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Enclosure 9 contains security-related information – Withhold under 10 CFR 2.390. When separated from Enclosures 9, the remainder of this document is decontrolled.

March 28, 2011



Docket Nos.: 50-321 50-348 50-424
50-366 50-364 50-425

NL-11-0481

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

Edwin I. Hatch Nuclear Plant, Units 1 and 2
Joseph M. Farley Nuclear Plant, Units 1 and 2
Vogtle Electric Generating Station, Units 1 and 2
Southern Nuclear Cyber Security Plan
Response to Requests for Additional Information
(TAC Nos. ME4356, ME4357, ME4358, ME4359, ME4360, and ME4361)

Ladies and Gentlemen:

Southern Nuclear Operating Company (SNC) submitted the SNC Cyber Security Plan (CSP) and proposed schedule for implementation by letter NL-09-1668, dated November 20, 2009, in accordance with the requirements of 10 CFR 73.54. By letter dated July 16, 2010, SNC withdrew its previous cyber security plan and resubmitted its cyber security plan based on the template provided by NEI 08-09, Revision 6. By letters dated February 25, 2011, and March 3, 2011, the NRC requested that SNC provide additional information regarding its submittal within 30 days of each letter date.

Based on a conference call held with the NRC on March 15, 2011, SNC requested and was granted an additional three weeks to respond to Request for Information (RAI)-2 of NRC letter dated February 25, 2011, associated with the SNC CSP implementation schedule. Accordingly, SNC's response to each RAI, with the exception of RAI-2 of letter dated February 25, 2011, is provided in Enclosures 1 and 2, respectively. A separate response will be provided for the CSP implementation schedule in response to RAI-2 of the NRC letter dated February 25, 2011.

SNC has reviewed the Basis for Proposed Changes provided in its letter dated July 16, 2010, including the determination that the proposed changes involve no significant hazards consideration, and determined the conclusions contained therein remain valid and are not affected by the proposed changes contained herein. Accordingly, a revised Basis for Proposed Changes is not provided in this response.

Enclosure 1 provides a partial response to NRC letter dated February 25, 2011. Enclosure 2 provides the SNC response to NRC letter dated March 3, 2011. Enclosures 3, 4, and 5 provide the marked up facility operating licenses (FOLs) for the Edwin I. Hatch Nuclear Plant (Hatch), the Joseph M. Farley Nuclear Plant (Farley), and the Vogtle Electric Generating Plant (Vogtle), respectively. Enclosures 6, 7, and 8 provide clean typed FOL pages for Hatch, Farley, and Vogtle, respectively. Enclosure 9 provides the SNC Cyber Security Plan. NRC approval of SNC's proposed FOL amendments provided in Enclosures 3 through 8 should be contingent upon NRC approval of the associated SNC Cyber Security Plan provided in Enclosure 9.

Enclosure 9 provides sensitive security-related information and is requested to be withheld from public disclosure in accordance with the provisions of § 2.390.

In accordance with the requirements of § 50.91, a copy of this request is provided to the designated Alabama and Georgia officials.

Mr. M. J. Ajluni states he is Nuclear Licensing Director of Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company and to the best of his knowledge and belief, the facts set forth in this letter are true.

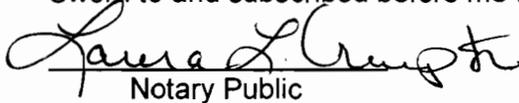
This letter contains no NRC commitments. If you have any questions, please contact Jack Stringfellow at (205) 992-7037.

Respectfully submitted,



M. J. Ajluni
Nuclear Licensing Director

Sworn to and subscribed before me this 28 day of March, 2011.



Notary Public

My commission expires: 11-2-2013

LMS/TWS/lac

- Enclosures:
1. SNC Partial Response to NRC Request for Additional Information Dated February 25, 2011
 2. SNC Response to NRC Request for Additional Information Dated March 3, 2011
 3. Hatch Nuclear Plant Facility Operating Licenses - Marked Pages
 4. Farley Nuclear Plant Facility Operating Licenses - Marked Pages
 5. Vogtle Electric Generating Plant Operating Licenses - Marked Pages
 6. Hatch Nuclear Plant Facility Operating Licenses - Clean Pages
 7. Farley Nuclear Plant Facility Operating Licenses - Clean Pages
 8. Vogtle Electric Generating Plant Operating Licenses - Clean Pages
 9. SNC Cyber Security Plan

cc: Southern Nuclear Operating Company
Mr. J. T. Gasser, Executive Vice President
Mr. L. M. Stinson, Vice President - Farley
Mr. D. R. Madison, Vice President – Hatch
Mr. T. E. Tynan, Vice President – Vogtle
Ms. P. M. Marino, Vice President – Engineering
RType: CFA04.054; CHA02.004; CVC7000

U. S. Nuclear Regulatory Commission
Mr. V. M. McCree, Regional Administrator
Mr. R. E. Martin, NRR Project Manager – Farley
Mr. P. G. Boyle, NRR Project Manager – Hatch and Vogtle
Mr. E. L. Crowe, Senior Resident Inspector – Farley
Mr. E. D. Morris, Senior Resident Inspector – Hatch
Mr. M. Cain, Senior Resident Inspector – Vogtle

Alabama Department of Public Health
Dr. D. E. Williamson, State Health Officer

State of Georgia
Mr. Allen Barnes, Environmental Director Protection Division

**Edwin I. Hatch Nuclear Plant, Units 1 and 2
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Southern Nuclear Cyber Security Plan
Response to Requests for Additional Information**

Enclosure 1

**SNC Partial Response to NRC Request for Additional Information
Dated February 25, 2011**

Enclosure 1

SNC Partial Response to NRC Request for Additional Information Dated February 25, 2011

RAI 1: Records Retention

Title 10 of the Code of Federal Regulations (10 CFR), Part 73, Paragraph 73.54(c)(2) requires licensees to design a cyber security program (CSP) to ensure the capability to detect, respond to, and recover from cyber attacks. Furthermore, 10 CFR 73.54(e)(2)(i) requires licensees to maintain a CSP that describes how the licensee will maintain the capability for timely detection and response to cyber attacks. The ability for a licensee to detect and respond to cyber attacks requires accurate and complete records and is further supported by 10 CFR 73.54(h), which states that the licensee shall retain all records and supporting technical documentation required to satisfy the requirements of 10 CFR 73.54 as a record until the Commission terminates the license for which the records were developed, and shall maintain superseded portions of these records for at least 3 years after the record is superseded, unless otherwise specified by the Commission.

The licensee's CSP in Section 4.13 states that critical digital asset (CDA) audit records and audit data (e.g., operating system logs, network device logs) are retained for a period of time that is less than what is required by 10 CFR 73.54(h).

Explain the deviation from the 10 CFR 73.54(h) requirement to retain records and supporting technical documentation until the Commission terminates the license (or to maintain superseded portions of these records for at least 3 years) and how that meets the requirements of 10 CFR 73.54.

SNC Response

The Nuclear Energy Institute (NEI) provided proposed language to modify Section 4.13 of NEI 08-09, Revision 6, to the NRC by letter dated February 28, 2011, to address NRC questions associated with record retention. As stated in its letter dated March 1, 2011, the NRC performed a technical review of the NEI-proposed changes to Section 4.13 and identified no issues with the proposed language contained therein. Accordingly, SNC revised Section 4.13 of the proposed SNC CSP to reflect the language provided by NEI and found acceptable by the NRC as stated in its letter dated March 1, 2011. These changes are reflected in the proposed SNC CSP provided in Enclosure 9.

Enclosure 1

SNC Partial Response to NRC Request for Additional Information Dated February 25, 2011

RAI 3: Scope of Systems

Paragraph 73.54(a) of 10 CFR requires licensees to provide high assurance that digital computer and communication systems and networks are adequately protected against cyber attacks, up to and including the design basis threat as described in 10 CFR 73.1. In addition, 10 CFR 73.54(a)(1) states that the licensee shall protect digital computer and communication systems and networks associated with:

- (i) Safety-related and important-to-safety functions;
- (ii) Security functions;
- (iii) Emergency preparedness functions, including offsite communications;
and
- (iv) Support systems and equipment which, if compromised, would adversely impact safety, security, or emergency preparedness functions.

Subsequent to the issuance of the cyber security rule, the NRC stated that 10 CFR 73.54 should be interpreted to include structures, systems, and components (SSCs) in the balance of plant (BOP) that have a nexus to radiological health and safety (Agencywide Documents Access and Management System (ADAMS) Accession No. ML 103490344, dated November 19, 2010). The SSCs in the BOP are those that could directly or indirectly affect reactivity of a nuclear power plant and could result in an unplanned reactor shutdown or transient and are therefore within the scope of important-to-safety functions described in 10 CFR 73.54(a)(1). Furthermore, the NRC issued a letter to NEI dated January 5, 2011 (ADAMS Accession No. ML103550480), that provided licensees with additional guidance on one acceptable approach to comply with the Commission's policy determination.

Explain how the scoping of systems provided by the licensee's CSP meets the requirements of 10 CFR 73.54 and the additional guidance provided by the NRC.

SNC Response

As stated in Section 2.1 of the proposed SNC CSP submitted by letter dated July 16, 2010, the following functions are protected against cyber attack up to and including the Design Basis Threat as described in 10 CFR 73.1:

1. Safety-related and important-to safety functions;
2. Security functions;
3. Emergency preparedness functions including offsite communications; and
4. Support systems and equipment which if compromised, would adversely impact safety, security, or emergency preparedness functions. These systems include, in part, all non-safety related balance of plant equipment

Enclosure 1

SNC Partial Response to NRC Request for Additional Information Dated February 25, 2011

which if compromised, could result in a reactor scram or actuation of a safety-related system and therefore, impact reactivity.

Accordingly, the scope of systems protected in accordance with the requirements of 10 CFR 73.54, as described in the SNC CSP submitted by letter dated July 16, 2010, includes BOP systems that could directly or indirectly affect reactivity and/or could result in an unplanned reactor shutdown or transient. Therefore, additional changes to the scope of systems previously identified in the SNC CSP are not required.

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Enclosure 2

**SNC Response to NRC Request for Additional Information
Dated March 3, 2011**

Enclosure 2

SNC Response to NRC Request for Additional Information Dated March 3, 2011

RAI 1: Telecommunications Interfaces

Title 10 of the *Code of Federal Regulations* (10 CFR), Part 73, Section 73.54(a) requires licensees to provide high assurance that digital computer and communication systems and networks are adequately protected against cyber attacks, up to and including the design basis threat as described in 10 CFR 73.1 (1). The licensee shall protect digital computer and communication systems and networks associated with:

- (i) Safety-related and important-to-safety functions;
- (ii) Security functions;
- (iii) Emergency preparedness functions, including offsite communications;
and
- (iv) Support systems and equipment which, if compromised, would adversely impact safety, security, or emergency preparedness functions.

Furthermore, 10 CFR 73.54(c)(2) requires the licensee to apply and maintain defense-in-depth protective strategies to ensure the capability to detect, respond to, and recover from cyber attacks.

In the SNC CSP, Section 4.3.2.2, Telecommunications Interfaces, there are several telecommunications interfaces listed.

Not only does the SNC CSP indicate that there are other telecommunications interfaces being used than just those listed, the CSP states: "These interfaces are not identified as threat vectors in industry standards and are acceptable cyber security domain boundary interfaces. No controls are identified in Appendices B and C for these interfaces. As a result, the CDA [critical digital asset] boundary for cyber security purposes ends at the CDA's telecommunications interface looking outward."

Explain how SNC plans to address the known and industry-documented threat vectors associated with the telecommunications interfaces listed (and others that may be used) to provide high assurance against a cyber attack. Explain why the numerous controls listed in Nuclear Energy Institute (NEI) 08-09, Appendices D and E, are not appropriate for use to ensure that the compromise or misuse of telecommunications interfaces does not adversely impact safety, security, or emergency preparedness functions. Furthermore, explain how these interfaces (and the others that are not listed) can perform the same function as boundary devices such as a data diode or appropriately configured firewall.

Enclosure 2

SNC Response to NRC Request for Additional Information Dated March 3, 2011

SNC Response

SNC reviewed the defensive strategy described in Section 4.3 of the proposed SNC CSP submitted by letter dated July 16, 2010, and determined that it: (1) contained excessive detail beyond that necessary to assure protection of CDAs; and, (2) that the additional detail was a source of potential confusion regarding the intent and application of the SNC CSP. Accordingly, SNC has revised the defensive strategy contained in Section 4.3 of the proposed CSP based on discussions with NRC staff to clarify that the controls of Appendices D and E of NEI 08-09, Revision 6, will be addressed for CDAs within the scope of 10 CFR 73.54. That is, the controls of Appendices D and E of NEI 08-09, Revision 6, will be addressed for telecommunication interfaces associated with digital devices identified as CDAs in accordance with the SNC CSP. This change is reflected in Section 4.3 of the SNC CSP provided in Enclosure 9.

RAI 2: Interfaces to Field Sensors, Actuators, and other Field Devices

Section 73.54(a) requires licensees to provide high assurance that digital computer and communication systems and networks are adequately protected against cyber attacks, up to and including the design basis threat as described in 10 CFR 73.1 (1). The licensee shall protect digital computer and communication systems and networks associated with:

- (i) Safety-related and important-to-safety functions;
- (ii) Security functions;
- (iii) Emergency preparedness functions, including offsite communications;
and
- (iv) Support systems and equipment which, if compromised, would adversely impact safety, security, or emergency preparedness functions.

Furthermore, 10 CFR 73.54(c)(2) requires the licensee to apply and maintain defense-in-depth protective strategies to ensure the capability to detect, respond to, and recover from cyber attacks.

In the SNC CSP, Section 4.3.2.3, Interfaces to Field Sensors, Actuators, and other Field Devices, there are several telecommunications interfaces listed. The SNC CSP states "Interfaces to field devices provide the primary means by which scoped systems receive and transmit information." The CSP also states: "These interfaces enter through the input/output (I/O) subsystem of the CDA. The National Institute of Standards and Technology (NIST) SP800-53, Draft NIST SP-800-82 and International Society of Automation 99.02.2009 standards do not identify sensors/actuators interfaced via the I/O sub-system as a threat vector or candidate for security controls. There are no cyber security controls for this category of interfaces, and as a result, the CDA boundary for cyber security purposes ends at the CDA field side of the I/O interface. The following interfaces

Enclosure 2

SNC Response to NRC Request for Additional Information Dated March 3, 2011

are considered acceptable field I/O interfaces. The interfaces described below [already listed above] and the connected field devices require no cyber security controls.”

Explain how SNC plans to address the known and industry-documented threat vectors associated with Interfaces to Field Sensors, Actuators, and other Field Devices listed (and others that may be used) to provide high assurance against a cyber attack. Explain why the numerous controls listed in NEI 08-09, Appendices D and E, are not appropriate for use to ensure that the compromise or misuse of Interfaces to Field Sensors, Actuators, and other Field Devices interfaces do not adversely impact safety, security, or emergency preparedness functions.

SNC Response

As stated in response to RAI 1 above, SNC reviewed the defensive strategy described in Section 4.3 of the proposed SNC CSP submitted by letter dated July 16, 2010, and determined that it: (1) contained excessive detail beyond that necessary to assure protection of CDAs; and, (2) that the additional detail was a source of potential confusion regarding the intent and application of the SNC CSP. Accordingly, SNC has revised the defensive strategy described in Section 4.3 of the proposed SNC CSP based on discussions with NRC staff to clarify that the controls of Appendices D and E of NEI 08-09, Revision 6, will be addressed for CDAs within the scope of 10 CFR 73.54. That is, the controls of Appendices D and E of NEI 08-09, Revision 6, will be addressed for interfaces with field sensors, actuators, and other field devices identified as CDAs in accordance with the SNC CSP. This change is reflected in Section 4.3 of the SNC CSP provided in Enclosure 9.

**Edwin I. Hatch Nuclear Plant, Units 1 and 2
Joseph M. Farley Nuclear Plant, Units 1 and 2
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Enclosure 3

Hatch Nuclear Plant Facility Operating Licenses - Marked Pages

would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

(4.a) Physical Protection

Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved physical security, 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 plan is entitled: "Southern Nuclear Operating Company Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan," with revisions submitted through May 15, 2006.

(4.b) Mitigation Strategy License Condition

Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan required by 10 CFR 73.54 and submitted July 16, 2010, as supplemented by letter dated March 28, 2011, and modified pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p).

Develop and maintain strategies for addressing large fires and explosions and that include the following key areas:

- (a) Fire fighting response strategy with the following elements:
 - 1. Pre-defined coordinated fire response strategy and guidance
 - 2. Assessment of mutual aid fire fighting assets
 - 3. Designated staging areas for equipment and materials
 - 4. Command and control
 - 5. Training of response personnel

- (b) Operations to mitigate fuel damage considering the following:
 - 1. Protection and use of personnel assets
 - 2. Communications
 - 3. Minimizing fire spread
 - 4. Procedures for implementing integrated fire response strategy
 - 5. Identification of readily-available pre- staged equipment
 - 6. Training on integrated fire response strategy
 - 7. Spent fuel pool mitigation measures

- (c) Actions to minimize release to include consideration of:
 - 1. Water spray scrubbing
 - 2. Dose to onsite responders

- (4.c) The licensee shall implement and maintain all Actions required by Attachment 2 to NRC Order EA-06-137, issued June 20, 2006, except the last action that requires incorporation of the strategies into the site security plan, contingency plan, emergency plan and/or guard training and qualification plan, as appropriate.

in the updated Fire Hazards Analysis and Fire Protection Program for the Edwin I. Hatch Nuclear Plant Units 1 and 2, which was originally submitted by letter from GPC to the Commission dated July 22, 1986. Southern Nuclear may make changes to the fire protection program without prior Commission approval only if the changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

(b.1) Physical Protection

Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved physical security, 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 the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plan is entitled: "Southern Nuclear Operating Company Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan," with revisions submitted through May 15, 2006.

Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan required by 10 CFR 73.54 and submitted July 16, 2010, as supplemented by letter dated March 28, 2011, and modified pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p).

(b.2) Mitigation Strategy License Condition

Develop and maintain strategies for addressing large fires and explosions and that include the following key areas:

- (a) Fire fighting response strategy with the following elements:
 - 1. Pre-defined coordinated fire response strategy and guidance
 - 2. Assessment of mutual aid fire fighting assets
 - 3. Designated staging areas for equipment and materials
 - 4. Command and control
 - 5. Training of response personnel

- (b) Operations to mitigate fuel damage considering the following:
 - 1. Protection and use of personnel assets
 - 2. Communications
 - 3. Minimizing fire spread
 - 4. Procedures for implementing integrated fire response strategy
 - 5. Identification of readily-available pre-staged equipment
 - 6. Training on integrated fire response strategy
 - 7. Spent fuel pool mitigation measures

**Edwin I. Hatch Nuclear Plant, Units 1 and 2
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Enclosure 4

Farley Nuclear Plant Facility Operating Licenses - Marked Pages

Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan required by 10 CFR 73.54 and submitted July 16, 2010, as supplemented by letter dated March 28, 2011, and modified pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p).

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the test procedures and reporting requirements of American Society for Testing and Materials (ASTM) E 185-82 to the extent practicable for the configuration of the specimens in the capsule. Any changes to the capsule withdrawal schedule, including spare capsules, must be approved by the NRC prior to implementation. All capsules placed in storage must be maintained for future insertion.

- D. Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved physical security, 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 plan, which contain Safeguards Information protected under 10 CFR 73.21, is entitled: "Southern Nuclear Operating Company Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan," and was submitted on May 15, 2006.
- E. This renewed license is subject to the following additional conditions for the protection of the environment:
- (1) Southern Nuclear shall operate the facility within applicable Federal and State air and water quality standards and the Environmental Protection Plan (Appendix B).
 - (2) Before engaging in an operational activity not evaluated by the Commission, Southern Nuclear will prepare and record an environmental evaluation of such activity. When the evaluation indicates that such activity may result in a significant adverse environmental impact that was not evaluated, or that is significantly greater than evaluated in the Final Environmental Statement, Southern Nuclear shall provide a written evaluation of such activities and obtain prior approval of the Director, Office of Nuclear Reactor Regulation, for the activities.
- F. Alabama Power Company shall meet the following antitrust conditions:
- (1) Alabama Power Company shall recognize and accord to Alabama Electric Cooperative (AEC) the status of a competing electric utility in central and southern Alabama.
 - (2) Alabama Power Company shall offer to sell to AEC an undivided ownership interest in Units 1 and 2 of the Farley Nuclear Plant. The percentage of ownership interest to be so offered shall be an amount based on the relative sizes of the respective peak loads of AEC and the Alabama Power Company (excluding from the Alabama Power Company's peak load that amount imposed by members of AEC upon the electric system of Alabama Power Company) occurring in 1976. The

(22) Additional Conditions

The Additional conditions contained in Appendix C, as revised through Amendment No. 137, are hereby incorporated in the renewed license. The licensee shall operate the facility in accordance with the additional conditions.

(23) Updated Final Safety Analysis Report

The Updated Final Safety Analysis Report supplement shall be included in the next scheduled update to the Updated Final Safety Analysis Report required by 10 CFR 50.71(e)(4) following issuance of this renewed license. Until that update is complete, Southern Nuclear may make changes to the programs and activities described in the supplement without prior Commission approval, provided that Southern Nuclear evaluates each such change pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements of that section.

The Southern Nuclear Updated Final Safety Analysis Report supplement, submitted pursuant to 10 CFR 54.21(d), describes certain future activities to be completed prior to the period of extended operation. Southern Nuclear shall complete these activities no later than June 25, 2017, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.

(24) Reactor Vessel Material Surveillance Capsules

All capsules in the reactor vessel that are removed and tested must meet the test procedures and reporting requirements of American Society for Testing and Materials (ASTM) E 185-82 to the extent practicable for the configuration of the specimens in the capsule. Any changes to the capsule withdrawal schedule, including spare capsules, must be approved by the NRC prior to implementation. All capsules placed in storage must be maintained for future insertion.

- D. Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved physical security, 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 plan, which contain Safeguards Information protected under 10 CFR 73.21, is entitled: "Southern Nuclear Operating Company Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan," and was submitted on May 15, 2006.

- E. Deleted per Amendment 144

Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan required by 10 CFR 73.54 and submitted July 16, 2010, as supplemented by letter dated March 28, 2011, and modified pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p).

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Enclosure 5

Vogtle Electric Generating Plant Facility Operating Licenses - Marked Pages

7. Spent fuel pool mitigation measures

- (c) Actions to minimize release to include consideration of:
1. Water spray scrubbing
 2. Dose to onsite responders

(11) Additional Conditions

The Additional Conditions contained in Appendix D, as revised through Amendment No. 154, are hereby incorporated into this license. Southern Nuclear shall operate the facility in accordance with the Additional Conditions.

- D. The facility requires exemptions from certain requirements of 10 CFR Part 50 and 10 CFR Part 70. These include (a) an exemption from the requirements of 10 CFR 70.24 for two criticality monitors around the fuel storage area, and (b) an exemption from the requirements of Paragraph III.D.2(b)(ii) of Appendix J of 10 CFR 50, the testing of containment air locks at times when containment integrity is not required. The special circumstances regarding exemption b are identified in Section 6.2.6 of SSER 5.

An exemption was previously granted pursuant to 10 CFR 70.24. The exemption was granted with NRC materials license No. SNM-1967, issued August 21, 1986, and relieved GPC from the requirement of having a criticality alarm system. GPC and Southern Nuclear are hereby exempted from the criticality alarm system provision of 10 CFR 70.24 so far as this section applies to the storage of fuel assemblies held under this license.

These exemptions are authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security. The exemptions in items b and c above are granted pursuant to 10 CFR 50.12. With these exemptions, the facility will operate, to the extent authorized herein, in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission.

- E. Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved physical security, 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 plan, which contains Safeguards Information protected under 10 CFR 73.21, is entitled: "Southern Nuclear Operating Company Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan," with revisions submitted through May 15, 2006.
- F. GPC shall comply with the antitrust conditions delineated in Appendix C to this license.

Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan required by 10 CFR 73.54 and submitted July 16, 2010, as supplemented by letter dated March 28, 2011, and modified pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p).

An exemption was previously granted pursuant to 10 CFR 70.24. The exemption was granted with NRC materials license No. SNM-1981, issued July 13, 1988, and relieved GPC from the requirement of having a criticality alarm system. GPC and Southern Nuclear are hereby exempted from the criticality alarm system provision of 10 CFR 70.24 so far as this section applies to the storage of fuel assemblies held under this license.

These exemptions are authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security. The exemption in item b above is granted pursuant to 10 CFR 50.12. With these exemptions, the facility will operate, to the extent authorized herein, in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission.

- E. Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved physical security, 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 plan, which contains Safeguards Information protected under 10 CFR 73.21, is entitled: "Southern Nuclear Operating Company Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan," with revisions submitted through May 15, 2006.

- F. GPC shall comply with the antitrust conditions delineated in Appendix C to this license.

- G. Southern Nuclear shall implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report for the facility, as approved in the SER (NUREG-1137) through Supplement 9 subject to the following provision:

Southern Nuclear 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.

- H. Deleted.

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|---|
| Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan required by 10 CFR 73.54 and submitted July 16, 2010, as supplemented by letter dated March 28, 2011, and modified pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). |
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- I. The Owners shall have and maintain financial protection of such type and in such amounts as the Commission shall require in accordance with Section 170 of the Atomic Energy Act of 1954, as amended, to cover public liability claims.

- J. The Updated Safety Analysis Report supplement, as revised, submitted pursuant to 10 CFR 54.21(d), shall be included in the next scheduled update to the Updated Safety Analysis Report required by 10 CFR 50.71(e)(4) following the issuance of this renewed operating license. Until that update is complete, Southern Nuclear may make changes to the programs and activities described in the supplement without prior Commission approval, provided that Southern Nuclear evaluates such changes pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.

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would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

(4.a) Physical Protection

Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved physical security, 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 plan is entitled: "Southern Nuclear Operating Company Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan," with revisions submitted through May 15, 2006.

Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan required by 10 CFR 73.54 and submitted July 16, 2010, as supplemented by letter dated March 28, 2011, and modified pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p).

(4.b) Mitigation Strategy License Condition

Develop and maintain strategies for addressing large fires and explosions and that include the following key areas:

- (a) Fire fighting response strategy with the following elements:
 - 1. Pre-defined coordinated fire response strategy and guidance
 - 2. Assessment of mutual aid fire fighting assets
 - 3. Designated staging areas for equipment and materials
 - 4. Command and control
 - 5. Training of response personnel

- (b) Operations to mitigate fuel damage considering the following:
 - 1. Protection and use of personnel assets
 - 2. Communications
 - 3. Minimizing fire spread
 - 4. Procedures for implementing integrated fire response strategy
 - 5. Identification of readily-available pre- staged equipment
 - 6. Training on integrated fire response strategy
 - 7. Spent fuel pool mitigation measures

- (c) Actions to minimize release to include consideration of:
 - 1. Water spray scrubbing
 - 2. Dose to onsite responders

in the updated Fire Hazards Analysis and Fire Protection Program for the Edwin I. Hatch Nuclear Plant Units 1 and 2, which was originally submitted by letter from GPC to the Commission dated July 22, 1986. Southern Nuclear may make changes to the fire protection program without prior Commission approval only if the changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

(b.1) Physical Protection

Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved physical security, 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 the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plan is entitled: "Southern Nuclear Operating Company Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan," with revisions submitted through May 15, 2006.

Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan required by 10 CFR 73.54 and submitted July 16, 2010, as supplemented by letter dated March 28, 2011, and modified pursuant to the authority of 10 CFR 50.90 and 10.CFR 50.54(p).

(b.2) Mitigation Strategy License Condition

Develop and maintain strategies for addressing large fires and explosions and that include the following key areas:

- (a) Fire fighting response strategy with the following elements:
 - 1. Pre-defined coordinated fire response strategy and guidance
 - 2. Assessment of mutual aid fire fighting assets
 - 3. Designated staging areas for equipment and materials
 - 4. Command and control
 - 5. Training of response personnel

- (b) Operations to mitigate fuel damage considering the following:
 - 1. Protection and use of personnel assets
 - 2. Communications
 - 3. Minimizing fire spread
 - 4. Procedures for implementing integrated fire response strategy
 - 5. Identification of readily-available pre-staged equipment
 - 6. Training on integrated fire response strategy
 - 7. Spent fuel pool mitigation measures

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the test procedures and reporting requirements of American Society for Testing and Materials (ASTM) E 185-82 to the extent practicable for the configuration of the specimens in the capsule. Any changes to the capsule withdrawal schedule, including spare capsules, must be approved by the NRC prior to implementation. All capsules placed in storage must be maintained for future insertion.

- D. Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved physical security, 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 plan, which contain Safeguards Information protected under 10 CFR 73.21, is entitled: "Southern Nuclear Operating Company Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan," and was submitted on May 15, 2006.

Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan required by 10 CFR 73.54 and submitted July 16, 2010, as supplemented by letter dated March 28, 2011 and modified pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p).

- E. This renewed license is subject to the following additional conditions for the protection of the environment:
- (1) Southern Nuclear shall operate the facility within applicable Federal and State air and water quality standards and the Environmental Protection Plan (Appendix B).
 - (2) Before engaging in an operational activity not evaluated by the Commission, Southern Nuclear will prepare and record an environmental evaluation of such activity. When the evaluation indicates that such activity may result in a significant adverse environmental impact that was not evaluated, or that is significantly greater than evaluated in the Final Environmental Statement, Southern Nuclear shall provide a written evaluation of such activities and obtain prior approval of the Director, Office of Nuclear Reactor Regulation, for the activities.
- F. Alabama Power Company shall meet the following antitrust conditions:
- (1) Alabama Power Company shall recognize and accord to Alabama Electric Cooperative (AEC) the status of a competing electric utility in central and southern Alabama.
 - (2) Alabama Power Company shall offer to sell to AEC an undivided ownership interest in Units 1 and 2 of the Farley Nuclear Plant. The percentage of ownership interest to be so offered shall be an amount based on the relative sizes of the respective peak loads of AEC and the Alabama Power Company (excluding from the Alabama Power

Company's peak load that amount imposed by members of AEC upon the electric system of Alabama Power Company) occurring in 1976. The price to be paid by AEC for its proportionate share of Units 1 and 2, determined in accordance with the foregoing formula, will be established by the parties through good faith negotiations. The price shall be sufficient to fairly reimburse Alabama Power Company for the proportionate share of its total costs related to the Units 1 and 2 including, but not limited to, all costs of construction, installation, ownership and licensing, as of a date, to be agreed to by the two parties, which fairly accommodates both their respective interests. The offer by Alabama Power Company to sell an undivided ownership interest in Units 1 and 2 may be conditioned, at Alabama Power Company's option, on the agreement by AEC to waive any right of partition of the Farley Plant and to avoid interference in the day-to-day operation of the plant.

- (3) Alabama Power Company will provide, under contractual arrangements between Alabama Power Company and AEC, transmission services via its electric system (a) from AEC's electric system to AEC's off-system members; and (b) to AEC's electric system from electric systems other than Alabama Power Company's and from AEC's electric system to electric systems other than Alabama Power Company's. The contractual arrangements covering such transmission services shall embrace rates and charges reflecting conventional accounting and ratemaking concepts followed by the Federal Energy Regulatory Commission (or its successor in function) in testing the reasonableness of rates and charges for transmission services. Such contractual arrangements shall contain provisions protecting Alabama Power Company against economic detriment resulting from transmission line or transmission losses associated therewith.
- (4) Alabama Power Company shall furnish such other bulk power supply services as are reasonably available from its system.
- (5) Alabama Power Company shall enter into appropriate contractual arrangements amending the 1972 Interconnection Agreement as last amended to provide for a reserve sharing arrangement between Alabama Power Company and AEC under which Alabama Power Company will provide reserve generating capacity in accordance with practices applicable to its responsibility to the operating companies of the Southern Company System. AEC shall maintain a minimum level expressed as a percentage of coincident peak one-hour kilowatt load equal to the percent reserve level similarly expressed for Alabama Power Company as determined by the Southern Company System under its minimum reserve criterion then in effect. Alabama Power Company shall provide to AEC such data as needed from time to time to demonstrate the basis for the need for such minimum reserve level.
- (6) Alabama Power Company shall refrain from taking any steps, including

(22) Additional Conditions

The Additional conditions contained in Appendix C, as revised through Amendment No. 137, are hereby incorporated in the renewed license. The licensee shall operate the facility in accordance with the additional conditions.

(23) Updated Final Safety Analysis Report

The Updated Final Safety Analysis Report supplement shall be included in the next scheduled update to the Updated Final Safety Analysis Report required by 10 CFR 50.71(e)(4) following issuance of this renewed license. Until that update is complete, Southern Nuclear may make changes to the programs and activities described in the supplement without prior Commission approval, provided that Southern Nuclear evaluates each such change pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements of that section.

The Southern Nuclear Updated Final Safety Analysis Report supplement, submitted pursuant to 10 CFR 54.21(d), describes certain future activities to be completed prior to the period of extended operation. Southern Nuclear shall complete these activities no later than June 25, 2017, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.

(24) Reactor Vessel Material Surveillance Capsules

All capsules in the reactor vessel that are removed and tested must meet the test procedures and reporting requirements of American Society for Testing and Materials (ASTM) E 185-82 to the extent practicable for the configuration of the specimens in the capsule. Any changes to the capsule withdrawal schedule, including spare capsules, must be approved by the NRC prior to implementation. All capsules placed in storage must be maintained for future insertion.

- D. Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved physical security, 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 plan, which contain Safeguards Information protected under 10 CFR 73.21, is entitled: "Southern Nuclear Operating Company Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan," and was submitted on May 15, 2006.

Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan required by 10 CFR 73.54 and submitted July 16, 2010, as modified pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p).

- E. Deleted per Amendment 144
- F. Alabama Power Company shall meet the following antitrust conditions:
 - (1) Alabama Power Company shall recognize and accord to Alabama Electric Cooperative (AEC) the status of a competing electric utility in central and southern Alabama.
 - (2) Alabama Power Company shall offer to sell to AEC an undivided ownership interest in Units 1 and 2 of the Farley Nuclear Plant. The percentage of ownership interest to be so offered shall be an amount based on the relative sizes of the respective peak loads of AEC and Alabama Power Company (excluding from the Alabama Power Company's peak load that amount imposed by members of AEC upon the electric system of Alabama Power Company) occurring in 1976. The price to be paid by AEC for its proportionate share of Units 1 and 2, determined in accordance with the foregoing formula, will be established by the parties through good faith negotiations. The price shall be sufficient to fairly reimburse Alabama Power Company for the proportionate share of its total costs related to the Units 1 and 2 including, but not limited to, all costs of construction, installation, ownership and licensing, as of a date, to be agreed to by the two parties, which fairly accommodates both their respective interests. The offer by Alabama Power Company to sell an undivided ownership interest in Units 1 and 2 may be conditioned, at Alabama Power Company's option, on the agreement by AEC to waive any right of partition of the Farley Plant and to avoid interference in the day-to-day operation of the plant.
 - (3) Alabama Power Company will provide, under contractual arrangements between Alabama Power Company and AEC, transmission services via its electric system (a) from AEC's electric system to AEC's off-system members; and (b) to AEC's electric system from electric systems other than Alabama Power Company's, and from AEC's electric system to electric systems other than Alabama Power Company's. The contractual arrangements covering such transmission services shall embrace rates and charges reflecting conventional accounting and ratemaking concepts followed by the Federal Energy Regulatory Commission (or its successor in function) in testing the reasonableness of rates and charges for transmission services. Such contractual arrangements shall contain provisions protecting Alabama Power Company against economic detriment resulting from transmission line or transmission losses associated therewith.
 - (4) Alabama Power Company shall furnish such other bulk power supply services as are reasonably available from its system.
 - (5) Alabama Power Company shall enter into appropriate contractual arrangements amending the 1972 Interconnection Agreement as last

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7. Spent fuel pool mitigation measures

- (c) Actions to minimize release to include consideration of:
1. Water spray scrubbing
 2. Dose to onsite responders

(11) Additional Conditions

The Additional Conditions contained in Appendix D, as revised through Amendment No. 154, are hereby incorporated into this license. Southern Nuclear shall operate the facility in accordance with the Additional Conditions.

- D. The facility requires exemptions from certain requirements of 10 CFR Part 50 and 10 CFR Part 70. These include (a) an exemption from the requirements of 10 CFR 70.24 for two criticality monitors around the fuel storage area, and (b) an exemption from the requirements of Paragraph III.D.2(b)(ii) of Appendix J of 10 CFR 50, the testing of containment air locks at times when containment integrity is not required. The special circumstances regarding exemption b are identified in Section 6.2.6 of SSER 5.

An exemption was previously granted pursuant to 10 CFR 70.24. The exemption was granted with NRC materials license No. SNM-1967, issued August 21, 1986, and relieved GPC from the requirement of having a criticality alarm system. GPC and Southern Nuclear are hereby exempted from the criticality alarm system provision of 10 CFR 70.24 so far as this section applies to the storage of fuel assemblies held under this license.

These exemptions are authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security. The exemptions in items b and c above are granted pursuant to 10 CFR 50.12. With these exemptions, the facility will operate, to the extent authorized herein, in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission.

- E. Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved physical security, 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 plan, which contains Safeguards Information protected under 10 CFR 73.21, is entitled: "Southern Nuclear Operating Company Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan," with revisions submitted through May 15, 2006.

Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan required by 10 CFR 73.54 and submitted July 16, 2010, as supplemented by letter dated March 28, 2011 and modified pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p).

- F. GPC shall comply with the antitrust conditions delineated in Appendix C to this license.

An exemption was previously granted pursuant to 10 CFR 70.24. The exemption was granted with NRC materials license No. SNM-1981, issued July 13, 1988, and relieved GPC from the requirement of having a criticality alarm system. GPC and Southern Nuclear are hereby exempted from the criticality alarm system provision of 10 CFR 70.24 so far as this section applies to the storage of fuel assemblies held under this license.

These exemptions are authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security. The exemption in item b above is granted pursuant to 10 CFR 50.12. With these exemptions, the facility will operate, to the extent authorized herein, in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission.

- E. Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved physical security, 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 plan, which contains Safeguards Information protected under 10 CFR 73.21, is entitled: "Southern Nuclear Operating Company Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan," with revisions submitted through May 15, 2006.

Southern Nuclear shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan required by 10 CFR 73.54 and submitted July 16, 2010, as supplemented by letter dated March 28, 2011 and modified pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p).

- F. GPC shall comply with the antitrust conditions delineated in Appendix C to this license.
- G. Southern Nuclear shall implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report for the facility, as approved in the SER (NUREG-1137) through Supplement 9 subject to the following provision:

Southern Nuclear 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.

- H. Deleted.
- I. The Owners shall have and maintain financial protection of such type and in such amounts as the Commission shall require in accordance with Section 170 of the Atomic Energy Act of 1954, as amended, to cover public liability claims.