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SOUTHERN NUCLEAR
A SOUTHERN COMPANY

July 28, 2016

Docket Nos.: 50-424
50-425

NL-16-1242

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

Vogtle Electric Generating Plant, Units 1 & 2
Submittal of the Inservice Testing Program Relief Request and Alternatives for
Pumps and Valves – Fourth Ten-Year Interval

Ladies and Gentlemen:

Pursuant to 10 CFR 50.55a(z) and 10 CFR 50.55a(f), Southern Nuclear Operating Company (SNC) hereby requests Nuclear Regulatory Commission (NRC) approval of the following relief requests and alternatives for Vogtle Electric Generating Plant (VEGP) Units 1 and 2. These relief requests and alternatives are applicable to the Fourth Ten-Year Interval Inservice Testing Program which will start on June 1, 2017:

RR-PR-01	Perform Group A pump test in lieu of a comprehensive pump test per Code Case OMN-18
RR-PR-02	Establish test flow reference ranges per Code Case OMN-21
RR-PR-03	Nuclear Service Cooling Water Pumps and Transfer Pumps Pressure Accuracy
RR-VR-01	Establish IST interval grace periods per Code Case OMN-20

SNC requests that the NRC approve the proposed relief requests and alternatives for VEGP Units 1 and 2 by June 1, 2017.

This letter contains no NRC commitments. If you have any questions, please contact Ken McElroy at (205) 992-7369.

Respectfully submitted,

J. T. Wheat
Nuclear Licensing Manager

JTW/kgl/lc

Enclosure: Proposed Relief Requests and Alternatives – Fourth Ten-Year Interval Inservice Testing Program

cc: Southern Nuclear Operating Company
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Mr. D. G. Bost, Executive Vice President & Chief Nuclear Officer
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U. S. Nuclear Regulatory Commission
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Vogtle Electric Generating Plant, Units 1 & 2
Submittal of the Inservice Testing Program Relief Request and Alternatives for Pumps and Valves – Fourth Ten-Year Interval

Enclosure

Proposed Relief Request and Alternatives – Fourth Ten-Year Interval Inservice Testing Program

SOUTHERN NUCLEAR OPERATING COMPANY
IST PROGRAM - RELIEF REQUEST
PROPOSED ALTERNATIVE IN ACCORDANCE WITH 10 CFR 50.55a(z)(1)
RR-PR-01, Version 0.0

PLANT/UNIT:	Vogtle Electric Generating Plant (VEGP), Units 1 and 2
INTERVAL:	4th Interval beginning June 1, 2017, and ending May 31, 2027
COMPONENTS AFFECTED:	Refer to Table RR-PR-01
CODE EDITION AND ADDENDA:	ASME OM Code-2004 Edition with Addenda through OMb-2006

REQUIREMENTS:

ISTB-3400, "Frequency of Inservice Tests," states that an inservice test shall be run on each pump as specified in Table ISTB-3400-1.

Table ISTB-3400-1, "Inservice Test Frequency," requires Group A and Group B tests to be performed quarterly and a comprehensive test to be performed biennially.

Table ISTB-3510-1, "Required Instrument Accuracy," specifies the instrument accuracies for Group A, Group B, comprehensive, and preservice tests.

Table ISTB-5121-1, "Centrifugal Pump Test Acceptance Criteria," defines the required acceptance criteria for Group A, Group B, and Comprehensive Tests for centrifugal pumps.

Table ISTB-5221-1, "Vertical Line Shaft Centrifugal Pumps Test Acceptance Criteria," defines the required acceptance criteria for Group A, Group B, and Comprehensive Tests for Vertical Line Shaft centrifugal pumps.

REASON FOR REQUEST:

The ASME OM Code Committees have approved Code Case OMN-18, Alternate Testing Requirements for Pumps Tested Quarterly within ± 20% [Percent] of Design Flow. The NRC has not approved this Code Case for use in Regulatory Guide (RG) 1.192, Revision 1, Operation and Maintenance Code Case Acceptability, ASME OM Code.

Code Case OMN-18 allows the Owner to not perform the Comprehensive Pump Test (CPT) with the associated acceptance criteria, if the quarterly test is performed at ± 20% of design flow and the instrumentation meets the accuracy requirements of Table ISTB-3510-1 for the comprehensive and preservice tests.

Further, ISTB allows the Owner to categorize the pumps in their program. As such, an Owner could categorize a pump that otherwise meets the requirements of Group B, as a Group A pump, and test according to the provisions of Code Case OMN-18. In doing so additional data (vibration and flow or differential pressure) are obtained quarterly, rather than once every two years.

SOUTHERN NUCLEAR OPERATING COMPANY
IST PROGRAM - RELIEF REQUEST
PROPOSED ALTERNATIVE IN ACCORDANCE WITH 10 CFR 50.55a(z)(1)
RR-PR-01, Version 0.0

PROPOSED ALTERNATIVE AND BASIS:

VEGP proposes to utilize the provisions of Code Case OMN-18 and perform a quarterly Group A test at ± 20% of design flow rate in lieu of performing a biennial CPT. As an alternative to utilizing the acceptance criteria associated with the Group A test, VEGP will specify the acceptance criteria associated with the upper limit as 1.06% in lieu of the 1.10% allowed by Tables ISTB-5121-1 and ISTB-5221-1. This alternative testing is applicable to only those pumps that have full flow testing capability as listed in attached Table RR-PR-01. The pressure instrumentation utilized during the tests shall have an accuracy of at least 0.5%, which is the requirement for the comprehensive pump test per Table ISTB-3510-1. Additionally, pump vibration data collection for Group A tests will be performed with no change to the Code vibration requirements.

The Engineered Safety Feature (ESF) Chilled Water pumps are normally not in service and are currently identified as Group B pumps in the IST Program. VEGP will re-categorize these pumps to Group A pumps and perform the Group A testing requirement proposed in this request.

The proposed alternative is acceptable because all of the tests will be performed with pressure gauges having ±1/2 percent accuracy or better. The elimination of the CPT, with its more limiting "Required Action Range - High" limit of 1.03 times the reference value, is compensated for by using more accurate pressure gauges during every quarterly Group A inservice test. Regular testing with more accurate instrumentation and tighter Group A Test acceptance criteria will provide for better trending of pump performance (i.e., will provide adequate indication of pump performance and permit consistent detection of component degradation). Therefore, the proposed alternative continues to provide an acceptable level of quality and safety for testing the pumps listed in Table RR-PR-01 and should be approved pursuant to 10 CFR 50.55a(z)(1).

DURATION:

4th IST Interval, June 1, 2017, through May 31, 2027

PRECEDENCE:

1. Three Mile Island Nuclear Station, Unit 1 - Relief Request PR-02, Associated with the Fifth 10-Year Inservice Test Interval – Safety Evaluation dated August 15, 2013 (ML13227A024)
2. Oyster Creek Nuclear Generating Station - Relief Request No. PR-01 for Fifth Inservice Testing Interval – Safety Evaluation dated June 21, 2012 (ML120050329)

REFERENCES:

1. ASME Code Case OMN-18, "Alternate Testing Requirements for Pumps Tested Quarterly Within ±20% of Design Flow"
2. RG 1.192, Revision 1, "Operation and Maintenance Code Case Acceptability, ASME OM Code," dated August 2014

SOUTHERN NUCLEAR OPERATING COMPANY
IST PROGRAM - RELIEF REQUEST
PROPOSED ALTERNATIVE IN ACCORDANCE WITH 10 CFR 50.55a(z)(1)
RR-PR-01, Version 0.0

Table RR-PR-01

Pump Groups (Units 1 & 2)	Description	Pump Type	Code Class	OM Code Category
1-1202-P4-001 1-1202-P4-002 1-1202-P4-003 1-1202-P4-004 1-1202-P4-005 1-1202-P4-006 2-1202-P4-001 2-1202-P4-002 2-1202-P4-003 2-1202-P4-004 2-1202-P4-005 2-1202-P4-006	Nuclear Service Cooling Water (NSCW) Pumps	Vertical Line Shaft Centrifugal	3	Group A
1-1202-P4-007 1-1202-P4-008 2-1202-P4-007 2-1202-P4-008	NSCW Transfer Pumps	Vertical Line Shaft Centrifugal	3	Group A
1-1203-P4-001 1-1203-P4-002 1-1203-P4-003 1-1203-P4-004 1-1203-P4-005 1-1203-P4-006 2-1203-P4-001 2-1203-P4-002 2-1203-P4-003 2-1203-P4-004 2-1203-P4-005 2-1203-P4-006	Component Cooling Water Pumps	Centrifugal	3	Group A
1-1208-P6-006 1-1208-P6-007 2-1208-P6-006 2-1208-P6-007	Boric Acid Transfer Pumps	Centrifugal	3	Group A
1-1592-P7-001 1-1592-P7-002 2-1592-P7-001 2-1592-P7-002	ESF Chilled Water Pumps	Centrifugal	3	Group B*

*The ESF Chilled Water Pumps will be re-categorized as Group A when this proposed alternative is implemented.

SOUTHERN NUCLEAR OPERATING COMPANY
IST PROGRAM - RELIEF REQUEST
PROPOSED ALTERNATIVE IN ACCORDANCE WITH 10 CFR 50.55a(z)(1)
RR-PR-02, Version 0.0

PLANT/UNIT:	Vogtle Electric Generating Plant, Units 1 and 2
INTERVAL:	4th Interval beginning June 1, 2017, and ending May 31, 2027
COMPONENTS AFFECTED:	Refer to Table RR-PR-02
CODE EDITION AND ADDENDA:	ASME OM Code-2004 Edition with Addenda through OMb-2006

REQUIREMENTS:

ISTB-5121, "Group A Test Procedure," paragraph ISTB-5121(b) states, in part, that "The resistance of the system shall be varied until the flow rate equals the reference point. ...Alternatively, the flow rate shall be varied until the differential pressure equals the reference point..."

ISTB-5122, "Group B Test Procedure," paragraph ISTB-5122(c) states, "System resistance may be varied as necessary to achieve the reference point."

ISTB-5123, "Comprehensive Test Procedure," paragraph ISTB-5123(b) states, in part, that "the resistance of the system shall be varied until the flow rate equals the reference point. ...Alternatively, the flow rate shall be varied until the differential pressure equals the reference point..."

ISTB-5221, "Group A Test Procedure," paragraph ISTB-5221(b) states, in part, that "The resistance of the system shall be varied until the flow rate equals the reference point. ...Alternatively, the flow rate shall be varied until the differential pressure equals the reference point..."

ISTB-5222, "Group B Test Procedure," paragraph ISTB-5222(c) states, "System resistance may be varied as necessary to achieve the reference point."

ISTB-5223, "Comprehensive Test Procedure," paragraph ISTB-5123(b) states, in part, that "The resistance of the system shall be varied until the flow rate equals the reference point. ...Alternatively, the flow rate shall be varied until the differential pressure equals the reference point..."

REASON FOR REQUEST:

Pursuant to 10 CFR 50.55a, "Codes and standards," paragraph (z)(1), an alternative is proposed to the pump testing reference value requirements of the ASME OM Code. The basis of the request is that the proposed alternative would provide an acceptable level of quality and safety. Specifically, this alternative is requested for all inservice testing of IST Program pumps as listed in attached Table RR-PR-02.

For pump testing, there is difficulty adjusting system throttle valves with sufficient precision to achieve exact flow reference values during

REASON FOR REQUEST: (continued)

subsequent IST tests. Subsection ISTB of the ASME OM Code does not allow for variance from a fixed reference value for pump testing. However, NUREG-1482, Revision 2, Section 5.3, acknowledges that certain pump system designs do not allow for the licensee to set the flow at an exact value because of limitations in the instruments and controls for maintaining steady flow.

ASME OM Code Case OMN-21 provides guidance for adjusting reference flow or differential pressure (ΔP) to within a specified tolerance during pump inservice testing. The Code Case states "It is the opinion of the Committee that when it is impractical to operate a pump at a specified reference point and adjust the resistance of the system to a specified reference point for either flow rate, differential pressure or discharge pressure, the pump may be operated as close as practical to the specified reference point with the following requirements. The Owner shall adjust the system resistance to as close as practical to the specified reference point where the variance from the reference point does not exceed + 2% or – 1% of the reference point when the reference point is flow rate, or + 1% or – 2% of the reference point when the reference point is differential pressure or discharge pressure. The NRC also discusses this ASME Code change in NUREG-1482, Revision 2, Section 5.3.

PROPOSED ALTERNATIVE AND BASIS:

VEGP seeks to perform future inservice pump testing in a manner consistent with the requirements as stated in ASME OM Code Case OMN-21. Specifically, testing of all pumps identified in Table RR-PR-02 will be performed such that the flow rate is adjusted as close as practical to the reference value and within proceduralized limits of +2% / –1% of the reference flow rate.

VEGP plant operators will continue to strive to achieve the exact test flow reference values during testing. Typical test guidance will be to adjust flow to the specific reference value with additional guidance that if the reference value cannot be achieved with reasonable effort, the test will be considered valid if the steady state flow rate is within the proceduralized limits of +2% / –1% of the reference value.

Using the provisions of this request as an alternative to the specific requirements of ISTB-5121, ISTB-5122, ISTB-5123, ISTB-5221, ISTB-5222 and ISTB-5223 as described above will provide adequate indication of pump performance and continue to provide an acceptable level of quality and safety.

Based on the determination that the use of controlled reference value ranges provides an acceptable level of quality and safety, this proposed alternative should be granted pursuant to 10 CFR 50.55a(z)(1).

DURATION:

4th IST Interval, June 1, 2017, through May 31, 2027

SOUTHERN NUCLEAR OPERATING COMPANY
IST PROGRAM - RELIEF REQUEST
PROPOSED ALTERNATIVE IN ACCORDANCE WITH 10 CFR 50.55a(z)(1)
RR-PR-02, Version 0.0

PRECEDENTS: Callaway Plant, Unit 1 - Request for Relief PR-06, Alternative to ASME OM Code Requirements for IST for the Fourth Program Interval – Safety Evaluation dated July 15, 2014 (ML14178A769)

Wolf Creek Generating Station – Request for Relief No. 4PR-01, for the Fourth 10-Year Inservice Testing Program Interval – Safety Evaluation dated May 15, 2015 (ML15134A002)

REFERENCES:

1. ASME Code Case OMN-21, Alternative Requirements for Adjusting Hydraulic Parameters to Specified Reference Points

2. NUREG-1482, Revision 2, Section 5.3,Allowable Variance from Reference Points and Fixed-Resistance Systems

SOUTHERN NUCLEAR OPERATING COMPANY
IST PROGRAM - RELIEF REQUEST
PROPOSED ALTERNATIVE IN ACCORDANCE WITH 10 CFR 50.55a(z)(1)
RR-PR-02, Version 0.0

Table RR-PR-02

Pump Groups (Units 1 & 2)	Description	Pump Type	Code Class	OM Code Category
1-1202-P4-001 1-1202-P4-002 1-1202-P4-003 1-1202-P4-004 1-1202-P4-005 1-1202-P4-006 2-1202-P4-001 2-1202-P4-002 2-1202-P4-003 2-1202-P4-004 2-1202-P4-005 2-1202-P4-006	Nuclear Service Cooling Water (NSCW) Pumps	Vertical Line Shaft Centrifugal	3	Group A
1-1202-P4-007 1-1202-P4-008 2-1202-P4-007 2-1202-P4-008	NSCW Transfer Pumps	Vertical Line Shaft Centrifugal	3	Group A
1-1203-P4-001 1-1203-P4-002 1-1203-P4-003 1-1203-P4-004 1-1203-P4-005 1-1203-P4-006 2-1203-P4-001 2-1203-P4-002 2-1203-P4-003 2-1203-P4-004 2-1203-P4-005 2-1203-P4-006	Component Cooling Water Pumps	Centrifugal	3	Group A
1-1204-P6-003 1-1204-P6-004 2-1204-P6-003 2-1204-P6-004	Safety Injection Pumps	Centrifugal	2	Group B
1-1205-P6-001 1-1205-P6-002 2-1205-P6-001 2-1205-P6-002	Residual Heat Removal Pumps	Centrifugal	2	Group A

SOUTHERN NUCLEAR OPERATING COMPANY
IST PROGRAM - RELIEF REQUEST
PROPOSED ALTERNATIVE IN ACCORDANCE WITH 10 CFR 50.55a(z)(1)
RR-PR-02, Version 0.0

Pump Groups (Units 1 & 2)	Description	Pump Type	Code Class	OM Code Category
1-1206-P6-001 1-1206-P6-002 2-1206-P6-001 2-1206-P6-002	Containment Spray Pumps	Centrifugal	2	Group B
1-1208-P6-002 1-1208-P6-003 2-1208-P6-002 2-1208-P6-003	Centrifugal Charging Pumps	Centrifugal	2	Group A
1-1208-P6-006 1-1208-P6-007 2-1208-P6-006 2-1208-P6-007	Boric Acid Transfer Pumps	Centrifugal	3	Group A
1-1302-P4-001 2-1302-P4-001	Turbine Driven Auxiliary Feedwater Pumps	Centrifugal	3	Group B
1-1302-P4-002 1-1302-P4-003 2-1302-P4-002 2-1302-P4-003	Motor Driven Auxiliary Feedwater Pumps	Centrifugal	3	Group A
1-1592-P7-001 1-1592-P7-002 2-1592-P7-001 2-1592-P7-002	ESF Chilled Water Pumps	Centrifugal	3	Group B

SOUTHERN NUCLEAR OPERATING COMPANY
IST PROGRAM - RELIEF REQUEST
PROPOSED ALTERNATIVE IN ACCORDANCE WITH 10 CFR 50.55a(z)(1)
RR-PR-03, Version 0.0

PLANT/UNIT:	Vogtle Electric Generating Plant, Units 1 and 2
INTERVAL:	4th Interval beginning June 1, 2017, and ending May 31, 2027
COMPONENTS AFFECTED:	Refer to Table RR-PR-03
CODE EDITION AND ADDENDA:	ASME OM Code-2004 Edition with Addenda through OMb-2006
REQUIREMENTS:	ISTB-3510(a), *Accuracy*, states, "Instrument accuracy shall be within the limits of Table ISTB-3510-1." Table ISTB-3510-1, "Required Instrument Accuracy," requires Comprehensive and Preservice Test pressure instrument accuracy to be ± 1/2%.
REASON FOR REQUEST:	In accordance with 10 CFR 50.55a, "Codes and standards," paragraph (z)(1), an alternative is proposed to the accuracy requirement of ASME OM Code ISTB, Table ISTB-3510-1. The basis of the request is that the proposed alternative would provide an acceptable level of quality and safety. Table ISTB-3510-1 specifies the instrument accuracy to be ± 1/2% for pressure during the comprehensive pump test. Due to the design of these pumps (vertical line shaft), the suction pressure is determined using the cooling tower basin level and pump elevation. The level instrumentation yields a reading that has a loop accuracy of 1.38% of full scale, which does not meet the requirements of Table ISTB-3510-1 for determining pressure.
PROPOSED ALTERNATIVE AND BASIS:	Component functional description: Cooling water for each unit is normally pumped from the cooling tower basins, one for each train, by two of three nuclear service cooling water (NSCW) pumps provided in each train, to the essential components coolers, through the two main redundant NSCW supply headers (trains A and B). After removing heat from the components, the coolant is piped back to the cooling towers where the heat is rejected through direct contact with ambient air. Each tower basin is provided with a transfer pump to effect water transfer between the two basins to permit full utilization of the water inventory in the two basins, even with the loss of one NSCW train. Instrument Accuracy: The accuracy of the existing level instrumentation loop is a combination of the accuracy of the transmitter, the NLP1 card, NSC3 Card, and control board instrument card (See tabulation below). As stated previously, the level instrumentation results in a reading that has a loop accuracy of 1.38% of full scale. At the full scale of 54 inches water (in H_2O), the error is 0.74 inches. When converted to pounds per square inch (psi), this maximum error equates to 0.027 psi. (0.74 in H_2O)/(12 in per ft)/(2.31 ft per psi).

PROPOSED ALTERNATIVE AND BASIS: (continued)

The Code required accuracy (1/2% or 0.5%) for this same instrument configuration equates to 0.01 psi (0.005 x 54 in H_2O)/(12 in per ft)/ (2.31 ft per psi). The difference of 0.017 psi is inconsequential when determining the suction pressure (normal range 36.8 to 37.8 psi) for the NSCW pumps and the NSCW Transfer Pumps.

Calibration Data for Train A Basin Instrument Channel 1L-1606 and Train B Basin Instrument Channel 1L-1607

Name	Instrument ID (Trn A/Trn B)	Accuracy	Accuracy Squared
Transmitter	LT-1606 / LT-1607	0.20%	0.04%
NLP1 Card	LQY-1606 / LQY-1607	0.50%	0.25%
NSC3 Card	LY-1606 / LY-1607	0.40%	0.16%
CB Indicator	LI-1606A / LI-1607A	1.20%	1.44%
Accuracy if reading CB indicator		**1.38%**	

VEGP proposes to perform comprehensive pump testing using the installed instrumentation with a loop accuracy of 1.38% to determine suction pressure for the specified pumps. All other measurements for the comprehensive pump test will comply with Code requirements.

Using the provisions of this request, as an alternative to the specific requirements of ISTB Table 3510-1 identified above, will provide an acceptable level of quality and safety for testing the pumps listed in Table RR-PR-03. Therefore, pursuant to 10 CFR 50.55a(z)(1), VEGP requests approval of this proposed alternative to these specific ISTB requirements.

DURATION: 4th IST Interval, June 1, 2017, through May 31, 2027

PRECEDENT: Byron Station, Units 1 and 2,Relief Request RP-5 for the Third Inservice Test Interval – Safety Evaluation dated September 7, 2006 (ML062230351)

REFERENCE: Byron Station, Units 1 and 2, Submittal of Relief Requests [RP-2] Associated with the Fourth Inservice Testing Interval, dated June 22, 2015. (ML15173A209)

SOUTHERN NUCLEAR OPERATING COMPANY
IST PROGRAM - RELIEF REQUEST
PROPOSED ALTERNATIVE IN ACCORDANCE WITH 10 CFR 50.55a(z)(1)
RR-PR-03, Version 0.0

Table RR-PR-03

Pump Groups (Units 1 & 2)	Description	Pump Type	Code Class	OM Code Category
1-1202-P4-001 1-1202-P4-002 1-1202-P4-003 1-1202-P4-004 1-1202-P4-005 1-1202-P4-006 2-1202-P4-001 2-1202-P4-002 2-1202-P4-003 2-1202-P4-004 2-1202-P4-005 2-1202-P4-006	Nuclear Service Cooling Water (NSCW) Pumps	Vertical Line Shaft Centrifugal	3	Group A
1-1202-P4-007 1-1202-P4-008 2-1202-P4-007 2-1202-P4-008	NSCW Transfer Pumps	Vertical Line Shaft Centrifugal	3	Group A

SOUTHERN NUCLEAR OPERATING COMPANY
IST PROGRAM
PROPOSED ALTERNATIVE IN ACCORDANCE WITH 10 CFR 50.55a(z)(2)
RR-VR-01, Version 0.0

PLANT/UNIT: Vogtle Electric Generating Plant, Units 1 and 2

INTERVAL: 4th Interval beginning June 1, 2017, and ending May 31, 2027

COMPONENTS AFFECTED: Pumps and Valves contained within the Inservice Testing Program scope

CODE EDITION AND ADDENDA: ASME OM Code-2004 Edition with Addenda through OMb-2006

REQUIREMENTS: This request applies to the following test frequency requirements of the ASME OM Code.

ISTA-3120(a), Inservice Test Interval, states, "The frequency for inservice testing shall be in accordance with the requirements of Section IST."

ISTB-3400, Frequency of Inservice Tests, states, "An inservice test shall be run on each pump as specified in Table ISTB-3400-1."

Table ISTB-3400-1, Inservice Test Frequency, notes that Group A and Group B pump tests are to be conducted quarterly and comprehensive pump tests are to be conducted biennially.

ISTC-3510, Exercising Test Frequency, states, "Active Category A, Category B, and Category C check valves shall be exercised nominally every 3 months..."

ISTC-3540, Manual Valves, states, in part, that "Manual valves shall be full-stroke exercised at least once every 2 years, except where adverse conditions may require the valve to be tested more frequently to ensure operational readiness."

ISTC-3630, Leakage Rate for Other Than Containment Isolation Valves, (a) *Frequency*, states, "Tests shall be conducted at least once every 2 years."

ISTC-3700, Position Verification Testing, states, in part, that "Valves with remote position indicators shall be observed locally at least once every 2 years to verify that valve operation is accurately indicated."

ISTC-5221, Valve Obturator Movement, (c)(3) states, "At least one valve from each group shall be disassembled and examined at each refueling outage; all valves in each group shall be disassembled and examined at least once every 8 years."

Mandatory Appendix I, Inservice Testing of Pressure Relief Devices in Light-Water Reactor Nuclear Power Plants, I-1320, Test Frequencies, Class 1 Pressure Relief Valves, (a) *5-Year Test Interval*, states, in part, that "Class 1 pressure relief valves shall be tested at least once every 5 years, starting with initial electric power generation."

REQUIREMENTS: (continued)

Appendix I, I-1330, Test Frequency, Class 1 Nonreclosing Pressure Relief Devices, states, in part, that "Class 1 nonreclosing pressure relief devices shall be replaced every 5 years..."

Appendix I, I-1340, Test Frequency, Class 1 Pressure Relief Valves That Are Used for Thermal Relief Application, states, "Tests shall be performed in accordance with I-1320, Test Frequencies, Class 1 Pressure Relief Valves."

Appendix I, I-1350, Test Frequency, Classes 2 and 3 Pressure Relief Valves, (a) *10-Year Test Interval*, states, in part, that "Classes 2 and 3 pressure relief valves, with the exception of PWR main steam safety valves, shall be tested every 10 years, starting with initial electric power generation."

Appendix I, I-1360, Test Frequency, Classes 2 and 3 Nonreclosing Pressure Relief Devices, states, in part, that "Classes 2 and 3 nonreclosing pressure relief devices shall be replaced every 5 years..."

Appendix I, I-1370, Test Frequency, Classes 2 and 3 Primary Containment Vacuum Relief Valves, (a) states, in part, that "Tests shall be performed on all Classes 2 and 3 containment vacuum relief valves at each refueling outage or every 2 years, whichever is sooner..."

Appendix I, I-1380, Test Frequency, Classes 2 and 3 Vacuum Relief Valves, Except for Primary Containment Vacuum Relief Valves, states, in part, that "All Classes 2 and 3 vacuum relief valves shall be tested every 2 years..."

Appendix I, I-1390, Test Frequency, Classes 2 and 3 Pressure Relief Devices That Are Used for Thermal Relief Application, states, "Tests shall be performed on all Classes 2 and 3 relief devices used in thermal relief application every 10 years, unless performance data indicate more frequent testing is necessary. In lieu of tests the Owner may replace the relief devices at a frequency of every 10 years, unless performance data indicate more frequent replacements are necessary."

Mandatory Appendix II, Check Valve Condition Monitoring Program, II-4000, Condition Monitoring Activities, (a) *Performance Improvement Activities*, (1) states, in part, that "If sufficient information is not currently available to complete the analysis required in II-3000, or if this analysis is inconclusive, then the following activities shall be performed at sufficient intervals over an interim period of the next 5 years or two refueling outages, whichever is less, to determine the cause of the failure or the maintenance patterns."

Appendix II, II-4000(b), *Optimization of Condition-Monitoring Activities*, (1)(e) states, in part, that "Interval extensions shall be limited to one fuel cycle per extension. Intervals shall not exceed the maximum intervals shown in Table II-4000-1."

SOUTHERN NUCLEAR OPERATING COMPANY
IST PROGRAM
PROPOSED ALTERNATIVE IN ACCORDANCE WITH 10 CFR 50.55a(z)(2)
RR-VR-01, Version 0.0

REASON FOR REQUEST: Pursuant to 10 CFR 50.55a, "Codes and Standards, "paragraph (z)(2), an alternative is requested from the frequency specifications of the ASME OM Code. The basis of the request is that the Code requirement presents an undue hardship without a compensating increase in the level of quality or safety.

The ASME OM Code Section IST establishes the inservice test frequency for all components within the scope of the Code. The frequencies (e.g., quarterly) have always been interpreted as "nominal" frequencies (generally as defined in Table 3.2 of NUREG 1482, Revision 2) and Owners routinely applied the surveillance extension time period (i.e., grace period) contained in the plant Technical Specifications (TS) Surveillance Requirements (SRs). The TS typically allow for a less than or equal to 25% extension of the surveillance test interval to accommodate plant conditions that may not be suitable for conducting the surveillance (SR 3.0.2). However, regulatory issues have been raised concerning the applicability of the TS "Grace Period" to ASME OM Code-required IST frequencies irrespective of allowances provided under TS Administrative Controls (i.e., TS 5.5.8, "Inservice Testing Program," invokes SR 3.0.2 for various OM Code frequencies).

The lack of a tolerance band on the ASME OM Code IST frequency restricts operational flexibility. There may be a conflict where a surveillance test could be required but where it is not possible or not desired that it be performed until sometime after a certain restricted plant condition is cleared. Therefore, to avoid this conflict, the surveillance test should be performed as soon as it is practicable. The NRC recognized this potential issue in the TS by allowing a frequency tolerance as described in TS SR 3.0.2. The lack of a similar tolerance applied to OM Code testing places an unusual hardship on the plant to adequately schedule work tasks without operational flexibility.

Thus, just as with TS-required surveillance testing, some tolerance is needed to allow adjusting OM Code testing intervals to suit the plant conditions and other maintenance and testing activities. Interval extension is to facilitate test scheduling and considers plant operating conditions that may not be suitable for performance of the required testing (e.g., performance of the test would cause an unacceptable increase in the plant risk profile due to transient conditions or other ongoing surveillance, test or maintenance activities). Such extensions are not intended to be used repeatedly merely as an operational convenience to extend test intervals beyond those specified.

PROPOSED ALTERNATIVE AND BASIS: ASME OM Code establishes component test frequencies that are based either on elapsed time periods (e.g., quarterly, 2 years, etc.) or on the occurrence of plant conditions or events (e.g., cold shutdown, refueling outage, upon detection of a sample failure, following maintenance, etc.).

a. Components whose test frequencies are based on elapsed time periods shall undergo Inservice Testing at frequencies as specified in the Vogtle TS (TS 5.5.8) and shown in the following table:

PROPOSED ALTERNATIVE AND BASIS (Continued):

Frequency	Specified Time Period Between Tests
Quarterly	At least once per 92 days
Semiannually	At least once per 184 days
Yearly or Annually	At least once per 366 days
x years	x calendar years where x is a whole number of years ≥ 2

b. The specified time period between tests may be reduced or extended as follows:

   i. For periods specified as less than 2 years, the period may be extended by up to 25% for any given test.

   ii. For periods specified as greater than or equal to 2 years, the period may be extended by up to 6 months for any given test.

   iii. All periods specified may be reduced at the discretion of the owner (i.e., there is no minimum period requirement)

c. Components whose test frequencies are based on the occurrence of plant conditions or events (e.g., cold shutdown, refueling outage, upon detection of a sample failure, following maintenance, etc.) may not have their period between tests extended except as allowed by the ASME OM Code.

d. Period extensions may not be applied to the test frequency requirements specified in Subsection ISTD, Preservice and Inservice Examination and Testing of Dynamic Restraints (Snubbers) in Light-water Reactor Nuclear Power Plants, as Subsection ISTD contains its own rules for period extensions.

e. Period extensions of 25% may also be applied to accelerated test frequencies (e.g., pumps in Alert Range) and other less than 2-year test frequencies not specified in the table above.

This alternative is requested citing the above guidance found in ASME-approved Code Case OMN-20 for determining acceptable tolerances for pump and valve test frequencies. The ASME OM Code Standards Committee approved this Code Case in February 2012. Code Case OMN-20 was subsequently published in conjunction with the ASME OM Code, 2012 Edition.

Based on the determination that compliance with the Code requirement results in a hardship without a compensating increase in the level of quality and safety, this proposed alternative is requested pursuant to 10 CFR 50.55a(z)(2).

SOUTHERN NUCLEAR OPERATING COMPANY
IST PROGRAM
PROPOSED ALTERNATIVE IN ACCORDANCE WITH 10 CFR 50.55a(z)(2)
RR-VR-01, Version 0.0

DURATION: 4th Interval beginning June 1, 2017, and ending May 31, 2027

PRECEDENCE:

1. Quad Cities Nuclear Power Station, Units 1 and 2, Safety Evaluation in Support of Request for Relief Associated with the Fifth 10-Year Interval IST Program [RR RV-01], dated February 14, 2013 (ML13042A348)

2. Callaway Plant, Unit 1, Requests for Relief [RR PR-04], Alternatives to ASME Code Requirements for IST for the Fourth Program Interval – Safety Evaluation dated July 15, 2014 (ML14178A769)

3. Calvert Cliffs Nuclear Power, Units 1 and 2, Relief Request IST-RR-01 Re: Frequency of IST Requirements of Pumps and Valves – Safety Evaluation dated September 24, 2014 (ML14247A555)

4. Three Mile Island, Unit 1 Relief Request VR-02 Associated with Fifth 10-Year IST Interval – Safety Evaluation dated August 15, 2013 (ML13227A024)

5. Dresden Nuclear Power Station, Units 2 and 3, Safety Evaluation in Support of Request for Reliefs [RR RV-01] Associated with the Fifth 10-Year Interval IST Program, dated October 31, 2013 (ML13297A515)

REFERENCES:

1. NRC Regulatory Issue Summary 2012-10, NRC Staff Position on Applying Surveillance Requirements 3.0.2 and 3.0.3 to Administrative Controls Program Tests

2. ASME OM Code Case OMN-20, Inservice Test Frequency

3. Federal Register Vol. 80, No. 181, Proposed 10 CFR 50.55a Rulemaking, dated September 18, 2015 (Pages 56839-56840)

4. Vogtle Electric Generating Plant Technical Specifications