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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

INSERVICE TESTING REQUEST FOR RELIEF

LICENSE NO. NPF-57

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

HOPE CREEK GENERATING STATION

DOCKET NO. 50-354

1.0 INTRODUCTION

The Code of Federal Regulations, 10 CFR 50.55a, requires that inservice testing (IST) of certain ASME Code Class 1, 2, and 3 pumps and valves be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable addenda, except where relief has been requested and granted or proposed alternatives have been authorized by the Commission pursuant to 10 CFR 50.55a(a)(3)(i), (a)(3)(ii), or (f)(6)(i). In order to obtain authorization or relief, the licensee 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. Section 50.55a(f)(4)(iv) provides that inservice tests of pumps and valves may meet the requirements set forth in subsequent editions and addenda that are incorporated by reference in 10 CFR 50.55a(b), subject to the limitations and modifications listed, and subject to Commission approval. NRC guidance contained in Generic Letter (GL) 89-04, "Guidance on Developing Acceptable Inservice Testing Programs," provided alternatives to the Code requirements determined to be acceptable to the staff and authorized the use of the alternatives in Positions 1, 2, 6, 7, 9, and 10, provided the licensee follows the guidance delineated in the applicable position. When an alternative is proposed which is in accordance with GL 89-04 guidance and is documented in the IST program, no further evaluation is required; however, implementation of the alternative is subject to NRC inspection.

Section 50.55a authorizes the Commission to grant relief from ASME Code requirements or to approve proposed alternatives upon making the necessary findings. The NRC staff's findings with respect to granting or not granting the relief requested or authorizing the proposed alternative as part of the licensee's IST program are contained in this safety evaluation (SE).

ENCLOSURE

By letter dated August 7, 1996, the Public Service Electric and Gas Company (licensee) submitted a revision to Relief Request V-20 for the Hope Creek Generating Station (HCGS) IST program for valves. The HCGS IST Program was developed to the 1983 Edition through the Summer 1983 Addenda of ASME Section XI for the first ten-year interval that began December 20, 1986.

2.0 REVISED RELIEF REQUEST V-20

The licensee is requesting relief from the power-operated valve requirements of ASME Section XI, Paragraph IWV-3413(b) for the emergency diesel generator (EDG) air start system solenoid valves 1KJ-SV-7535A, 7535B, 7535C, 7535D, 7536A, 7536B, 7536C, and 7536D. The licensee proposes to verify the operational readiness of these solenoid valves on a 3-month frequency during EDG testing.

A previous version of this relief request, which proposed monthly testing of these valves, was submitted in a letter dated December 23, 1988, and approved in an NRC SE dated September 27, 1990.

3.0 LICENSEE'S BASIS FOR REQUESTING RELIEF

The licensee states:

> It is impractical to directly measure the stroke times of these valves due to a lack of remote or local valve position indication. These valves are sealed solenoid valves and have no external indication of actual stem or obturator movement. Also, these valves are not provided with an independent handswitch and cannot be independently operated. Valve operation is controlled by the EDG circuitry.
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> Additionally, these valves are integral components of the EDG skids and can be considered "skid-mounted." Per Section 3.4 of NUREG-1482, the staff has determined that the testing of the major component is an acceptable means for verifying the operational readiness of skid-mounted and component subassemblies. Hope Creek Technical Specification 4.8.1.1.2 specifies the surveillance testing required to prove EDG operability and requires, in part, that each EDG start from standby condition and achieve $\geq$ 3950 volts and $\geq$ 58.8 hz in $\leq$ 10 seconds. Performance of this surveillance will verify the operational readiness of these solenoid valves.

4.0 ALTERNATE TESTING

The licensee proposes:

> Verification of the stroke times of these valves will be performed quarterly coincident with the required operability testing specified by Hope Creek Technical Specification 4.8.1.1.2. The

valve stroke times will be indirectly observed by verifying that the EDG start parameters are achieved in less than or equal to 10 seconds. Individual valve operation will be verified by observing a subsequent pressure drop in the associated starting air reservoir. This position is supported by Section 3.4 of NUREG-1482.

5.0 EVALUATION

The Code requires that the diesel air start solenoid valves be stroke timed every 3 months. These valves have a safety function to open in conjunction with the operation of their associated diesel generators. The air start solenoid valves are small, rapid acting valves that are completely enclosed. They operate from an engine start control signal rather than a control switch and do not have remote position indication or any external means to determine valve position. Therefore, it is impractical to stroke time test these valves as required by the Code. Failure or significant degradation of these valves would be evidenced by failure to meet the start time limit specified in the Technical Specification (TS).

It would be an undue burden for the licensee to meet the Code requirements because components associated with EDG would have to be either modified or replaced. The licensee proposes to verify quarterly the operational readiness of these valves by observing a pressure drop in the associated starting air reservoir during diesel testing and by confirmation of proper diesel start times per the TS. This proposed alternative is consistent with the NRC guidelines in Section 3.4 of NUREG-1482 and provides adequate assurance of operational readiness and a reasonable alternative to the Code requirements.

6.0 CONCLUSION

Based on the determination that compliance with the Code requirements is impractical and the licensee's proposal provides a reasonable alternative to the Code requirements, relief as requested is granted pursuant to 10 CFR 50.55a(f)(6)(i).

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Date: November 12, 1996