Entergy

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Director
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CNRO-2003-00053

October 13, 2003

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

River Bend Station
Docket No. 50-458
License No. NPF-47

REFERENCES:

1. 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

2. Letter from the NRC to Entergy Operations, Inc., "River Bend Station, Unit 1 – RE: Relief from the Requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, Concerning Check Valve Inservice Testing Program (TAC No. MB5834)," dated January 29, 2003

3. Letter from the NRC to Entergy Operations, Inc., "Grand Gulf Nuclear Station, Unit 1 – RE: Relief from the Requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code) Concerning the use of Alternative Testing Frequency for Performing Inservice Testing (IST) (TAC No. MB6900)," dated April 23, 2003

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 check valve E51-VF030 as detailed in Relief Request RBS-VRR-008 (see enclosure). Entergy proposes to test E51-VF030 on a frequency schedule commensurate with the refueling outage frequency currently allowed by ASME OM-10 but during the operating cycle. Relief Request RBS-VRR-008 applies to River Bend Station. As documented in above referenced letters, similar relief requests have been approved by the NRC staff for Arkansas Nuclear One, Unit 1 (Relief Requests 3 and 4), River Bend Station (RBS-VRR-005), and Grand Gulf Nuclear Station (GGNS-VRR-001).

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Entergy requests that the NRC staff review and authorize RBS-VRR-008 on or before September 1, 2004, in order to support performing this IST activity prior to the upcoming refueling outage at River Bend, which is currently scheduled to begin in October, 2004.

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: Relief Request No. RBS-VRR-008

cc: Mr. W. A. Eaton (ECH)
Mr. P. D. Hinnenkamp (RBS)
Mr. G. A. Williams (ECH)

Mr. P. J. Alter, NRC Senior Resident Inspector (RBS)
Mr. B. S. Mallett, NRC Region IV Regional Administrator
Mr. M. K. Webb, NRR Project Manager (RBS)

ENCLOSURE

CNRO-2003-00053

REQUEST FOR RELIEF
RBS-VRR-008

SYSTEM 209 – ICS – Reactor Core Isolation Cooling (RCIC)

Component Identification	Code Class	Size (Inches)	Code Category	Component Function
E51-VF030	2	6	C	REACTOR CORE ISOL COOLING PUMP SUCTION LINE CHECK VALVE

COMPONENT FUNCTION

E51-VF030 is a check valve located in the RCIC pump suction line from the Suppression Pool. This valve has an open safety function to allow water flow to the suction of the RCIC pump from the Suppression Pool. This check valve must be capable of passing at least 616 gpm for the RCIC system to perform its design safety function (600 gpm injection flow rate plus 16 gpm cooling water from the pump discharge). The Suppression Pool is the Seismic Class I safety-related suction source for the RCIC pump. There is also a close safety function to prevent diversion of flow from the RCIC keep-fill pump and to prevent draining the Condensate Storage Tank (CST) into the Suppression Pool via reverse flow during a transfer of the suction source. This action could potentially result in an unacceptably high level in the Suppression Pool.

The close function is verified quarterly by verifying little or no sustained flow from an upstream test connection. As permitted by Paragraph 4.3.2.4(c) of ASME/ANSI OM-10 (Reference 1), the open function of E51-VF030 is verified by valve disassembly during each refueling outage.

ASME CODE TEST REQUIREMENTS

ASME/ANSI OM-10 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 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."

BASIS FOR RELIEF

Background

E51-VF030 is a check valve with no external means for exercising and no external position indication mechanism. Disassembly of E51-VF030 is the most feasible method to verify OPERABILITY. Although ASME/ANSI OM-10 Paragraphs 4.3.2.2(e) and 4.3.2.4(c) 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 River Bend Station (RBS) 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 RBS probabilistic risk assessment (PRA). In addition, this program provides methods for assessing risk of maintenance activities for components not directly in the RBS 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 valve based on the following:

1. Inservice testing performed on a refueling outage frequency is currently acceptable in accordance with ASME/ANSI OM-10. By specifying testing activities on a frequency commensurate with each refueling outage, ASME/ANSI OM-10 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 ASME/ANSI OM-10.

2. As discussed above, Entergy complies with the requirements of §50.65(a)(4) at RBS via the application of a program governing maintenance scheduling. Disassembly and testing of valve E51-VF030 would be performed during a scheduled system outage window.

   Disassembly and testing of E51-VF030 will involve a system breach. During such activities, the valve is isolated and the associated section of piping is drained. 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 this valve 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 provides 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 2), 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."

In approving similar relief requests for River Bend Station (Reference 3) and for Grand Gulf Nuclear Station (Reference 4), the NRC staff concluded that the proposed alternative testing frequency of at least once per operating cycle in lieu of once during each refueling outage would provide an acceptable level of quality and safety.

PROPOSED ALTERNATE TESTING

Pursuant to 10 CFR 50.55a(a)(3)(i), Entergy proposes an alternative testing frequency for performing inservice testing of valve E51-VF030. The valve 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 paragraphs 4.3.2.2(e) and 4.3.2.4(c).

CONCLUSIONS

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

"Proposed alternatives to the requirements of (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/ANSI OM-10 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 OMa-1988, Part 10, *Inservice Testing of Valves in Light-Water Reactor Power Plants*

2. 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

3. Letter from the NRC to Entergy Operations, Inc., "River Bend Station, Unit 1 – Re: Relief from the Requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, Concerning Check Valve Inservice Testing Program (TAC No. MB5834)," dated January 29, 2003

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