Ameren MISSOURI

Callaway Plant

September 23, 2013

ULNRC-06034

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

10 CFR 50.55a

Ladies and Gentlemen:

DOCKET NUMBER 50-483
CALLAWAY PLANT UNIT 1
UNION ELECTRIC CO.
FACILITY OPERATING LICENSE NPF-30
10 CFR 50.55a(a)(3) REQUESTS FOR RELIEF FROM
ASME OM CODE PUMP AND VALVE TESTING REQUIREMENTS
FOR FOURTH 120-MONTH INSERVICE TESTING INTERVAL

Pursuant to 10 CFR 50.55a(a)(3), Union Electric Company (Ameren Missouri) requests NRC approval of the attached (six) relief requests for the fourth 10-year inservice testing interval at Callaway. The Code Edition and Addenda applicable to Callaway for its fourth inservice testing interval, which begins December 20, 2014, are ASME OM Code 2004 Edition through 2006 Addenda.

The attached requests are identified as PR-01, PR-02, PR-03, PR-04, PR-05 and PR-06. PR-01 and PR-02 are requests to allow testing of residual heat removal and centrifugal pumps using installed pressure gauges which have a full-scale range that exceeds the Code requirement but which can be compensated with appropriate calibration controls applied to the existing gauges. PR-03 is a request to permit use of a test flow path for the boric acid transfer pumps, for which only differential pressure (in lieu of differential pressure and flow) will be measured but which will still provide an adequate means to assess pump performance. PR-04 is a request to allow extensions to component test frequencies established in the ASME OM Code, consistent with the provisions of Technical Specification Administrative Control (TS AC) 5.5.8, Inservice Testing Program, and following the guidance of ASME OM Code Case OMN-20. PR-05 is a request to increase the upper required action range high limit for comprehensive pump test flow results from +3% to +6%, following the guidance of ASME OM Code Case OMN-19. PR-06 is a request pertaining to inservice pump testing to allow adjustment of pump reference flow or pressure (differential or discharge) as close as practical to the specified reference point, where the variance does not exceed +1% or -2% of the reference flow, or +2% or -1% of the reference pressure, following the guidance of ASME OM Code Case OMN-21.

Supporting information, including the justification for each request, is provided in the attached relief requests.

As indicated above, these relief requests support testing activities for which the applicable ASME OM Code requirements will go into effect on December 20. 2014. Ameren Missouri therefore respectfully requests review and approval of these requests by that time.

This letter does not contain new commitments.

If there are any questions, please contact J. P. Kovar at 314-225-1478.

Sincerely,

S. A. Maglio
Regulatory Affairs Manager

JPK/nls

Attachment: Relief Request PR-01
Relief Request PR-02
Relief Request PR-03 (with Attachment)
Relief Request PR-04
Relief Request PR-05
Relief Request PR-06

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Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i)

Alternative Provides Acceptable Level of Quality and Safety

1. ASME Code Components Affected

Pump Number	Description	Code Class	OM Code Category
PEJ01A	Residual Heat Removal Pump A	2	Gp A
PEJ01B	Residual Heat Removal Pump B	2	Gp A

2. Applicable Code Edition and Addenda

ASME OM Code 2004 Edition through 2006 Addenda

3. Applicable Code Requirement

This request applies to the instrumentation requirements of the ASME OM Code.

ISTB-3510(b)(1) Range of Analog Instruments – The full scale range of each analog instrument shall be not greater than three times the reference value.

4. Reason for Request

Pursuant to 10 CFR 50.55a, "Codes and standards," paragraph (a)(3)(i), an alternative is proposed to the instrumentation 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 Group A testing for RHR pumps.

The range of the installed analog discharge pressure gauge for the RHR pumps is 0 - 700 psig. Because the reference values for pump discharge pressure during Inservice Testing are between 200 psig and 300 psig, the instrument range exceeds the requirement of ISTB-3510(b)(1).

Pump discharge pressure indication is used along with pump suction pressure indication to determine pump differential pressure. Discharge pressure reference values for the RHR pumps during Inservice Testing are between 200 psig and

300 psig. Based on ISTB-3510(b)(1), this would require as a maximum, a gauge with a range of 0 to 600 psig (3 * 200 psig) to bound the lowest reference value for discharge pressure. Applying the accuracy requirement of ± 2% for the Group A test, the resulting inaccuracies due to discharge pressure effects would be ± 12.0 psig (0.02 * 600 psig).

5. Proposed Alternative and Basis for Use

As an alternative, for the Group A test, Callaway Nuclear Plant will use the installed discharge pressure analog gauge (0 to 700 psig) calibrated to less than or equal to ± 1.7 % such that the inaccuracies due to pressure will be less than those required by the Code (± 12.0 psig). The error associated with the discharge gauge would then be no greater than +/- 11.9 psi (700 * 0.017). Use of the installed pressure gauge calibrated in this manner is equivalent in terms of measuring discharge pressure to less than +/- 2%.

Using the provisions of this relief request as an alternative to the specific requirements of ISTB-3510(b)(1) identified above will provide adequate indication of pump performance and continue to provide an acceptable level of quality and safety.

6. Duration of Proposed Alternative

The proposed alternative will be utilized for the entire fourth 120-month Interval beginning December 20, 2014.

7. Precedent

This relief request was previously approved for the third 120-month Interval at Callaway Nuclear Plant as Relief Request PR-01.

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i)

Alternative Provides Acceptable Level of Quality and Safety

1. ASME Code Components Affected

Pump Number	Description	Code Class	OM Code Category
PBG05A	Centrifugal Charging Pump A	2	Gp B
PBG05B	Centrifugal Charging Pump B	2	Gp B

2. Applicable Code Edition and Addenda

ASME OM Code 2004 Edition through 2006 Addenda

3. Applicable Code Requirement

This request applies to the instrumentation requirements of the ASME OM Code.

ISTB-3510(b)(1) Range of Analog Instruments – The full scale range of each analog instrument shall be not greater than three times the reference value.

4. Reason for Request

Pursuant to 10 CFR 50.55a, "Codes and standards," paragraph (a)(3)(i), an alternative is proposed to the instrumentation requirements of the ASME OM Code. The basis of the relief request is that the proposed alternative would provide an acceptable level of quality and safety. Specifically, this alternative is requested for Group B testing for centrifugal charging pumps.

The range of the installed suction pressure gauges for the centrifugal charging pumps is 0 - 150 psig. Because the reference values for suction pressure during Inservice Testing are between 30 psig and 40 psig, the instrument range exceeds the requirement of ISTB-3510(b)(1).

Pump suction pressure indication is used along with pump discharge pressure indication to determine pump differential pressure. Suction pressure reference values for the centrifugal charging pumps during Inservice Testing are between 30 psig and 40 psig. Based on ISTB-3510(b)(1), this would require as a maximum, a gauge with a

range of 0 to 90 psig (3 X 30 psig) to bound the lowest reference value for pressure. Applying the accuracy requirement of ± 2% for the quarterly Group B pump test, the resulting inaccuracies due to suction pressure effects would be± 1.8 psig (0.02 X 90 psig).

5. Proposed Alternative and Basis for Use

As an alternative, for the Group B quarterly test, Callaway Nuclear Plant will use the installed suction pressure gauge (0 to 150 psig) calibrated to less than or equal to ± 1.2 % such that the inaccuracies due to suction pressure will be less than that required by the Code (± 1.8 psig). The error associated with the suction gauge would then be no worse than ± 1.8 psi (150 * .012). Use of the installed suction pressure gauge calibrated to less than +/- 2 % is equivalent in terms Code compliance for the measurement of suction pressure.

Using the provisions of this relief request as an alternative to the specific requirements of ISTB-3510(b)(1) identified above will provide adequate indication of pump performance and continue to provide an acceptable level of quality and safety.

6. Duration of Proposed Alternative

The proposed alternative will be utilized for the entire fourth 120-month Interval beginning December 20, 2014.

7. Precedent

This relief request was previously approved for the third 120-month Interval at Callaway Nuclear Plant as relief request PR-02.

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i)

Alternative Provides Acceptable Level of Quality and Safety

1. ASME Code Components Affected

Pump Number	Description	Code Class	OM Code Category
PBGO2A	Boric Acid Transfer Pump A	3	Gp A
PBGO2B	Boric Acid Transfer Pump B	3	Gp A

2. Applicable Code Edition and Addenda

ASME OM Code 2004 Edition through 2006 Addenda

3. Applicable Code Requirement

This request applies to the Group A Test Procedure instrumentation requirements of the ASME OM Code.

ISTB-5121(c) Group A Test procedure – Where it is not practical to vary system resistance, flow rate and pressure shall be determined and compared to their respective reference values.

ISTB-3000-1 Table - Inservice Test Parameters

4. Reason for Request

Pursuant to 10 CFR 50.55a, "Codes and standards," paragraph (a)(3)(i), an alternative is proposed to the testing 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 Group A testing for Boric Acid Transfer pumps.

The normal test loop for the subject pumps consists of suction from the applicable Boric Acid Tank and discharge through a Mini-Flow Recirc line back to the Boric Acid tank; however, flow measuring instrumentation is not installed in this flow path. The Mini-Flow Recirc line contains a locked throttle valve set to allow for the minimum pump recirculation flow (approximately 15 gpm). The throttled position of this valve is important to provide for the minimum recirculation flow to protect the pump while minimizing the diversion of flow through the primary discharge path to the Charging

system to allow for Immediate Boration in emergency conditions. Unlocking and adjustment of the throttle valve on a quarterly basis for Inservice Testing would create the potential for mis-positioning of the throttle valve and thus an adverse effect on system capability. Based on this, the Mini-Flow Recirc line will be considered a fixed resistance flow path.

An alternate test circuit is available in which flow rate may be measured; however, this flow path requires injection of highly concentrated boric acid solution into the reactor coolant system. During the quarterly Group A test at normal power operations, this test is highly impractical since severe power level fluctuations would be created which could cause a trip of the reactor. Performing this test at cold shutdown intervals would also result in excessive boration of the reactor coolant system, resulting in potential difficulties and delays in restarting the plant.

5. Proposed Alternative and Basis for Use

As an alternative to measuring differential pressure and flow during the Group A quarterly test, only the differential pressure will be measured and compared to its reference value. Additionally, vibration measurements are also recorded and compared to their reference values. The Group A test will be performed using the Recirc flow path shown on Figure 1, with the throttle valve remaining in its locked position. The reference value is approximately 112 psig at an estimated flow rate of 15 gpm. Because the system resistance is fixed and flow can be assumed to be constant, pump degradation may be detected by comparing successive measurements of pump differential pressure. Based on this, it is not warranted to install additional instrumentation to provide for flow measurement.

During the comprehensive inservice test when flow may be measured, full-spectrum vibration analysis will be performed which is beyond the vibration analysis required by the Code. The vibration measurements will be recorded and compared to their reference values. Thus, when performing the comprehensive pump test, all required parameters will be measured and compared to their reference values. The performance of full spectrum analysis, in addition to continued quarterly and comprehensive testing, will ensure that an accurate assessment of pump health and operational readiness is determined. This alternative provides an acceptable level of quality and safety.

6. Duration of Proposed Alternative

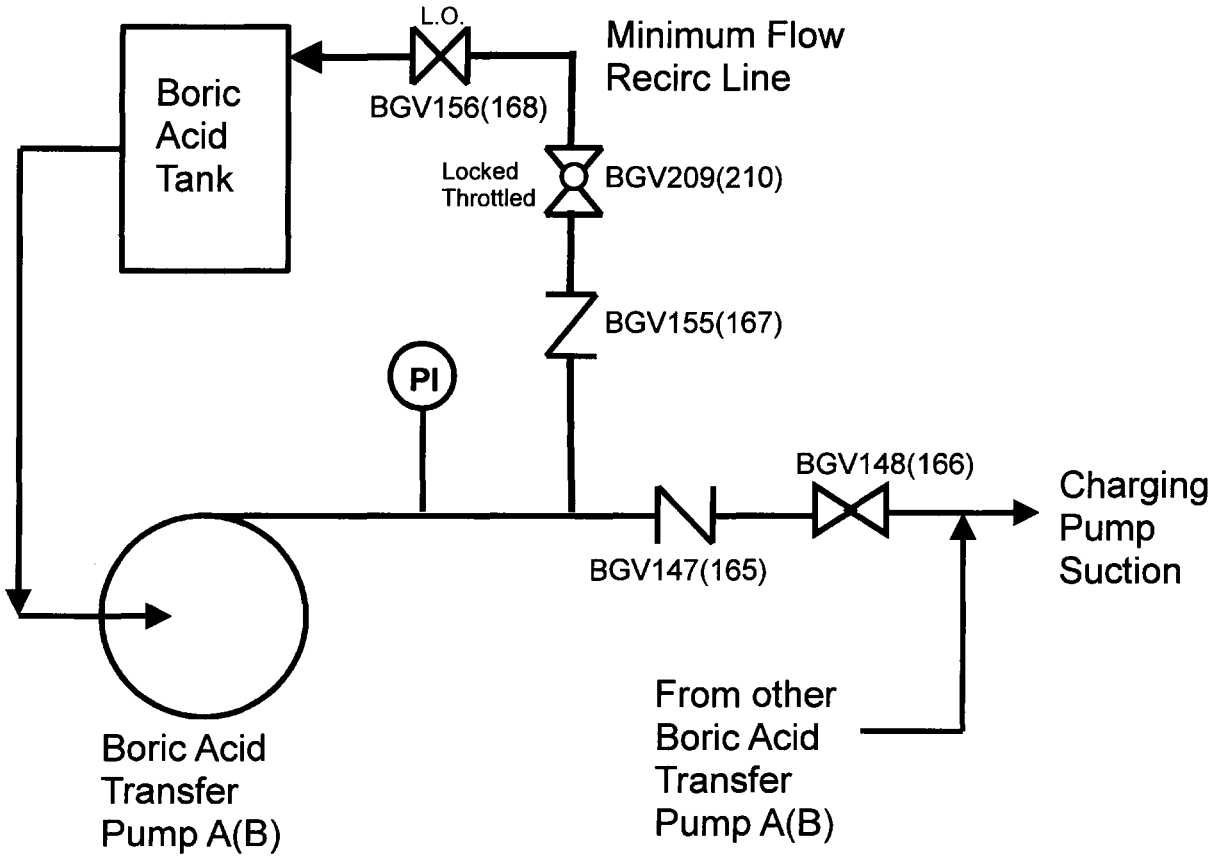
The proposed alternative will be utilized for the entire fourth 120-month Interval beginning December 20, 2014.

7. Precedent

This relief request was previously approved for the third 120-month Interval at Callaway Nuclear Plant as Relief Request PR-03.

Figure 1

Boric Acid Transfer Pump Test Diagram



Relief Requested
In Accordance with 10 CFR 50.55a(a)(3)(ii)
Hardship or Unusual Difficulty
Without Compensating Increase in Level of Quality or Safety

1. ASME Code Components Affected

Pumps and Valves contained within the Inservice Testing Program scope.

2. Applicable Code Edition and Addenda

ASME OM Code 2004 Edition through 2006 Addenda

3. Applicable Code Requirement

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

ISTA-3120(a)-	"The frequency for the inservice testing shall be in accordance with the requirements of Section IST."
ISTB-3400-	Frequency of Inservice Tests
ISTC-3510-	Exercising Test Frequency
ISTC-3540-	Manual Valves
ISTC-3630(a)-	Frequency
ISTC-3700-	Position Verification Testing
ISTC-5221(c)(3)-	"At least one valve from each group shall be disassembled and examined at each refueling outage; all valves in a group shall be disassembled and examined at least once every 8 years."
Appendix I, 1-1320-	Test Frequencies, Class 1 Pressure Relief Valves
Appendix I, 1-1330-	Test Frequencies, Class 1 Nonreclosing Pressure Relief Devices
Appendix I, 1-1340-	Test Frequencies- Class 1 Pressure Relief Devices That Are Used for Thermal Relief Application
Appendix I, 1-1350-	Test Frequencies- Class 2 and 3 Pressure Relief Valves

Appendix I, 1-1360-	Test Frequencies- Class 2 and 3 Nonreclosing Pressure Relief Devices
Appendix I, 1-1370-	Test Frequencies- Class 2 and 3 Primary Containment Vacuum Relief Valves
Appendix I, 1-1380-	Test Frequencies- Class 2 and 3 Vacuum Relief Valves Except for Primary Containment Vacuum Relief Valves
Appendix I, 1-1390-	Test Frequencies- Class 1 Pressure Relief Devices That Are Used for Thermal Relief Application
Appendix II, II-4000(a)(1)-	Performance Improvement Activities Interval
Appendix II, II-4000(b)(1)(e)-	Optimization of Condition Monitoring Activities Interval

4. Reason for Request

Pursuant to 10 CFR 50.55a, "Codes and standards," paragraph (a)(3)(ii), relief is requested from the frequency specifications of the ASME OM Code. The basis of the relief request is that the Code requirement presents an undue hardship without a compensating increase in the level of quality or safety.

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 the Table 3.2 of NUREG 1482, Revision 1), and Owners routinely applied the surveillance extension time period (i.e., grace period) contained in the plant Technical Specification (TS) Surveillance Requirements (SRs). The Technical Specifications typically allow for a less than or equal to 25% extension (via SR 3.0.2) of the surveillance test interval to accommodate plant conditions that may not be suitable for conducting the surveillance. However, regulatory issues have been raised concerning the applicability of the TS "Grace Period" to ASME OM Code required inservice test 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 inservice test frequency restricts operational flexibility. The NRC recognized this potential issue in the Ttechnical SpecifcationsS 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 extending OM Code testing intervals.

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.

5. Proposed Alternative and Basis for Use

The proposed alternative is to allow extensions to ASME OM Code component test frequencies using ASME approved Code Case OMN-20, "Inservice Test Frequency."

6. Duration of Proposed Alternative

The proposed alternative will be utilized for the entire fourth 120-month Interval beginning December 20, 2014.

7. Precedent

A similar relief request (RV-01) has been approved for the Quad Cities Nuclear Power Station in NRC Safety Evaluation dated February 14, 2013.

On August 30, 2013, the NRC granted verbal authorization for use of a similar relief request (PR-07) for the third 120-month Interval at Callaway Nuclear Plant.

8. References

Letter from Joel S. Wiebe (U.S. NRC) to Mr. Michael J. Pacilio (Exelon Generation Co.), "Quad Cities Nuclear Power Station, Units 1 And 2 - Safety Evaluation In Support Of Request For Relief Associated With The Fifth 10 Year Interval Inservice Testing Program," dated February 14, 2013

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

ASME OM Code Case OMN-20- "Inservice Test Frequency"

Callaway TS Section 5.5.8- "Inservice Testing Program"

Callaway TS SR 3.0.2 – Specified Frequency (25% Grace Period)

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i)

Alternative Provides Acceptable Level of Quality and Safety

1. ASME Code Components Affected

All Pumps contained within the Inservice Testing Program scope

2. Applicable Code Edition and Addenda

ASME OM Code 2004 Edition through 2006 Addenda

3. Applicable Code Requirement

ISTB-5123, "Comprehensive Test Procedure," refers to Table ISTB-5121-1, "Centrifugal Pump Test Acceptance Criteria," that requires an upper required action limit of 1.03Qr and 1.03ΔPr where Qr is the reference flow rate and ΔPr is the reference differential pressure.

ISTB-5223, "Comprehensive Test Procedure," refers to Table ISTB-5221-1, "Vertical Line Shaft Centrifugal Pump Test Acceptance Criteria" that requires an upper required action limit of 1.03Qr and 1.03ΔPr where Qr is the reference flow rate and ΔPr is the reference differential pressure.

ISTB-5323, "Comprehensive Test Procedure" refers to Table ISTB-5321-1, "Positive Displacement Pump (Except Reciprocating) Test Acceptance Criteria," that requires an upper required action limit of 1.03Qr and 1.03ΔPr where Qr is the reference flow rate and ΔPr is the reference discharge pressure.

4. Reason for Request

Margin is a concern with the upper required action range limit of 3% above the established hydraulic parameter reference value for the comprehensive pump test. Industry experience has shown that test results outside the criteria can easily occur when normal data scatter yields (1) a low measured reference value, and (2) high measured values for subsequent inservice tests. In these cases, some of the test data trend high near the upper required action range limit and may exceed the upper limit. The problem can be even more severe for pumps with low differential pressures (50 psid or less) due to the smaller numerical values for the acceptable range.

In these cases the measured values that would exceed the +3% criteria would not represent an actual problem with either the test setup, instrumentation or the pump itself. The scatter induced collectively by the instrumentation and reference value variance is sufficient to approach or exceed the upper criterion. As described in Code Case OMN-19, a Required Action Range High limit of +6% is a realistic value that should allow any true degradation

issues to be identified while alleviating the need to unnecessarily declare pumps inoperable.

5. Proposed Alternative and Basis for Use

For the pumps listed in Table PR-05, an upper required action limit of 1.06% times the reference value will be applied to the comprehensive pump test in accordance with ASME OM Code Case OMN-19, "Alternative Upper Limit for the Comprehensive Pump Test."

The upper limit for differential pressure established by the ASME Code is not reflective of any possible degradation mechanism, but is rather a means to identify a potentially incorrect test setup. Exceeding this upper limit while testing would require the pump to be considered inoperable but primarily as a means to investigate the test instrumentation or other potential problems. The use of a 6% upper criteria rather than the 3% criteria would not mask any actual pump problem and would still function as an adequate trigger to investigate the test setup.

Using the provisions of this request as an alternative to the specific requirements of ISTB-5123, ISTB-5223 and ISTB-5323 and associated tables as described above will provide adequate indication of pump performance and continue to provide an acceptable level of quality and safety.

6. Duration of Proposed Alternative

The proposed alternative will be utilized for the entire fourth 120-month Interval beginning December 20, 2014.

7. Precedent

Virginia Power (Surry) Relief Request P-6, Docket 50-280, submitted May 1, 2013 (ML13128A104)

8. References

1. ASME Code Case OMN-19, "Alternative Upper Limit for the Comprehensive Pump Test"

Table PR-05: Callaway Plant Inservice Testing Program – Pump Table

Pump Number	Description	Pump Type	Code Class	OM Code Category
PAL01A/B	MOTOR DRIVEN AUXILIARY FEEDWATER PUMPS	Centrifugal	3	Group A
PBG02A/B	CVCS BORIC ACID TRANSFER PUMPS	Centrifugal	3	Group A
PEF01A/B	ESSENTIAL SERVICE WATER PUMPS	Vertical Line Shaft	3	Group A
PEG01A/B/C/D	COMPONENT COOLING WATER PUMPS	Centrifugal	3	Group A
PEJ01A/B	RESIDUAL HEAT REMOVAL PUMPS	Centrifugal	2	Group A
PAL02	TURBINE DRIVEN AUXILIARY FEEDWATER PUMP	Centrifugal	3	Group B
PBG05A/B	CENTRIFUGAL CHARGING PUMPS	Centrifugal	2	Group B
PEM01A/B	SAFETY INJECTION PUMPS	Centrifugal	2	Group B
PEN01A/B	CONTAINMENT SPRAY PUMPS	Centrifugal	2	Group B

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i)

Alternative Provides Acceptable Level of Quality and Safety

1. ASME Code Components Affected

All Pumps listed in Attachment 1

2. Applicable Code Edition and Addenda

ASME OM Code 2004 Edition through 2006 Addenda

3. Applicable Code Requirement

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

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

ISTB-5123, "Comprehensive Test Procedure": ISTB-5123(b) states that "For centrifugal and vertical line shaft pumps, the resistance of the system shall be varied until the flow rate equals the reference point".

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

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

ISTB-5223, "Comprehensive Test Procedure": ISTB-5223(b) states that "For centrifugal and vertical line shaft pumps, the resistance of the system shall be varied until the flow rate equals the reference point".

4. Reason for Request

Pursuant to 10 CFR 50.55a, "Codes and standards," paragraph (a)(3)(i), 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 Attachment 1.

For pump testing, there is difficulty adjusting system throttle valves with sufficient precision to achieve exact flow reference values during subsequent IST exams. Section ISTB of the ASME OM Code does not allow for variance from a fixed reference value for pump testing. However, NUREG-1482, Revision 1, 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/ΔP to within a specified tolerance during 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.

5. Proposed Alternative and Basis for Use

Callaway 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.1 will be performed such that flow rate is adjusted as close as practical to the reference value and within proceduralized limits of +2% / -1% of the reference value.

Callaway plant operators will still 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.

6. Duration of Proposed Alternative

The proposed alternative will be utilized for the entire fourth 120-month Interval beginning December 20, 2014.

7. Precedent

None

8. References

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

Table 1
Callaway Plant Inservice Testing Program Pump Table

Pump Number	Description	Pump Type	Code Class	OM Code Category
PAL01A/B	MOTOR DRIVEN AUXILIARY FEEDWATER PUMPS	Centrifugal	3	Group A
PBG02A/B	CVCS BORIC ACID TRANSFER PUMPS	Centrifugal	3	Group A
PEF01A/B	ESSENTIAL SERVICE WATER PUMPS	Vertical Line Shaft	3	Group A
PEG01A/B/C/D	COMPONENT COOLING WATER PUMPS	Centrifugal	3	Group A
PEJ01A/B	RESIDUAL HEAT REMOVAL PUMPS	Centrifugal	2	Group A
PAL02	TURBINE DRIVEN AUXILIARY FEEDWATER PUMP	Centrifugal	3	Group B
PBG05A/B	CENTRIFUGAL CHARGING PUMPS	Centrifugal	2	Group B
PEM01A/B	SAFETY INJECTION PUMPS	Centrifugal	2	Group B
PEN01A/B	CONTAINMENT SPRAY PUMPS	Centrifugal	2	Group B