG(s) are not inoperable due to common cause failure.</p> | <p>24 hours</p> |
| | <p><u>OR</u> C.3.2 Perform SR 3.8.1.2.a for OPERABLE DG(s).</p> | <p>24 hours</p> |
| | <p><u>AND</u> C.4 Restore required DG to OPERABLE status.</p> | <p>7 days</p> |

(continued)

ACTIONS (continued)

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|--|---|-----------------------------------|
| <p>G. No DGs capable of supplying power to any Unit 1 LPCI valve load center.</p> | <p>G.1 Restore one DG capable of supplying power to Unit 1 LPCI valve load center to OPERABLE status.</p> | <p>2 hours</p> |
| <p>H. Required Action and Associated Completion Time of Condition A, B, C, D, E, F, or G not met.</p> | <p>H.1 Be in MODE 3. <u>AND</u> H.2 Be in MODE 4.</p> | <p>12 hours 36 hours</p> |
| <p>I. One or more required offsite circuits and two or more required DGs inoperable. <u>OR</u> Two or more required offsite circuits and one required DG inoperable.</p> | <p>I.1 Enter LCO 3.0.3.</p> | <p>Immediately</p> |

SURVEILLANCE REQUIREMENTS (continued)

| SURVEILLANCE | FREQUENCY |
|---|--|
| <p>SR 3.8.1.18 -----NOTE----- All DG starts may be preceded by an engine prelube period. -----</p> <p>Verify, when started simultaneously from standby condition, the Unit 1 DGs and the swing DG achieve, in ≤ 12 seconds, voltage ≥ 3740 V and frequency ≥ 58.8 Hz.</p> | <p>10 years</p> |
| <p>SR 3.8.1.19 For required Unit 2 AC Sources, the SRs of Unit 2 Technical Specifications are applicable, except SR 3.8.1.6, SR 3.8.1.10, SR 3.8.1.15, and SR 3.8.1.17.</p> | <p>In accordance with applicable SRs</p> |

3.8 ELECTRICAL POWER SYSTEMS

3.8.2 AC Sources — Shutdown

LCO 3.8.2 The following AC electrical power sources shall be OPERABLE:

- a. One qualified circuit between the offsite transmission network and the onsite Unit 1 Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.8, "Distribution Systems — Shutdown;"
- b. One Unit 1 diesel generator (DG) capable of supplying one subsystem of the onsite Unit 1 Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.8;
- c. One qualified circuit between the offsite transmission network and the onsite Unit 2 Class 1E AC electrical power distribution subsystem(s) needed to support the Unit 2 Standby Gas Treatment (SGT) subsystem(s) required by LCO 3.6.4.3, "SGT System;"
- d. One Unit 2 DG capable of supplying one Unit 2 SGT subsystem required by LCO 3.6.4.3;
- e. One qualified circuit between the offsite transmission network and the applicable onsite Class 1E AC electrical power distribution subsystem(s) needed to support a required Unit 1 LPCI valve load center when a LPCI subsystem is required to be OPERABLE by LCO 3.5.2, "ECCS — Shutdown." This load center must be for the LPCI subsystem being powered by equipment required to be OPERABLE per LCO 3.8.2.a; and
- f. One DG (either a Unit 1 DG or the swing DG) capable of supplying power to a required Unit 1 LPCI valve load center when a LPCI subsystem is required to be OPERABLE by LCO 3.5.2. This load center must be for the LPCI subsystem being powered by equipment required to be OPERABLE per LCO 3.8.2.b.

APPLICABILITY: MODES 4 and 5,
During movement of irradiated fuel assemblies in the
secondary containment.

3.8 ELECTRICAL POWER SYSTEMS

3.8.4 DC Sources — Operating

LCO 3.8.4 The following DC electrical power subsystems shall be OPERABLE:

- a. The Unit 1 Division 1 and Division 2 station service DC electrical power subsystems;
- b. The Unit 1 and the swing DGs DC electrical power subsystems; and
- c. The Unit 2 DG DC electrical power subsystems needed to support the equipment required to be OPERABLE by LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," and LCO 3.8.1, "AC Sources—Operating."

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|---|---|-----------------|
| <p>A. Swing DG DC electrical power subsystem inoperable due to performance of SR 3.8.4.7 or SR 3.8.4.8.</p> <p><u>OR</u></p> <p>One or more required Unit 2 DG DC electrical power subsystems inoperable.</p> | <p>A.1 Restore DG DC electrical power subsystem to OPERABLE status.</p> | <p>7 days</p> |

(continued)



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SOUTHERN NUCLEAR OPERATING COMPANY, INC.

GEORGIA POWER COMPANY

OGLETHORPE POWER CORPORATION

MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA

CITY OF DALTON, GEORGIA

DOCKET NO. 50-366

EDWIN I. HATCH NUCLEAR PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 152
License No. NPF-5

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the Edwin I. Hatch Nuclear Plant, Unit 2 (the facility) Facility Operating License No. NPF-5 filed by Southern Nuclear Operating Company, Inc. (Southern Nuclear), acting for itself, Georgia Power Company, Oglethorpe Power Corporation, Municipal Electric Authority of Georgia, and City of Dalton, Georgia (the licensees), dated May 30, 1997, as supplemented April 1, 1998, 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.

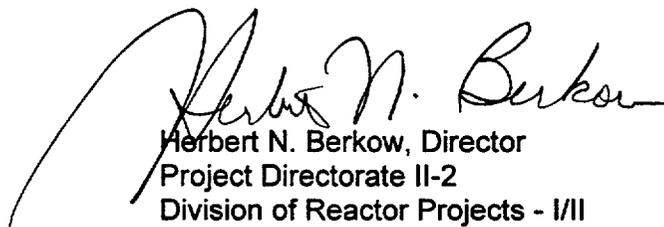
2. Accordingly, the license is hereby amended by page changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-5 is hereby amended to read as follows:

- (2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 152 are hereby incorporated in the license. Southern Nuclear shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented prior to startup from the next refueling outage.

FOR THE NUCLEAR REGULATORY COMMISSION



Herbert N. Berkow, Director
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: June 2, 1998

ATTACHMENT TO LICENSE AMENDMENT NO. 152

FACILITY OPERATING LICENSE NO. NPF-5

DOCKET NO. 50-366

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.

| <u>Remove</u> | <u>Insert</u> |
|---------------|---------------|
| 3.5-3 | 3.5-3 |
| 3.8-1 | 3.8-1 |
| 3.8-2 | 3.8-2* |
| 3.8-3 | 3.8-3* |
| 3.8-4 | 3.8-4 |
| 3.8-6 | 3.8-6 |
| 3.8-19 | 3.8-19 |
| 3.8-20 | 3.8-20 |
| 3.8-28 | 3.8-28 |

*overflow pages

SURVEILLANCE REQUIREMENTS

| SURVEILLANCE | FREQUENCY |
|--|----------------|
| <p>SR 3.5.1.1 Verify, for each ECCS injection/spray subsystem, the piping is filled with water from the pump discharge valve to the injection valve.</p> | <p>31 days</p> |
| <p>SR 3.5.1.2 -----NOTE----- Low pressure coolant injection (LPCI) subsystems may be considered OPERABLE during alignment and operation for decay heat removal with reactor steam dome pressure less than the Residual Heat Removal (RHR) low pressure permissive pressure in MODE 3, if capable of being manually realigned and not otherwise inoperable. ----- Verify each ECCS injection/spray subsystem manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position.</p> | <p>31 days</p> |
| <p>SR 3.5.1.3 Verify ADS air supply header pressure is ≥ 90 psig.</p> | <p>31 days</p> |
| <p>SR 3.5.1.4 Verify the RHR System cross tie valve is closed and power is removed from the valve operator.</p> | <p>31 days</p> |
| <p>SR 3.5.1.5 (Not used.)</p> | |

(continued)

3.8 ELECTRICAL POWER SYSTEMS

3.8.1 AC Sources — Operating

- LCO 3.8.1 The following AC electrical power sources shall be OPERABLE:
- a. Two qualified circuits between the offsite transmission network and the Unit 2 onsite Class 1E AC Electrical Power Distribution System;
 - b. Two Unit 2 diesel generators (DGs);
 - c. The swing DG;
 - d. One Unit 1 DG;
 - e. One qualified circuit between the offsite transmission network and the Unit 1 onsite Class 1E AC Electrical Power Distribution subsystem(s) needed to support the Unit 1 equipment required to be OPERABLE by LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," LCO 3.7.4, "Main Control Room Environmental Control (MCREC) System," and LCO 3.7.5, "Control Room Air Conditioning (AC) System;"
 - f. Two DGs (any combination of Unit 1 DGs and the swing DG), each capable of supplying power to one Unit 2 low pressure coolant injection (LPCI) valve load center; and
 - g. One qualified circuit between the offsite transmission network and the applicable onsite Class 1E AC electrical power distribution subsystems needed to support each Unit 2 LPCI valve load center required by LCO 3.5.1, "ECCS — Operating."

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|--|--|--|
| <p>A. One required offsite circuit inoperable.</p> | <p>A.1 Perform SR 3.8.1.1 for OPERABLE required offsite circuits.</p> <p><u>AND</u></p> <p>A.2 Declare required feature(s) with no offsite power available inoperable when the redundant required feature(s) are inoperable.</p> <p><u>AND</u></p> <p>A.3 Restore required offsite circuit to OPERABLE status.</p> | <p>1 hour</p> <p><u>AND</u></p> <p>Once per 8 hours thereafter</p> <p>24 hours from discovery of no offsite power to one 4160 V ESF bus concurrent with inoperability of redundant required feature(s)</p> <p>72 hours</p> <p><u>AND</u></p> <p>10 days from discovery of failure to meet LCO 3.8.1.a, b, or c</p> |
| <p>B. One Unit 2 or the swing DG inoperable.</p> | <p>B.1 Perform SR 3.8.1.1 for OPERABLE required offsite circuit(s).</p> <p><u>AND</u></p> | <p>1 hour</p> <p><u>AND</u></p> <p>Once per 8 hours thereafter</p> <p>(continued)</p> |

ACTIONS

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|---|---|---|
| <p>B. (continued)</p> | <p>B.2 Declare required feature(s), supported by the inoperable DG, inoperable when the redundant required feature(s) are inoperable.</p> | <p>4 hours from discovery of Condition B concurrent with inoperability of redundant required feature(s)</p> |
| | <p><u>AND</u></p> | |
| | <p>B.3.1 Determine OPERABLE DG(s) are not inoperable due to common cause failure.</p> | <p>24 hours</p> |
| | <p><u>OR</u></p> | |
| | <p>B.3.2 Perform SR 3.8.1.2.a for OPERABLE DG(s).</p> | <p>24 hours</p> |
| | <p><u>AND</u></p> | |
| <p>B.4 Restore DG to OPERABLE status.</p> | <p>72 hours for a Unit 2 DG</p> | |
| | <p><u>AND</u></p> | |
| | <p>7 days for the swing DG</p> <p><u>AND</u></p> <p>10 days from discovery of failure to meet LCO 3.8.1.a, b, or c</p> | |

(continued)

ACTIONS (continued)

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|--|--|---|
| <p>C. One required Unit 1 DG inoperable.</p> | <p>C.1 Perform SR 3.8.1.1 for OPERABLE required offsite circuit(s).</p> | <p>1 hour <u>AND</u> Once per 8 hours thereafter</p> |
| | <p><u>AND</u> C.2 Declare required feature(s), supported by the inoperable DG, inoperable when the redundant required feature(s) are inoperable.</p> | <p>4 hours from discovery of Condition C concurrent with inoperability of redundant required feature(s)</p> |
| | <p><u>AND</u> C.3.1 Determine OPERABLE DG(s) are not inoperable due to common cause failure.</p> | <p>24 hours</p> |
| | <p><u>OR</u> C.3.2 Perform SR 3.8.1.2.a for OPERABLE DG(s).</p> | <p>24 hours</p> |
| | <p><u>AND</u> C.4 Restore required DG to OPERABLE status.</p> | <p>7 days</p> |

(continued)

ACTIONS (continued)

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|--|---|-----------------------------------|
| <p>G. No DGs capable of supplying power to any Unit 2 LPCI valve load center.</p> | <p>G.1 Restore one DG capable of supplying power to Unit 2 LPCI valve load center to OPERABLE status.</p> | <p>2 hours</p> |
| <p>H. Required Action and Associated Completion Time of Condition A, B, C, D, E, F, or G not met.</p> | <p>H.1 Be in MODE 3. <u>AND</u> H.2 Be in MODE 4.</p> | <p>12 hours 36 hours</p> |
| <p>I. One or more required offsite circuits and two or more required DGs inoperable.</p> <p><u>OR</u></p> <p>Two or more required offsite circuits and one required DG inoperable.</p> | <p>I.1 Enter LCO 3.0.3.</p> | <p>Immediately</p> |

SURVEILLANCE REQUIREMENTS (continued)

| SURVEILLANCE | FREQUENCY |
|--|--|
| <p>SR 3.8.1.18 -----NOTE----- All DG starts may be preceded by an engine prelube period. -----</p> <p>Verify, when started simultaneously from standby condition, the Unit 2 DGs achieve, in ≤ 12 seconds, voltage ≥ 3740 V and frequency ≥ 58.8 Hz.</p> | <p>10 years</p> |
| <p>SR 3.8.1.19 For required Unit 1 AC Sources, the SRs of Unit 1 Technical Specifications are applicable, except SR 3.8.1.6, SR 3.8.1.10, SR 3.8.1.15, and SR 3.8.1.17.</p> | <p>In accordance with applicable SRs</p> |

3.8 ELECTRICAL POWER SYSTEMS

3.8.2 AC Sources — Shutdown

- LCO 3.8.2 The following AC electrical power sources shall be OPERABLE:
- a. One qualified circuit between the offsite transmission network and the onsite Unit 2 Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.8, "Distribution Systems — Shutdown;"
 - b. One Unit 2 diesel generator (DG) capable of supplying one subsystem of the onsite Unit 2 Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.8;
 - c. One qualified circuit between the offsite transmission network and the onsite Unit 1 Class 1E AC electrical power distribution subsystem(s) needed to support the Unit 1 equipment required to be OPERABLE by LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," LCO 3.7.4, "Main Control Room Environmental Control (MCREC) System," and LCO 3.7.5, "Control Room Air Conditioning (AC) System;"
 - d. One Unit 1 DG capable of supplying one subsystem of each of the Unit 1 equipment required to be OPERABLE by LCO 3.6.4.3, LCO 3.7.4, and LCO 3.7.5;
 - e. One qualified circuit between the offsite transmission network and the applicable onsite Class 1E AC electrical power distribution subsystem(s) needed to support a required Unit 2 LPCI valve load center when a LPCI subsystem is required to be OPERABLE by LCO 3.5.2, "ECCS — Shutdown." This load center must be for the LPCI subsystem being powered by equipment required to be OPERABLE per LCO 3.8.2.a.; and
 - f. One DG (either a Unit 1 DG or the swing DG) capable of supplying power to a required Unit 2 LPCI valve load center when a LPCI subsystem is required to be OPERABLE by LCO 3.5.2. This load center must be for the LPCI subsystem being powered by equipment required to be OPERABLE per LCO 3.8.2.b.

APPLICABILITY: MODES 4 and 5,
During movement of irradiated fuel assemblies in the
secondary containment.

3.8 ELECTRICAL POWER SYSTEMS

3.8.4 DC Sources — Operating

LCO 3.8.4 The following DC electrical power subsystems shall be OPERABLE:

- a. The Unit 2 Division 1 and Division 2 station service DC electrical power subsystems;
- b. The Unit 2 and the swing DGs DC electrical power subsystems; and
- c. The Unit 1 DG DC electrical power subsystems needed to support the equipment required to be OPERABLE by LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," LCO 3.7.4, "Main Control Room Environmental Control (MCREC) System," LCO 3.7.5, "Control Room Air Conditioning (AC) System," and LCO 3.8.1, "AC Sources—Operating."

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|---|---|-----------------|
| <p>A. Swing DG DC electrical power subsystem inoperable due to performance of SR 3.8.4.7 or SR 3.8.4.8.</p> <p><u>OR</u></p> <p>One or more required Unit 1 DG DC electrical power subsystems inoperable.</p> | <p>A.1 Restore DG DC electrical power subsystem to OPERABLE status.</p> | <p>7 days</p> |

(continued)



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 211 TO FACILITY OPERATING LICENSE DPR-57
AND AMENDMENT NO. 152 TO FACILITY OPERATING LICENSE NPF-5
SOUTHERN NUCLEAR OPERATING COMPANY, INC., ET AL.
EDWIN I. HATCH NUCLEAR PLANT, UNITS 1 AND 2
DOCKET NOS. 50-321 AND 50-366

1.0 INTRODUCTION

By letter dated May 30, 1997, as supplemented April 1, 1998, Southern Nuclear Operating Company, Inc. (Southern Nuclear), et al. (the licensee) proposed license amendments to change the Technical Specifications (TS) for the Edwin I. Hatch Nuclear Plant, Units 1 and 2. The proposed changes would revise the requirements for power sources to valves associated with the low pressure coolant injection (LPCI) mode of the residual heat removal (RHR) system. The affected valves are the LPCI injection valves, the LPCI pump minimum flow valves, and the reactor recirculation pump suction and discharge valves. The power supply to the Unit 1 reactor core isolation coolant (RCIC) steam supply isolation valve is also being changed. The April 1, 1998, submittal provided clarifying information that did not change the scope of the May 30, 1997, application and the initial proposed no significant hazards consideration determination.

2.0 EVALUATION

Currently, the LPCI inverters supply uninterruptable 600 V ac power supply to these valves. This is accomplished by inverting 250 V dc power from the station service batteries to 600 V ac power and supplying it to the LPCI valves. The licensee has proposed to power Unit 1 LPCI motor-operated valves (MOVs) from Unit 2 Class 1E busses backed by the Unit 2 diesel generators (DGs) and the Unit 2 LPCI MOVs from Unit 1 Class 1E busses backed by Unit 1 DGs. Also, the licensee proposed TS changes, which resulted from the design modification of the power supplies to the LPCI MOVs. Changes are proposed to TS Surveillance Requirements (SRs) 3.5.1.5 and 3.8.1.19; Limiting Conditions for Operation (LCOs) 3.8.1, 3.8.2, and 3.8.4; and Required Action 3.8.1. These sections of the TS establish requirements for power supplies to the valve load centers. Operability of the affected valves is required for LPCI system operability.

2.1 System Description

The LPCI mode of RHR is one of the emergency core cooling system (ECCS) subsystems required to inject water into the reactor vessel in the event of a loss-of-coolant accident (LOCA).

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The LPCI system design consists of two trains, each having two pumps and a common flow path from the suppression pool to the reactor vessel. The LPCI mode of the RHR system, along with the core spray system, is designed to establish and maintain adequate core cooling following a LOCA. The LPCI mode of RHR is automatically initiated upon receipt of a high drywell pressure or a Level 1 low reactor water level signal. The MOVs required to function automatically for LPCI injection during a LOCA are the reactor recirculation pump discharge valves, the LPCI injection valves, and the RHR minimum flow valves. These valves are referred to as the LPCI MOVs. The recirculation pump discharge MOVs automatically close to allow LPCI reflooding, and the LPCI injection MOVs automatically open to inject water into the vessel when reactor pressure decreases to a preset pressure permissive value during the LOCA.

The onsite electrical distribution system consists of three safety related busses for each unit that provide two redundant divisions of normal offsite and emergency onsite power. In the event of a loss of offsite power (LOOP), two of the three busses are provided emergency power by dedicated DGs. The third bus is backed by another DG, referred to as the swing DG, which can power the third bus of either Unit 1 or Unit 2. During normal operation, the operator assigns the swing DG to one unit. However, in the case of a LOCA signal, the swing DG automatically transfers to the LOCA unit.

Currently, the LPCI MOV load centers are normally supplied by power sources independent of Division I and Division II emergency ac power that supplies the remainder of the RHR system. During normal operation, the LPCI inverters supply uninterrupted 600 V ac motive power for the LPCI MOVs. This is accomplished by inverting 250 V dc power from the station service batteries (which are backed by a charger) to 600 V ac power and supplying it to the LPCI MOV load centers. Other loads are also powered from the LPCI MOV load centers but are not required to respond automatically during a LOCA event. Alternate power for the LPCI MOV load centers is currently supplied from the respective Division I or Division II 600V emergency ac sources (DGs) of the same unit. These alternate power sources are used only during maintenance activities requiring an inverter outage or during forced outage of the inverters.

2.2 Proposed Changes to the LPCI MOV Load Centers' Power Supply

Under the proposed modification, the LPCI inverters will be retired from service. The Unit 1 LPCI MOV load centers will now receive power from the corresponding Unit 2 Division I and Division II ac power sources, which use the dedicated Unit 2 DGs for backup power in the event of an LOOP. Also, alternate power for one, but not both simultaneously, of the Unit 1 LPCI MOV load centers is available from an alternate Unit 1 600V bus. This alternate source of power to one of the LPCI MOV load centers is available during any plant condition. The alternate bus receives backup power from swing DG 1B during:

- LOOP events on Unit 1 only.
- Total LOOP events without a concurrent LOCA when the swing DG 1B selector switch is aligned to Unit 1.
- Total LOOP events with a concurrent Unit 1 LOCA.

This alternate bus can also be used to power one of the LPCI MOV load centers while the respective Unit 2 dedicated DG is out of service.

The proposed TS changes are similar for both units, the following discussion addresses Unit 1 changes only. The only difference in the proposed modification between Unit 1 and Unit 2 is, for Unit 1 only, the electrical power supply source for the RCIC steam supply valve will be changed to power this valve from the same source as the Unit 1 Division II LPCI valve load center.

2.3 Proposed Technical Specification Changes

Surveillance Requirement (SR) 3.5.1.5, requiring operability demonstrations for the Unit 1 LPCI inverters is deleted. Operability of the proposed normal power supply for the LPCI MOV load centers is demonstrated by SR 3.8.1.19 when Unit 1 is operating and SR 3.8.2.2 when Unit 1 is either shutdown or in the refueling mode.

LCOs 3.8.1.f and 3.8.1.g, which specify the ac sources required for plant operation, are added as new requirements which reflect the new power sources for the LPCI MOV load centers. LCO 3.8.1.f requires that two DGs be available that are capable of supplying power to the two Unit 1 LPCI MOV load centers required to be operable per LCO 3.5.1. That is, any combination of the Unit 2 DGs and the swing DG can be used. New LCO 3.8.1.g requires that each Unit 1 LPCI MOV load center be supplied with offsite power via either the Unit 2 Class 1E system or the alternate Unit 1 Class 1E bus.

Required Action 3.8.1.C is revised to clarify that only one Unit 2 DG is required to support standby gas treatment system operation as stated in LCO 3.8.1.c. This change also provides a required action should one of the Unit 2 DGs required to support operation of a LPCI MOV load center become inoperable. The Condition becomes inapplicable when the affected LPCI MOV load center is realigned to the alternate power source backed by the swing DG 1B.

Required Action 3.8.1.G will be added to specify the Unit 1 requirements when all DGs required for LPCI MOV load centers are out of service; i.e., the Unit 2 DGs and the swing DG. Adding Required Action G renames current Required Actions G and H to Required Actions H and I. This change also adds Condition G to the list of entry conditions for revised Condition H.

SR 3.8.1.19 will be revised to delete Unit 2 SRs 3.8.1.11 and 3.8.1.18 from the list of Unit 2 SRs not applicable to Unit 1, therefore making them applicable. SR 3.8.1.19 defines the requirements for the Unit 2 ac power sources that are also applicable to Unit 1. The proposed change makes Unit 2 SR 3.8.1.11, verification that specified DG trips are bypassed on emergency starts, and Unit 2 SR 3.8.1.18, verification of simultaneous starting capability, applicable to Unit 1. These requirements are appropriate for Unit 1, concurrent with a Unit 2 LOOP, and are acceptable.

LCOs 3.8.2.e and 3.8.2.f will be added to require new operable power sources for the LPCI MOV load centers during shutdown. LCO 3.8.2.e requires offsite power and the associated Unit 2 or alternate Unit 1 power systems to be available to a required unit LPCI MOV load

center. LCO 3.8.2.f requires that either one of the Unit 2 DGs or the swing DG be operable. The operable DG is capable of supplying power to support the appropriate Unit 1 LPCI MOV load center if that LPCI train is required per LCO 3.5.2, "ECCS--Shutdown."

LCO 3.8.4.c will be revised to delete reference to Unit 2 equipment, since both Unit 1 and Unit 2 equipment are powered by Unit 2 DGs. Unit 2 DG dc power is required to operate the Unit 2 DGs and the Unit 2 distribution system, which are required to operate the unit LPCI MOV load centers.

The proposed TS changes reflect the retirement of the LPCI inverters whose current design function is to provide power to certain LPCI MOVs independent of Unit 1 ac power supplies, which power the remainder of the RHR system. The Unit 1 LPCI MOV load centers will now be powered from Unit 2 Class 1E busses so that a Unit 1 ac power supply failure cannot incapacitate an entire LPCI train. The proposed configuration also allows one LPCI MOV load center to be powered from an alternate Unit 1 bus backed by the swing DG 1B. Also, the proposed changes eliminate a section of TS that is no longer applicable to Unit 1, and add requirements specifying that appropriate power supplies from Unit 2 be available to the Unit 1 LPCI MOV load centers.

The licensee has also proposed changes to the Unit 1 electrical power supply source for the RCIC steam supply valve for compliance with Appendix R design requirements. This is applicable to Unit 1 only. The RCIC steam supply valve for Unit 1 will be powered from the Unit 2 Division II DG. This change will maintain the original design and the ECCS system performance requirements. Based on the preceding discussion, the staff finds this change to be acceptable.

The licensee performed a detailed single-failure modes and effects analysis to support the proposed modification. The design basis criteria for the plant's onsite power supplies (the DGs) are the simultaneous occurrence of an LOOP on either one or both units, and any other accident on one unit. The single failure analysis considers the occurrence of a postulated accident on either Unit 1 or Unit 2, and verifies that an adequate combination of ECCS equipment (combination of RHR and/or core spray subsystems) is available. The analysis considers postulated accidents with the following power source configurations for the LPCI MOV load centers:

- Both Unit 1 load centers connected to the Unit 2 power supplies.
- One Unit 1 load center connected to its Unit 2 power supply and the other load center connected to the alternate supply, a Unit 1 bus backed by swing DG 1B.

The single failure analysis also considers the case where the proposed modification is complete and the Unit 1 LPCI MOV load centers are supplied power per the proposed configuration, but the proposed modification for Unit 2 is not complete and the Unit 2 LPCI MOV load centers are supplied power per the existing configuration with the inverters in service.

A summary of the results of the single failure modes and effects analysis results are presented in the following cases:

1. In the case of an LOOP on Unit 1, Unit 2 offsite power is available for the LPCI MOV load centers, and the Unit 1 DGs automatically start to power the remainder of the RHR system. The swing DG starts on an LOOP signal from either unit and automatically aligns to power the LOOP unit. Therefore, if one of the LPCI MOV load centers is on the alternate supply, it will be powered by the DG through the Unit 1 alternate bus.
2. In the case of simultaneous LOOP and LOCA on Unit 1, the power supply configurations listed in Case 1 above exist.
3. In the case of an LOCA on Unit 1 and an LOOP on Unit 2, the Unit 2 DGs and the swing DG automatically start. In the normal power supply configuration, the Unit 2 DGs provide power to the associated Unit 1 LPCI MOV load centers. Should one of the Unit 1 LPCI MOV load centers be on the alternate power supply Unit 1 bus, it will be powered by the offsite power system. The swing DG automatically aligns to the Unit 2 alternate bus because of the LOOP in that unit.
4. In the case of an LOOP on both units, all five DGs start automatically. In the normal power configuration, the Unit 2 dedicated DGs power the respective Unit 1 LPCI MOV load centers and the Unit 1 DGs power the remainder of the RHR system. The operator chooses the unit to which DG 1B is aligned to power. If one of the unit LPCI MOV load centers is on the alternate supply, it will be aligned to the Unit 1 alternate bus. The Unit 1 alternate bus may not be powered, depending upon which unit the swing DG is aligned to power. However, an adequate amount of LPCI equipment is available to accomplish required safety functions, if needed.
5. In the case of a concurrent LOOP on both units and a LOCA on Unit 1, all five DGs start, and the swing DG automatically aligns to power the LOCA unit. Therefore, in the normal power supply configuration, the LPCI MOV load centers are powered from the Unit 2 DG, and the Unit 1 DGs power the remainder of the RHR system. Should one of the Unit 1 LPCI MOV load centers be aligned to the alternate Unit 1 bus backed by the swing DG, power is available because the swing DG automatically aligns to the LOCA unit, in this case Unit 1.

With this proposed change, appropriate new LCOs are added to the plant TS to ensure that if an LPCI subsystem is required to perform its safety function during normal power or shutdown operation, the appropriate power supplies to operate the valves are available.

As stated earlier, in the current configuration, the LPCI MOV load centers have an uninterruptable power supply provided from the station service batteries. However, for the proposed modification, power may be unavailable to the LPCI MOV load centers for 12 seconds because of the DG start time. The licensee states that its new LOCA analysis conservatively assumes 21 seconds for DG start. Therefore, the 12-second delay in power supply to the LPCI MOV load centers is bounded by the assumptions of its revised LOCA analysis because the first signal to initiate motion of a valve connected to an LPCI MOV load center does not occur until approximately 20 seconds after a postulated accident. This is because it takes approximately 20 seconds to depressurize to the pressure permissive setpoints for the LPCI

injection valves and the recirculation discharge valves. Therefore, power is available to the LPCI MOV load centers when needed, and the 12-second delay associated with a DG startup does not affect the function of the valves associated with the LPCI MOV load centers during a postulated accident. The licensee claims that the change from the inverters to the Unit 2 ac power for the LPCI valves, with the ability to power the valves from an alternate ac source backed by the swing DG 1B, maintains the original design and ECCS system performance requirements.

All new devices added, as a result of this modification, to the motor control center and main control room control panel and locally mounted transfer switch and manual disconnect switches will be safety-related. Seismic and environmental qualification of the new devices will be in accordance with the Hatch Final Safety Analysis Report requirements.

This modification utilizes some of the existing spare circuits and adds new circuits in existing and new raceways. The physical separation between the redundant divisions will be maintained in accordance with Hatch separation criteria. Fuses and/or flexible metal conduits and SILTEMP tape are provided as separation devices where clearance between the redundant division circuits are less than adequate.

The staff was concerned about the use of SILTEMP as a separation device and fuses to provide isolation between non-Class 1E and Class 1E devices. The licensee stated that the Class 1E fuses are used in annunciation circuits. The annunciation circuits are non-Class 1E and provide an alarm in the main control room when Class 1E power feeder fuse(s) opens. The power fuses are installed in the feeder circuits. Each power fuse has a status monitoring device, a Bussmann KAZ, which operates an output contact, a micro switch, when the power fuse opens. The KAZ device is a current operated actuator, which is wired in parallel with the main fuse. When the main fuse is blown, current higher than 10 amps will flow through the KAZ device actuator, which will release a pin to operate a micro switch mounted separately on the fuse block. There is no physical connection between the fuse and the micro switch. The micro switch is connected to the non-Class 1E alarm circuit through 1 amp Class 1E control fuses, which are wired in series with the micro switch contact. This wiring configuration provides the required isolation and limits the impact of the energy flow on the Class 1E components during a fault in the non-Class 1E alarm circuits. The control fuse will blow to isolate the non-Class 1E circuit and will prevent the Class 1E circuit from degradation. Based on the above, the staff finds the use of the fuse as an isolation device in this configuration to be acceptable.

In the proposed modification, SILTEMP tape is used in the LPCI valve manual transfer switches where flexible conduits will be used for routing power and control cables. In addition, a metal barrier is provided to maintain separation between Division I and Division II control wiring terminal blocks. The SILTEMP tape will be used if necessary, as a conservative measure to cover the exposed portion of the conductor between the flexible metallic conduit and termination point for the conductor. The staff finds the use of SILTEMP tape in this manner to be acceptable.

The staff was also concerned that the proposed modification of adding Unit 1 LPCI MOV load centers on Unit 2 DGs may impact DG loading and the degraded voltage relay setpoints. The

licensee stated that a load of 27.7 kW for each Division I and Division II Unit 2 DG is added for Unit 1 LPCI MOVs during a LOCA on Unit 1 and an LOOP on Unit 2. Although, the MOV load is a transient load, which is expected during the initial couple of minutes of the event, it is added as a steady state load in the DG loading calculation for conservative purposes. When the Unit 1 LPCI MOVs operate automatically during the first 2 minutes, the total loads on the respective Division DGs are as follows: DG 2A- 2629.52 kW, DG 2C- 2600.58 kW, DG 1 B (swing)-2535.89. The loads tabulated above are within the rating of each of the DGs.

Similarly, for Unit 2 LPCI modification, loads of 27.84 kW and 28.31 kW for Division I and Division II, respectively, are added on Unit 1 DGs for Unit 2 LPCI MOVs during a LOCA on Unit 2 and LOOP on Unit 1. When Unit 2 LPCI MOVs operate automatically during the first two minutes, the total load on DG 1A is 3036.52 kW, DG 1C is 3073.23 kW, and DG 1B is 1996.89 kW. The loads tabulated above are within the rating of each of the DGs.

The licensee stated that the preceding calculations for Unit 1 and Unit 2 are conservative because, under the preceding postulated scenario for each unit, the core spray pumps are not loaded.

The degraded grid voltage analysis was reviewed and updated to reflect the load changes due to the proposed LPCI inverter modification. The LPCI MOV terminal voltages are calculated based on the assumed worst case scenario of sparing unit auxiliary transformer 1A and loading the 4.16 kV busses 1C, 1D, 1E, 1F, and 1G on SAT 1D, with the grid at the scheduled minimal voltage of 101.3 percent of 230 kV. Voltages at the motor terminals of all MOVs were found acceptable with the exception of two MOVs, 2B31-F031A and B. Voltages at MOVs 2B31-F031A and B were slightly less than desired under the postulated worst case scenario. In order to improve voltage at the MOV terminals, the outboard portion of the existing feeder cables (3/C #9 AWG) for MOVs 2B31-F031A and B will be replaced with 3/C #6 AWG cables as part of this modification. The replacement will provide adequate voltage at the LPCI MOV terminal when starting with normal or alternate power feeds. Therefore, the effect of adding LPCI MOVs on the 4.16 kV Class 1E busses is minimal and no changes to the degraded grid relay setpoint will be necessary.

Based on the staff's review of the information provided by the licensee, the staff concludes that the proposed change for LPCI MOVs power supply from the inverters to the opposite unit's DGs as the source of power plus the ability to power the valves from an alternate ac source backed by the swing DG will provide more reliable power than the current source of power by the inverters, which have proven to be unreliable over the past years and have developed maintenance problems (based on the licensee's experience with the inverters). Further, this change in power supply for the LPCI MOVs does not alter the function or mode of operation of the LPCI valves. Although the power to the valves will be delayed for 12 seconds because of the DG start time, the delay does not affect the function of the valves during a postulated accident because it takes approximately 20 seconds to depressurize the vessel to the pressure permissive setpoints for the LPCI MOVs. Therefore, the power is available to the LPCI MOVs when needed. Additionally, the licensee has added appropriate TS changes for the proposed change to ensure that if an LPCI subsystem is required to perform its safety function during

normal power or shutdown operation, the appropriate power supplies to operate the valves are available. Therefore, the staff finds the proposed modification and the corresponding TS changes to be acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Georgia State official was notified of the proposed issuance of the amendments. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20 and change surveillance requirements. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (62 FR 38139 dated July 16, 1997). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

5.0 CONCLUSION

The Commission 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.

Principal Contributor: O. Chopra

Date: June 2, 1998