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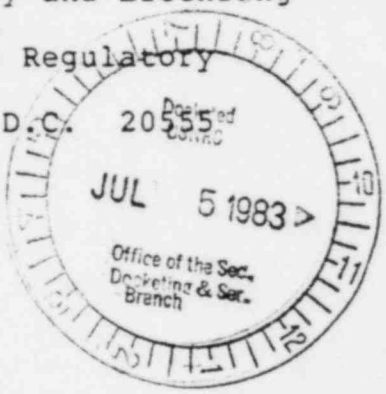

Dr. Peter A. Morris
Administrative Judge
Atomic Safety and Licensing
Board Panel
U.S. Nuclear Regulatory
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Washington, D.C. 20555

Gentlemen:

The "Suffolk County Reply to LILCO and NRC Staff Submissions on SC Contention 11," dated June 20, 1983, included an affidavit of Dale G. Bridenbaugh. In paragraph 1 of his affidavit, Mr. Bridenbaugh discusses the relief requests for various check valves in Shoreham's In-service Testing Program. Should the Board be interested in the nature of the relief requests, their justifications, or in alternative testing that may be conducted for the check valves (e.g., under Appendix J of 10 CFR Part 50, or under Shoreham technical specifications), this information is provided in the relief requests. These requests have been previously submitted to the Board and parties in SNRC-857 (April 15, 1983). For the convenience of the Board, the relief requests for all the check valves in Shoreham's IST program are attached.

Sincerely,

Daniel O. Flanagan/bc

271/869

Daniel O. Flanagan

Attachments

cc: All Parties

DS03

RELIEF REQUEST
RR – 1

System:	Feedwater
Valve:	1103A,B
Category:	AC
Class:	1
Function:	Containment isolation simple check valve (reverse flow closure for containment isolation only).
ASME Section XI Quarterly Test Requirements:	Verify reverse flow closure.
Basis for Relief:	The only method available to verify reverse flow closure is by valve leak testing during Appendix J, Type C testing at refueling.
Alternate Testing:	Reverse flow closure will be verified during Appendix J, Type C testing at refueling.

RELIEF REQUEST
RR – 1

System:	Reactor Water Recirculation
Valve:	0002A,B
Category:	AC
Class:	2
Function:	Containment isolation simple check valve (reverse flow closure for containment isolation only).
ASME Section XI Quarterly Test Requirements:	Verify reverse flow closure.
Basis for Relief:	The only method available to verify reverse flow closure is by valve leak testing during Appendix J, Type C testing at refueling.
Alternate Testing:	Reverse flow closure will be verified during Appendix J, Type C testing at refueling.

RELIEF REQUEST
RR – 1

System:	Control Rod Drive
Valve:	1028A,B
Category:	AC
Class:	2
Function:	Containment isolation simple check valve (reverse flow closure for containment isolation only).
ASME Section XI Quarterly Test Requirements:	Verify reverse flow closure.
Basis for Relief:	The only method available to verify reverse flow closure is by valve leak testing during Appendix J, Type C testing at refueling.
Alternate Testing:	Reverse flow closure vill be verified during Appendix J, Type C testing at refueling.

RELIEF REQUEST
RR – 2

System:	Control Rod Drive
Valve:	AOV-126 : AOV-127 : HCU-114 (To be done for all 137 HCU's)
Category:	B (AOV-126 : AOV-127) C (HCU-114)
Class:	2
Function:	Reactor shutdown.
ASME Section XI Quarterly Test Requirements:	Exercise, time and fail (AOV-126 : AOV-127). Verify forward flow operability (HCU-114).
Basis for Relief:	Individual valve testing is not possible without causing a control rod scram with a resulting change in core reactivity. Quarterly testing of these valves would violate plant Technical Specifications which govern the methods and frequency of reactivity changes. The Technical Specification Control Rod Scram Insertion Time testing meets the intent of Section XI testing requirements.
Alternate Testing:	Tech. Spec. Control Rod Scram Insertion Time testing serves to verify proper operation of each of these valves. To be performed on 10% of the HCU's each 120 days; on each individual control rod after any maintenance or modification to that rod or system is performed which would affect the scram insertion time for this rod; for all rods prior to thermal power exceeding 40% of rated thermal power following core alterations or after a reactor shutdown that is greater than 120 days.

RELIEF REQUEST
RR – 3

System:	Control Rod Drive
Valve:	HCU-115 (To be done for all 137 HCU's)
Category:	C
Class:	2
Function:	Reactor Shutdown.
ASME Section XI Quarterly Test Requirements:	Verify reverse flow closure.
Basis for Relief:	Verification of reverse flow closure requires securing the CRD pumps, depressurizing the header and monitoring the individual accumulator pressure and alarm to verify that the valves have closed on reverse flow. To do this requires entry into a high radiation work area and could also result in a plant scram.
Alternate Testing:	Verification of reverse flow closure will be performed at refueling when the header can be depressurized without a possible plant scram and when area radiation is sufficiently reduced to allow extend entry for testing. Testing will be by depressurizing the header and monitoring the individual accumulator pressure and alarm to verify that the valves have closed on reverse flow. This test if required by plant Tech. Spec. Surveillance Requirement 4.1.3.5.

RELIEF REQUEST
RR – 4

System:	Control Rod Drive
Valve:	HCU-138 (To be done for all 137 HCU's)
Category:	C
Class:	2
Function:	Reactor shutdown.
ASME Section XI Quarterly Test Requirements:	Verify reverse flow closure.
Basis for Relief:	Individual valve testing is not possible without causing a control rod scram with a resulting change in core reactivity. Quarterly testing of these valves would violate plant Technical Specifications which govern the methods and frequency of reactivity changes. The Technical Specification Control Rod Scram Insertion Time Testing meets the intent of Section XI testing requirements.
Alternate Testing:	Verification of reverse flow closure will be performed in conjunction with the Control Rod Scram Insertion Time Testing by observing the control rod cooling line pressure and flow indications. In addition the cooling water header relief valve will be monitored during the test. This test method is currently being analyzed to determine if it meets the intention of Section XI. If it does not, an alternate test method will be developed and implemented by the first plant refueling outage.

RELIEF REQUEST
RR – 1

System:	Standby Liquid Control
Valve:	0008 : 0010
Category:	AC
Class:	1
Function:	SBLC injection line check valves.
ASME Section XI Quarterly Test Requirements:	Verify forward flow operability.
Basis for Relief:	To verify forward flow operability during normal operation would require firing a squib valve and injecting water into the reactor vessel using the SBLC pumps. Injecting water during operation could result in adverse plant conditions such as changes in reactivity, power transients, thermal shock induced cracking and a possible plant trip.
Alternate Testing:	Verify forward flow operability during refueling during the standby liquid control system injection test, which fires at least one squib valve and pumps demineralized water into the reactor vessel.

RELIEF REQUEST
RR – 2

System:	Standby Liquid Control
Valve:	0008 : 0010
Category:	AC
Class:	2
Function:	Containment isolation simple check valve (reverse flow closure for containment isolation only).
ASME Section XI Quarterly Test Requirements:	Verify reverse flow closure.
Basis for Relief:	The only method available to verify reverse flow closure is by valve leak testing during Appendix J, Type C testing at refueling.
Alternate Testing:	Reverse flow closure will be verified during Appendix J, Type C testing at refueling.

RELIEF REQUEST
RR – 1

System:	HPCI
Valve:	0022
Category:	AC
Class:	2
Function:	Containment isolation simple check valve (reverse flow closure for containment isolation only).
ASME Section XI Quarterly Test Requirements:	Verify reverse flow closure.
Basis for Relief:	The only method available to verify reverse flow closure is by valve leak testing during Appendix J, Type C testing at refueling.
Alternate Testing:	Reverse flow closure will be verified during Appendix J, Type C testing at refueling.

RELIEF REQUEST
RR – 2

System:	Core Spray
Valve:	0018A,B
Category:	C
Class:	2
Function:	Loop level injection line check valves to core spray system.
ASME Section Xi Quarterly Test Requirements:	Verify reverse flow closure.
Basis for Relief:	Loop level piping configuration precludes verification of reverse flow closure.
Alternate Testing:	Design changes are presently under consideration to either modify the loop level piping configuration or to modify the valves to provide a means of valve reverse flow closure verification. An appropriate modification(s) will be selected and completed during the first refueling outage. During the interim forward flow operability will be verified by a system check to verify system water inventory.

RELIEF REQUEST
RR – 3

System:	HPCI
Valve:	0002
Category:	C
Class:	2
Function:	Suppression pool suction line to pump check valve.
ASME Section XI Quarterly Test Requirements:	Full flow forward flow exercise.
Basis for Relief:	The only possible full flow test would require pumping suppression pool water to either the a) feedwater system or b) condensate storage tank. The first is precluded by the poor quality of pool water and possible thermal shock induced pipe cracking problems and the second by condensate tank water quality problems that would result from introducing pool water into the storage tank. Either method would also require extensive flushing of the system after testing which would over burden the radwaste system. The valve can be partial stroke exercised by injecting demin. water at the upstream test tap and verifying partial valve opening at the downstream test tap.
Alternate Testing:	A design change is presently under investigation to modify the valve by adding mechanical exercising feature that would provide full stroke test capability. If valve modification is possible the valve will be modified during the first refueling and a full exercise test performed quarterly. During the interim the valve will be partial stroke exercised quarterly using demin. water.

RELIEF REQUEST
RR – 4

System: HPCI

Valve: 0023 : 0024

Category: C

Class: 2

Function: Vacuum breakers (forward flow) to preclude drawing water into the turbine exhaust line and to prevent steam (reverse flow closure) flow to the suppression pool air space.

ASME Section XI Quarterly Test Requirements: Verify forward flow operability and reverse flow closure.

Basis for Relief: The system design has no test provisions to allow for quarterly testing in either direction. The only method available to verify operability is by using a test similar to the Appendix J, Type C test. This test will be devised to verify both forward flow opening and reverse flow closure and will be performed at refueling.

Alternate Testing: A special test procedure similar to the Appendix J, Type C test procedure will be used to verify forward flow operability and reverse flow closure at refueling.

RELIEF REQUEST
RR – 5

System:	HPCI
Valve:	0019
Category:	C
Class:	2
Function:	Loop level injection line check valve to HPCI system.
ASME Section XI Quarterly Test Requirements:	Verify reverse flow closure.
Basis for Relief:	Loop level piping configuration precludes verification of reverse flow closure. To review reverse flow closure would require securing the loop level pump and draining the loop level piping, operating the HPCI system and monitoring an upstream vent line for leakage. This method would require opening vent valves during system operation at operating pressure, which presents a potential for injury to plant personnel.
Alternate Testing:	Design changes are presently under consideration to either modify the loop level piping configuration or to modify the valve to provide a means of valve reverse flow closure verification. An appropriate modification(s) will be selected and completed during the first refueling outage. During the interim forward flow operability will be verified by a system check to verify system water inventory.

RELIEF REQUEST
RR – 1

System:	RCIC
Valve:	0021 : 0025
Category:	AC
Class:	2
Function:	Containment isolation simple check valve (reverse flow closure for containment isolation only).
ASME Section XI Quarterly Test Requirements:	Verify reverse flow closure.
Basis for Relief:	The only method available to verify reverse flow closure is by valve leak testing during Appendix J, Type C testing at refueling.
Alternate Testing:	Reverse flow closure will be verified during Appendix J, Type C testing at refueling.

RELIEF REQUEST
RR – 3

System: RCIC

Valve: 0002

Category: C

Class: 2

Function: Suppression pool suction line to pump check valve.

ASME Section XI Quarterly Test Requirements: Full flow forward flow exercise.

Basis for Relief: The only possible full flow test would require pumping suppression pool water to either the a) feedwater system or b) condensate storage tank. The first is precluded by the poor quality of pool water and possible thermal shock induced pipe cracking problems and the second by condensate tank water quality problems that would result from introducing pool water into the storage tank. Either method would also require extensive flushing of the system after testing which would over burden the radwaste system. The valve can be partial stroke exercised by injecting demin. water at the upstream test tap and verifying partial valve opening at the downstream test tap.

Alternate Testing: A design change is presently under investigation to modify the valve by adding a mechnical exercising feature that would provide full stroke test capability. If valve modification is possible the valve will be modified during the first refueling and a full exercise test performed quarterly. During the interim the valve will be partial stroke exercised quarterly using demin. water.

RELIEF REQUEST
RR – 4

System:	RCIC
Valve:	0022 : 0023
Category:	C
Class:	2
Function:	Vacuum breakers (forward flow) to preclude drawing water into the turbine exhaust line and to prevent steam (reverse flow closure) flow to the suppression pool air space.
ASME Section XI Quarterly Test Requirements:	Verify forward flow operability and reverse flow closure.
Basis for Relief:	The system design has no test provisions to allow for quarterly testing in either direction. The only method available to verify operability is by using a test similar to the Appendix J, Type C test. This test will be devised to verify both forward flow opening and reverse flow closure and will be performed at refueling.
Alternate Testing:	A special test procedure similar to the Appendix J, Type C test procedure will be used to verify forward flow operability and reverse flow closure at refueling.

RELIEF REQUEST
RR – 1

System: Radwaste

Valve: 2110C

Category: AC

Class: 2

Function: Containment isolation simple check valve (reverse flow closure for containment isolation only).

ASME Section XI Quarterly Test Requirements: Verify reverse flow closure.

Basis for Relief: The only method available to verify reverse flow closure is by valve leak testing during Appendix J, Type C testing at refueling.

Alternate Testing: Reverse flow closure will be verified during Appendix J, Type C testing at refueling.

RELIEF REQUEST
RR – 2

System: Radwaste

Valve: 2110C

Category: AC

Class: 2

Function: Leakage return pump discharge line containment isolation valve.

ASME Section XI Quarterly Test Requirements: Verify forward flow operability.

Basis for Relief: To verify forward flow operability would require pumping water from the floor drain sump into the suppression pool. Typically water pumped from the sump is of relative poor quality. Injection of this poor quality water into the suppression pool would result in water quality control problems. This would be a plant operating problem during normal operation and cold shutdown when the suppression pool water is maintained relatively clean. It would have much less impact on operations at refueling when pool water quality tends to drop.

Alternate Testing: Verify forward flow operability at refueling.

RELIEF REQUEST
RR – 1

System: Reactor Water Cleanup

Valve: 0036A,B : 0050A,B

Category: C

Class: 1

Function: System isolation

ASME Section XI Quarterly Test Requirements: Verify reverse flow closure.

Basis for Relief: Valves are located in the main steam tunnel which is inaccessible during normal plant operation or cold shutdown. In addition, interruption of normal RWCU letdown flow during normal operation or cold shutdown could cause serious reactor water chemistry problems.

Alternate Testing: Reverse flow closure will be verified at refueling when entry to the main steam tunnel is possible.

RELIEF REQUEST
RR – 1

System:	RBCLCW
Valve:	0037 AA,AB,AC,AD,BA,BB,BC,BD
Category:	AC
Class:	2
Function:	Containment isolation simple check valve (reverse flow closure for containment isolation only).
ASME Section XI Quarterly Test Requirements:	Verify reverse flow closure.
Basis for Relief:	The only method available to verify reverse flow closure is by valve leak testing during Appendix J, Type C testing at refueling.
Alternate Testing:	Reverse flow closure will be verified during Appendix J, Type C testing at refueling.

RELIEF REQUEST
RR – 1

System:	Instrument and Service Air
Valve:	0695A,B : 0603 : 0811 : 0821 : 1C51-0867
Category:	AC
Class:	2
Function:	Containment isolation simple check valve (reverse flow closure for containment isolation only).
ASME Section XI Quarterly Test Requirements:	Verify reverse flow closure.
Basis for Relief:	The only method available to verify reverse flow closure is by valve leak testing during Appendix J, Type C testing at refueling.
Alternate Testing:	Reverse flow closure will be verified during Appendix J, Type C testing at refueling.

RELIEF REQUEST
RR – 1

System:	Primary Containment Atmospheric Control
Valve:	0016A,B
Category:	AC
Class:	2
Function:	Containment isolation simple check valve (reverse flow closure for containment isolation only).
ASME Section XI Quarterly Test Requirements:	Verify reverse flow closure.
Basis for Relief:	The only method available to verify reverse flow closure is by valve leak testing during Appendix J, Type C testing at refueling.
Alternate Testing:	Reverse flow clsoure will be verified during Appendix J, Type C testing at refueling.

RELIEF REQUEST
RR – 2

System:	Primary Containment Atmospheric Control
Valve:	0004A,B
Category:	C
Class:	2
Function:	Hydrogen recombiner outlet check valves.
ASME Section XI Quarterly Test Requirements:	Exercise
Basis for Relief:	The only way to verify full flow opening is during the hydrogen recombiner functional test which is performed by Technical Specification Surveillance Requirements 4.6.6.1 which test the hydrogen recombiners for operability at least once every six months.
Alternate Testing:	Verify operability during hydrogen recombiner functional testing at least once every six months.