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CNRO-2002-00057

December 10, 2002

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

SUBJECT: Entergy Operations, Inc.
Request to Use Alternate Testing Frequency for Inservice Testing

Grand Gulf Nuclear Station
Docket No. 50-416
License No. NPF-29

Dear Sir or Madam:

Pursuant to 10 CFR 50.55a(a)(3)(i), Entergy Operations, Inc. (Entergy) requests the NRC staff to authorize an alternate testing frequency for performing inservice testing (IST) of certain check valves as detailed in Request for Relief GGNS-VRR-001, Rev. 0 (see enclosure). Entergy proposes to test check valves on a frequency schedule commensurate with the refueling outage frequency currently allowed by ASME/ANSI Code OM-10 but during the operating cycle. This relief request applies to Grand Gulf Nuclear Station (GGNS). The NRC staff has authorized similar requests for Arkansas Nuclear One, Unit 1, Vermont Yankee Nuclear Power Station, and Hatch Nuclear Plant.

Entergy requests the NRC staff review and authorize GGNS-VRR-001 by May 9, 2003, in order to support scheduled IST activities. Following NRC staff approval, Entergy will incorporate this relief request into the Entergy Nuclear – South IST Plan.

Should you have any questions regarding this submittal, please contact Guy Davant at (601) 368-5756.

This letter contains no commitments.

Very truly yours,

M. A Krupa

MAK/GHD/bal

Enclosure: Request for Relief GGNS-VRR-001, Rev. 0

A047

cc: Mr. W. R. Campbell (ECH)
Mr. W. A. Eaton (GGNS)
Mr. G. A. Williams (ECH)

Mr. T. L Hoegg, NRC Senior Resident Inspector (GGNS)
Mr. D. H. Jaffe, NRR Project Manager (GGNS)
Mr. E. W. Merschoff, NRC Region IV Regional Administrator

ENCLOSURE

CNRO-2002-00057

REQUEST FOR RELIEF
GGNS-VRR-001, Rev. 0

SYSTEM E22 – HPCS (High Pressure Core Spray System)

Component Identification	Size (inches)	Code Class	Code Category	Component Function
E22F002	18	2	C	HPCS PUMP SUCTION FROM CST CHECK VALVE

SYSTEM E51 – RCIC (Reactor Core Isolation Cooling)

Component Identification	Size (inches)	Code Class	Code Category	Component Function
E51F030	6	2	C	RCIC PUMP SUCTION CHECK VALVE
E51F047	2	2	C	STOP CHECK VALVE TO DRW FROM RCIC DRAIN POT
E51F079	2.5	2	C	RCIC VACUUM BREAKER CHECK VALVE
E51F081	2.5	2	C	RCIC VACUUM BREAKER CHECK VALVE

COMPONENT FUNCTION

E22F002 is a check valve located in the HPCS pump suction line from the Condensate Storage Tank (CST). This valve has an open safety function to provide water from the CST to the HPCS pump during injection and a close safety function to isolate the CST from the Suppression Pool. E22F002 has no containment isolation function.

As permitted by Paragraph 4.3.2.4(c) of ASME/ANSI OM-10 (Reference 2), the open and closed functions of E22F002 are verified by valve disassembly during each refueling outage.

E51F030 is a check valve located in the RCIC pump suction line from the Suppression Pool. This valve has an open safety function to provide suction to the RCIC pump from the Suppression Pool. There is also a close safety function to prevent draining the CST into the Suppression Pool via reverse flow during a transfer of the suction source, potentially resulting in an unacceptably high level in the Suppression Pool. E51F030 has no containment isolation function.

As permitted by Paragraph 4.3.2.4(c) of ASME/ANSI OM-10 (Reference 2), the open and closed functions of E51F030 are verified by valve disassembly during each refueling outage.

E51F047 is a check valve located off the RCIC turbine exhaust line drain pot. This valve has an open safety function to maintain drainage in the RCIC turbine exhaust piping and to prevent a hydraulic transient on the turbine exhaust piping. There is no close safety function credited to this valve. E51F047 has no containment isolation function.

As permitted by Paragraph 4.3.2.4(c) of ASME/ANSI OM-10 (Reference 2), the open and closed functions of E51F047 are verified by valve disassembly during each refueling outage.

E51F079 and E51F081 are check valves located in the RCIC turbine exhaust line serving as vacuum breakers. These valves have an open safety function to relieve vacuum in order to prevent siphoning Suppression Pool water into the turbine exhaust line. Such action would result in turbine exhaust line transients. They also have a close safety function to prevent the RCIC turbine from exhausting directly into the containment air space. Neither E51F079 nor E51F081 has a containment isolation function.

As permitted by Paragraph 4.3.2.4(c) of ASME/ANSI OM-10 (Reference 2), the open function of E51F079 and E51F081 is verified by valve disassembly during each refueling outage using a sampling program as allowed by Position 2 of NRC Generic Letter (GL) 89-04 (Reference 3). Because Entergy employs sample disassembly for the full-open stroke exercise, these valves are partially stroked open quarterly as required by GL 89-04 (Reference 3) Position 2. Concurrent with the partial-open stroke test, Entergy performs a full-closed stroke test.

ASME CODE TEST REQUIREMENTS

ASME/ANSI OM-10 (Reference 2) paragraph 4.3.2.2 addresses exercising requirements for valves. Paragraph 4.3.2.2(e) states, "If exercising is not practicable during plant operation or cold shutdowns, it may be limited to full-stroke during refueling outages."

ASME/ANSI OM-10 (Reference 2) paragraph 4.3.2.4 addresses methods that may be used to perform inservice testing activities for valves. Paragraph 4.3.2.4(c) states, "As an alternative to the testing in (a) or (b) above, disassembly every refueling outage to verify operability of check valves may be used."

Although not a code requirement, Position 2 of GL 89-04 (Reference 3) provides an alternative to full-stroking a check valve or to verifying closure capability through the use of sample disassembly and inspection requirements that are performed at a refueling outage frequency. This relief request also applies to these alternative requirements specified in GL 89-04 (Reference 3) Position 2.

BASIS FOR RELIEF

Background

The components listed above are check valves with no external means for exercising and no external position indication mechanism. Disassembly of the E22 and E51 valves is the most feasible method to verify OPERABILITY. Although ASME/ANSI OM-10 (Reference 2) Paragraphs 4.3.2.2(e) and 4.3.2.4(c) and GL 89-04 (Reference 3) Position 2 identify disassembly and testing to be performed during refueling outages, these activities can be conducted during system outages while the plant is on-line.

10 CFR 50.65(a)(4) requires licensees to assess and manage the increase in risk that may result from proposed maintenance activities. Entergy complies with the requirements of §50.65(a)(4) at Grand Gulf Nuclear Station (GGNS) via the application of a program governing maintenance scheduling. This program dictates the requirements for risk

evaluations as well as the necessary levels of action required for risk management in each case. The program also controls operation of the on-line risk monitoring system, which is based on the GGNS probabilistic risk assessment (PRA). In addition, this program provides methods for assessing risk of maintenance activities for components not directly in the GGNS PRA model. With the use of risk evaluation for various aspects of plant operations, Entergy has initiated efforts to perform additional maintenance, surveillance, and testing activities during normal operation. Planned activities are evaluated utilizing risk insights to determine the impact on safe operation of the plant and the ability to maintain associated safety margins. Individual system components, a system train, or a complete system may be planned to be out of service to allow maintenance, or other activities, during normal operation.

Basis

As more system outages are performed on-line, it is evident that selected refueling outage inservice testing activities (e.g., valve exercising and disassembly) could be performed during these system outages without sacrificing the level of quality or safety. Incorporation of valve disassembly into the system work window for other planned maintenance will not result in any additional net risk increase for the inservice test activity. Entergy proposes the alternative inservice testing frequency for the associated check valves based on the following:

1. Inservice testing performed on a refueling outage frequency is currently acceptable in accordance with ASME/ANSI OM-10 (Reference 2) and GL 89-04 (Reference 3). By specifying testing activities on a frequency commensurate with each refueling outage, OM-10 (Reference 2) recognizes and establishes an acceptable time period between testing. Historically, the refueling outage has provided a convenient and defined time period in which testing activities could be safely and efficiently performed. However, an acceptable testing frequency can be maintained separately without being tied directly to a refueling outage. Inservice testing performed on a frequency that maintains the acceptable time period between testing activities during the operating cycle is consistent with the intent of OM-10 (Reference 2) and GL 89-04 (Reference 3).

2. As discussed above, Entergy complies with the requirements of §50.65(a)(4) at GGNS via the application of a program governing maintenance scheduling Disassembly and testing of the identified E22 and E51 valves would be performed during a scheduled system outage window.

   Disassembly and testing will involve a system breach. However, the valves are isolated and the associated section of piping is drained during the disassembly. Therefore, the system breach does not increase the risk due to internal flooding or internal system LOCA.

   The risk resulting from these activities would be bounded within the risk experienced due to the system outage; therefore, disassembly and testing of these valves during scheduled system outages while on-line would have no additional impact on core damage frequency.

   Entergy believes using risk assessment to plan and schedule system/train outages for maintenance work and incorporating check valve disassembly into the planned work windows during normal operation provide an acceptable level of quality and safety.

3. Over time, approximately the same number of tests will be performed using the proposed operating cycle test frequency as would be performed using the current refueling outage frequency. Thus, inservice testing activities performed during the proposed operating cycle test frequency provide an equivalent level of quality and safety as inservice testing performed at a refueling outage frequency.

In approving similar relief requests for Arkansas Nuclear One, Unit 1 (Reference 5), the NRC staff stated, "Verifying closure of each valve once per refueling [operating] cycle using non-intrusive techniques provides reasonable assurance of the valves' operational readiness, considering the Code allows deferrals to once per refueling outage."

PROPOSED ALTERNATE TESTING

Pursuant to 10 CFR 50.55a(a)(3)(i), Entergy proposes an alternative testing frequency for performing inservice testing of the valves identified above. The valves will be tested on a frequency of at least once during each operating cycle in lieu of once during each refueling outage as currently allowed by ASME/ANSI OM-10 (Reference 2) paragraphs 4.3.2.2(e) and 4.3.2.4(c), and GL 89-04 (Reference 3) Position 2.

CONCLUSIONS

10 CFR 50.55a(a)(3) states:

"Proposed alternatives to the requirements of paragraphs (c), (d), (e), (f), (g), and (h) of this section or portions thereof may be used when authorized by the Director of the Office of Nuclear Reactor Regulation. The applicant shall demonstrate that:

(i) The proposed alternatives would provide an acceptable level of quality and safety, or

(ii) Compliance with the specified requirements of this section would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety."

Entergy believes the proposed alternative inservice testing presented above provides an acceptable level of quality and safety in that the proposed frequency is consistent with that allowed by ASME OM-10 (Reference 2) for performing inservice testing of valves. Entergy requests that the NRC staff authorize the proposed alternative frequency of testing as described above pursuant to 10 CFR 50.55a(a)(3)(i).

REFERENCES

1. ASME/ANSI OM-1987, Part 1

2. ASME/ANSI OMa-1988, Part 10

3. NRC Generic Letter 89-04, Supplement 1, Guidance on Developing Acceptable Inservice Testing Programs, dated April 4, 1995

4. NUREG-1482, Guidelines for Inservice Testing at Nuclear Power Plants, published April 1995

5. Letter from the NRC to Entergy Operations, Inc., "Arkansas Nuclear One, Unit 1 – Inservice Testing Program Third Ten-Year Interval for Pumps and Valves (TAC No. MA0275)," dated October 9, 1998

6. Program Section No. CEP-IST-2, Inservice Testing Plan, Entergy Nuclear - South