

October 2, 2002

Mr. John L. Skolds, President
and Chief Nuclear Officer
Exelon Nuclear
Exelon Generation Company, LLC
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: OYSTER CREEK NUCLEAR GENERATING STATION - RELIEF REQUEST
RP-04, REGARDING SERVICE WATER PUMP SUCTION PRESSURE GAGES,
AND RV-51, CONTAINMENT ISOLATION VALVE POSITION INDICATION
(TAC NO. MB4945)

Dear Mr. Skolds:

By letter dated April 19, 2002, AmerGen Energy Company, LLC (AmerGen), submitted the subject requests for relief from the inservice testing requirements of Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) for certain safety-related valves and pumps at the Oyster Creek Nuclear Generating Station.

The Nuclear Regulatory Commission (NRC) staff reviewed the proposed relief requests against the requirements of Section XI of the 1995 Edition and 1996 Addenda of the ASME Code. The results are provided in the enclosed safety evaluation. The NRC staff has concluded that the proposed alternatives to the ASME Code requirements identified as RP-04 and RV-51 provide an acceptable level of quality and safety and are acceptable. Pursuant to 10 CFR 50.55a(a)(3)(i), the proposed alternatives are authorized for RP-04 and RV-51 for the fourth 10-year interval, starting on October 14, 2002, and concluding on October 13, 2012.

Sincerely,

/RA/

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

Docket No. 50-219

Enclosure: Safety Evaluation

cc w/encl: See next page

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

FOURTH 10-YEAR INTERVAL INSERVICE TESTING PROGRAM PLAN

REQUESTS FOR RELIEF RP-04 AND RV-51

AMERGEN ENERGY COMPANY, LLC

OYSTER CREEK NUCLEAR GENERATING STATION

DOCKET NO. 50-219

1.0 INTRODUCTION

By letter dated April 19, 2002, AmerGen Energy Company, LLC (AmerGen or the license), submitted two requests for relief from the inservice testing (IST) requirements of the 1995 Edition and 1996 Addenda of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) for Operation and Maintenance of Nuclear Power Plants (OM Code) for certain safety-related valves and pumps at the Oyster Creek Nuclear Generating Station (OCNGS). Specifically, Relief Request RP-04 seeks relief from instrument requirements of paragraph ISTB 4.7.1(b)(1) of the OM Code, i.e., the full-scale range of each analog instrument shall not be greater than three times of the reference value; Relief Request RV-51 seeks relief from paragraph ISTC 4.1 of the OM Code, i.e., valves with remote position indicators shall be observed at least every 2 years to verify that valve operation is accurately indicated. The OM Code is referenced in Section XI of the ASME Code.

2.0 REGULATORY EVALUATION

Title 10 of the *Code of Federal Regulations* (10 CFR) at 10 CFR 50.55a requires that IST of certain ASME Code Class 1, 2, and 3 pumps and valves be performed in accordance with Section XI of the ASME Code and applicable addenda, except where relief has been requested and granted or proposed alternatives have been authorized by the Nuclear Regulatory Commission (NRC) pursuant to 10 CFR 50.55a(a)(3)(i), (a)(3)(ii) or (f)(6)(i). In proposing alternatives or requesting relief, the applicant must demonstrate that: (1) the proposed alternative provides an acceptable level of quality and safety; (2) compliance would result in a hardship or unusual difficulty without a compensating increase in the level of quality and safety; or (3) conformance is impractical for its facility. NRC guidance contained in Generic Letter (GL) 89-04, "Guidance on Developing Acceptable Inservice Testing Programs," provides alternatives to the Code requirements which are acceptable. Further guidance is given in GL 89-04, Supplement 1, and NUREG-1482, "Guidelines for Inservice Testing at Nuclear Power Plants."

Enclosure

3.0 TECHNICAL EVALUATION

3.1 Relief Request RP-04

Relief is requested for service water (SW) pumps, P-3-1A (1-1) and P-3-1B (1-2), from the instrument requirements of Table ISTB 4.7.1-1.

3.1.1 Code Requirement

Table ISTB 4.7.1-1 requires that the full scale of each analog instrument shall not be greater than three times the reference value.

3.1.2 Licensee's Proposed Alternative Testing (as stated)

Based on Section 5.5.1 of NUREG 1482 and the information provided herein, the existing permanently installed pump instrumentation is considered acceptable in meeting the intent of the Code. No alternate testing will be performed. Accordingly, this alternative is being requested in accordance with 10 CFR 50.55a(a)(3)(i) in that the proposed alternative provides an acceptable level of quality and safety.

3.1.3 Licensee's Basis for Proposed Alternative (as stated)

The Service Water Suction Pressure Instruments (PI-533-1173, 1172) are permanently installed instruments with a full scale range that exceeds three times the reference value as specified by the Code. Although these instruments do not meet Code requirements, they provide the same or better indication of accuracy at the reference value than that which is permitted by the Code.

For instruments to be in compliance with the Code, they must be calibrated to an accuracy of $\pm 2\%$ of full scale range, and have a full scale range no greater than three times the reference value. The combination of the two requirements (i.e., accuracy equal to $\pm 2\%$ of full-scale and full scale being up to 3 times the reference value) yields a permissible inaccuracy of $\pm 6\%$ of the reference value. Section 5.5.1 of NUREG 1482 states that the staff will grant relief when the combination of the range and accuracy yields a reading at least equivalent to the reading achieved from instruments that meet the Code requirements (i.e., up to ± 6 percent).

The table below shows the instrument accuracy and full scale range of the suction pressure instruments used to conduct inservice testing of the Service Water pumps. The resulting instrument tolerance and indicated accuracy are calculated and also listed in the Table. In both cases, the indicated accuracy at the reference value is shown to be within the required 6 percent. Replacement of the existing instruments with Code compliant instruments provides no safety benefit and could actually lessen the accuracy of test results. A similar relief request for these instruments was approved in the Safety Evaluation Report contained in the letter from J. F. Stolz (NRC)

to J. J. Barton (GPU Nuclear Corporation), dated August 24, 1993 for Oyster Creek Generating Station. Additionally, a similar request was approved for Limerick Generating Station, Units 1 and 2, in the Safety Evaluation Report contained in the letter from J. W. Clifford (NRC) to J. A. Hutton (PECO Energy Company), dated November 28, 2000.

INSTRUMENT TABLE

Instrument Number	Reference Value	Instrument Range	Instrument Accuracy	Instrument Tolerance	Indicated Accuracy
PI-533-1172	2.3	0 - 10 psig	± 1%	± 0.1 psig	4.35%
PI-533-1173	2.2	0 - 10 psig	± 1%	± 0.1 psig	4.55%

3.1.4 Evaluation

The licensee requested relief for the pressure instruments associated with SW pumps from the instrument requirements of Table ISTB 4.7.1-1, which requires that the full scale of each analog instrument shall not be greater than three times the reference value.

The SW pumps are Group A pumps that are operated continuously or routinely during normal operation, cold shutdown, or refueling operations. For Group A pump tests, the Code states that the pressure instrumentation shall be accurate to within ±2% of full scale. The Code also states in ISTB 4.7.1(b)(1) that full scale range of each analog instrument shall not be greater than three times the reference value. Therefore, the combination of these two requirements results in an effective loop accuracy requirement of ±6% of the reference value.

The full scale of pressure instruments identified in Relief Request RP-04 are all greater than three times the reference value (up to 4.55 times). However, the accuracy of these instruments is ±1.0%. A review of pressure instruments indicates that the effective accuracy varies from ±4.35% to ±4.55% of the reference value, which is within the loop accuracy requirement of ±6%.

The licensee's proposal to use the installed instrumentation for Group A tests does not meet the range requirement of ISTB 4.7.1(b)(1). However, the licensee's proposal meets the guidelines provided in NUREG-1482 in that these pressure instruments yield readings equivalent to the reading required from instruments that meet Code requirement (i.e., up to ±6%), and thus, provides an acceptable level of quality and safety.

3.2 Relief Request RV-51

Relief Request RV-51 pertains to the following containment isolation valves (CIVs) from the valve position verification requirements of ISTC 4.1.

3.2.1 Code Requirement

ISTC 4.1 requires that valves with remote position indicators shall be observed locally at least once every 2 years to verify that valve operation is accurately indicated. The following table lists such valves at OCNCS.

Containment Isolation Valves with Remote Position Indicators

V-1-7	V-22-1	V-23-20
V-1-8	V-22-2	V-23-21
V-1-9	V-22-28	V-23-22
V-1-10	V-22-29	V-27-1
V-5-147	V-23-13	V-27-2
V-5-166	V-23-14	V-27-3
V-5-167	V-23-15	V-27-4
V-6-395	V-23-16	V-28-17
V-16-1	V-23-17	V-28-18
V-16-2	V-23-18	V-28-47
V-16-14	V-23-19	V-31-2
V-16-61		

3.2.2 Licensee's Proposed Alternative Testing (as stated)

The position indicators for the above valves will be verified at least once every 2 years. In lieu of local observation, the following method will be used to verify accurate position indication. Proper system operation will verify accurate open position indication and successful leak rate test results will verify accurate closed indication.

3.2.3 Licensee's Basis for Proposed Alternative (as stated)

Pursuant to 10CFR50.55a(f)(6)(i), AmerGen Energy Company, LLC, is requesting relief in that the radiation doses make it impractical to perform the inservice testing as required in the [C]ode. The above valves are located in radiation areas. Local observation to verify the accuracy of the position indicators will result in unnecessary radiation exposure. Alternate means can be used to verify accurate position indication. A similar relief request for these isolation valves was approved in the Safety Evaluation Report contained in the letter from J. F. Stolz (NRC) to J. J. Barton (GPU Nuclear Corporation), dated September 24, 1992 for the Oyster Creek Generating Station, third interval inservice testing program.

3.2.4 Evaluation

ISTC 4.1 requires that valves with remote position indicators be observed locally at least once every 2 years to verify that valve operation is accurately indicated. However, for the above CIVs at OCNCS, it would be a hardship for the licensee to verify the remote position indication

by local observation because these valves are located in high radiation areas and this means testing would result in unnecessary radiation exposure to personnel. In order to reduce unnecessary radiation exposure to plant personnel, the licensee proposed to verify valve open position by system operation and close position by leak rate test.

As discussed in Section 4.2.5 of NUREG-1482, methods other than local observation, such as nonintrusive techniques, causing the flow to begin or cease, leak testing, and pressure testing can also yield a positive indication of the valve position. As such, the NRC staff considers that observation of operational parameters such as leakage, pressure, and flow is an acceptable approach and consistent with ISTC 4.1. The licensee's proposed alternative of verifying the valve's open position by system operation and its closed position by leak-rate test is consistent with NUREG-1482, provides an acceptable level of safety and quality, and is, therefore, acceptable.

4.0 CONCLUSION

Pursuant to 10 CFR 50.55a(a)(3)(i), Relief Requests RP-04 and RV-51 are authorized for the fourth 10-year interval, starting on October 14, 2002, and concluding on October 13, 2012, on the basis that the alternative testing methods provide an acceptable level of quality and safety.

Principal Contributor: Y. S. Huang

Date: October 2, 2002

Oyster Creek Nuclear Generating Station

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