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F. G. Burford
Acting Director
Nuclear Safety & Licensing

CNRO-2004-00003

May 26, 2004

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

SUBJECT: Request for Alternative RBS-PT-001 -
Proposed Alternative to ASME Section XI Visual Examination Requirements

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

Dear Sir or Madam:

Pursuant to 10 CFR 50.55a(a)(3)(ii), Entergy Operations, Inc. (Entergy) requests relief from and proposes an alternative to the requirements of ASME Section XI pertaining to pressure testing for River Bend Station (RBS). Performing Section XI-required system leakage tests on these Class 2 systems is a burden without a compensating increase in the level of quality and safety. Testing in accordance with ASME Code Case N-522 would provide an acceptable level of quality and safety; however, these Class 2 systems do not meet the conditions required to apply this Code Case. Therefore, relief is required. Relief Request RBS-PT-001 is provided in Enclosure 1.

The NRC staff approved a similar request for Nine Mile Point Nuclear Station, Unit 2 (TAC. No. MA2151) in a letter dated February 29, 2000.

Entergy requests that the NRC staff grant RBS-PT-001 on or before May 28, 2005.

This letter contains two commitments as documented in Enclosure 2.

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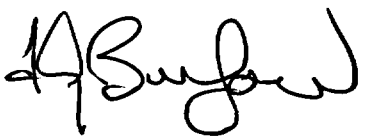
Should you have any questions regarding these requests, please contact Guy Davant at (601) 368-5756.

Very truly yours,



FGB/GHD/ghd
Enclosures: 1. Request for Alternative RBS-PT-001
2. Licensee-Identified Commitments

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

Dr. Bruce S. Mallett
U. S. Nuclear Regulatory Commission
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U.S. Nuclear Regulatory Commission
Attn: Mr. Michael K. Webb
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Washington, DC 20555-0001

ENCLOSURE 1

CNRO-2004-00003

REQUEST FOR ALTERNATIVE
RBS-PT-001

ENTERGY OPERATIONS, INC.
REQUEST FOR ALTERNATIVE
RBS-PT-001

I. COMPONENTS

Components/Numbers:	Hydrogen Analyzer (CMS) Loops A and B piping, and sampling system (SSR) piping connected to CMS Loop B[1]
ASME Code Class:	2
References:	1. ASME Section XI 1992 Edition, 1993 Addenda, Table IWC-2500-1 2. ASME Section XI 1992 Edition, IWA-5211 and IWA-5240
Examination Category:	C-H
Item Numbers:	C7.30, C7.70
Description:	Performance of system leakage test as required by Table IWC-2500-1
Unit / Inspection Interval Applicability:	River Bend Station – Second (2^{nd}) 10-year interval

II. CODE REQUIREMENT(S)

ASME Section XI, Table IWC-2500-1, Examination Category C-H, Items C7.30 and C7.70 require the subject piping to be VT-2 visually examined during a system leakage test each inspection period. IWA-5211 requires that the VT-2 visual examination be performed while the component being tested is maintained at normal operating pressure.

III. REQUESTED ALTERNATIVE

Pursuant to 10 CFR 50.55a(a)(3)(ii), Entergy Operations, Inc. (Entergy) proposes an alternative to the system leakage test with a VT-2 visual examination as required by ASME Section XI Table IWC-2500-1 as discussed below.

The integrity of the subject piping will be verified and monitored by performing leakage rate testing in accordance with the River Bend Station Leakage Reduction and Monitoring Program and the Appendix J Program. The system leakage rate test will be performed on the supply and return pneumatic tubing/piping and the hydrogen analyzer components; specifically, from two manual isolation valves (one each in the supply and return pneumatic lines for the analyzer) located within containment to the pneumatic tubing, analyzer, isolation valves, and piping located outside containment (see Figures 1 and 2). System piping will be pressurized to $\geq$ 8 psi and held for 15 minutes. The leakage rate will then be measured and compared to the acceptance criterion, which for

[1] Figures 1 and 2 depict the configuration of the CMS hydrogen analyzer piping loops and SSR sampling station and piping.

the subject piping is $\leq$ 2,000 sccm per loop as established in the Leakage Reduction and Monitoring Program.

A local leak-rate test will be performed for the four (4) SSR containment isolation valves in accordance with 10 CFR 50 Appendix J. The CMS and SSR piping leak rate will be measured as part of the containment leak rate during the integrated leak-rate test, which is performed in accordance with the Appendix J Program.

IV. BASIS FOR ALTERNATIVE

The subject CMS hydrogen analyzers and piping and SSR piping are designed to sample the containment and drywell atmospheres for the presence of hydrogen during post-LOCA conditions (the analyzers are placed in STANDBY mode during normal plant operation). A sample pump internal to the hydrogen analyzer draws an air sample from the containment or drywell atmosphere, which is then processed through an internal hydrogen sensor. Once analyzed, the sample is returned to the drywell atmosphere. These functions are performed using a closed loop system with a portion of the system (pneumatic tubing and hydrogen analyzer) located outside containment and a portion located inside containment. The system includes approximately 700 feet of piping, of which about 350 feet are heat traced and insulated.

Performing the Code-required system leakage test with a VT-2 visual examination entails removing the insulation and heat tracing and applying leak detection fluid for every system pressure test. Once testing is complete, the fluid is removed and the heat tracing and insulation are reinstalled. The activities associated with these examinations would result in plant life exposure to personnel of approximately 29 man-Rem. Disposing of the fluid, the wipes used in fluid removal, and any damaged insulation and heat tracing is a significant radwaste impact.

This piping has two safety functions: (1) supports the ability of the CMS hydrogen analyzers to accurately detect the amount of hydrogen contained within the containment/drywell atmosphere; and (2) serves as a portion of the containment boundary.

The first safety function will not be affected by the presence of a leak that is less than the acceptance criteria of the leakage reduction program in any portion of the pneumatic supply or return system during post-LOCA operation. This is based on post-LOCA containment pressure being greater than the atmospheric pressure in the area of the plant where the pneumatic lines and analyzer are located (outside containment in the Auxiliary Building Elevation 141-foot area). With containment pressure being greater than that of the auxiliary building during post-LOCA operation, leakage would be outward so as not to affect the concentration of hydrogen being delivered to the hydrogen analyzer. The sample lines inboard of the manual isolation valves are not inside the test boundary. One of the sample valves is maintained open to containment atmosphere during system operation in accordance with procedure; therefore, there is no differential pressure between the inside and outside of the piping. Any leak in this portion of the system would merely change the location of the sample and have no effect on this safety function.

The second safety function, which is passive, is ensured via Appendix J testing. This testing is the appropriate mechanism to ensure the containment boundary function is maintained.

As discussed in Section III, CMS and SSR system integrity will be verified by performing system leakage rate testing to Appendix J requirements and the Leakage Reduction Program in lieu of ASME Section XI examinations. This is similar to the IWA-5244(a) requirements that allow the owner to establish acceptable leakage rate criteria for buried piping that can be isolable by means of valves. Although the subject piping is not buried, more than 50% of it is covered with heat trace and insulation.

V. CONCLUSION

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."

Based on the burden of radwaste disposal, resources commitment, ALARA exposures and performing the system leakage rate testing as discussed in Section IV, the Code-required VT-2 visual examination does not provide a compensating increase in the level of safety or quality. Therefore, Entergy requests authorization to perform the requested alternative to the Code requirement pursuant to 10 CFR 50.55a(a)(3)(ii).

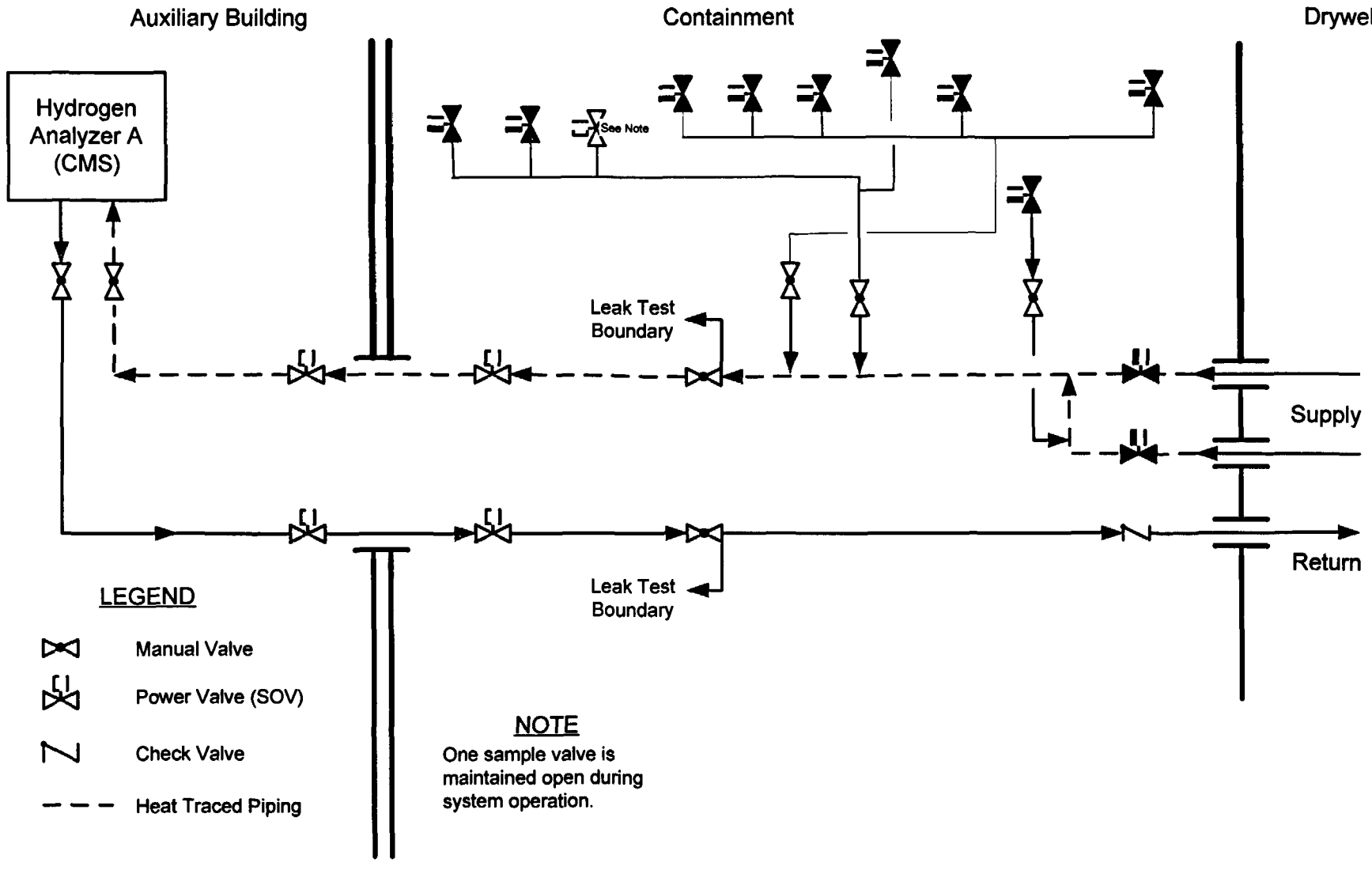

FIGURE 1
CMS Loop A

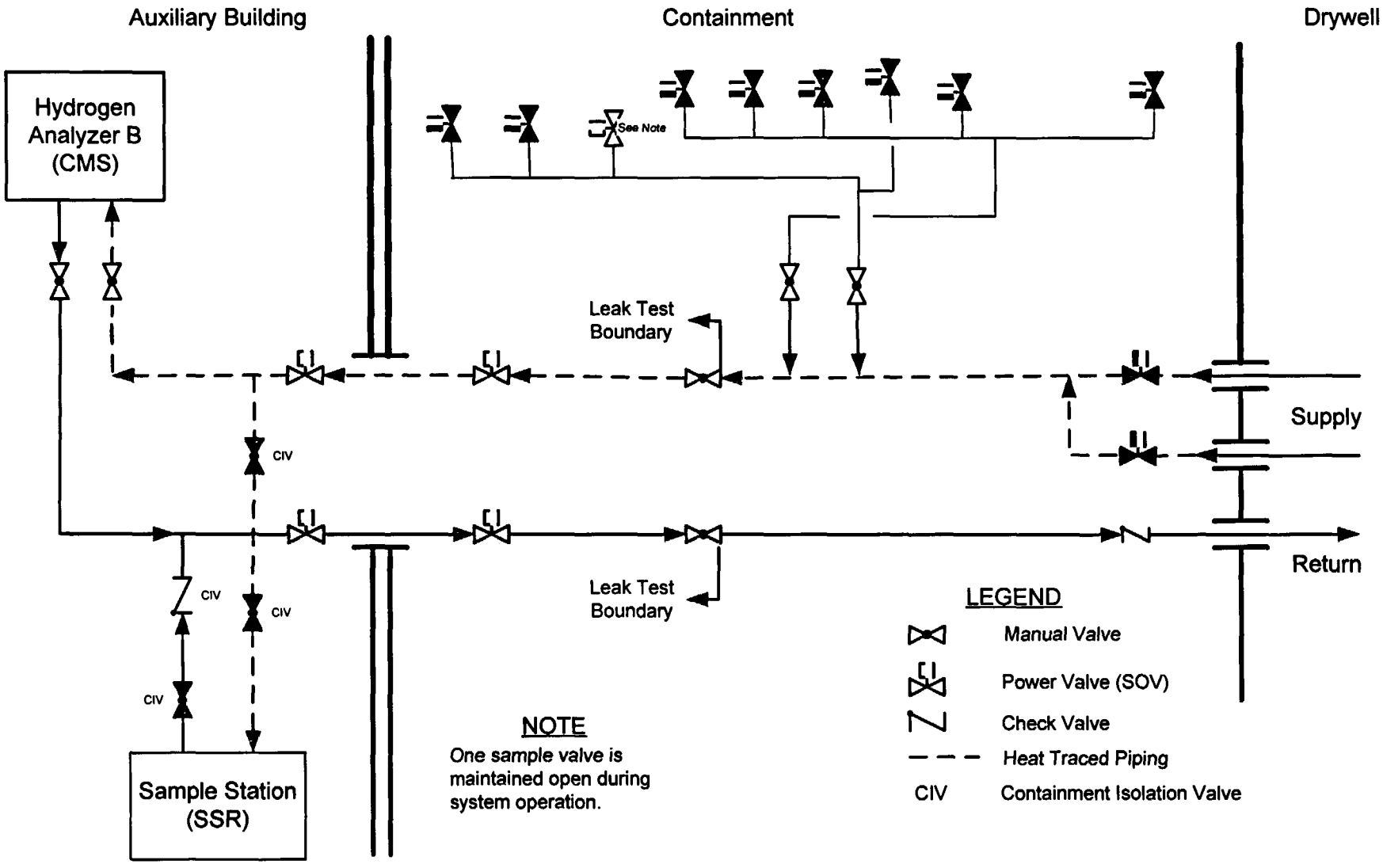

FIGURE 2
CMS Loop B

ENCLOSURE 2

CNRO-2004-00003

LICENSEE-IDENTIFIED COMMITMENTS

LICENSEE-IDENTIFIED COMMITMENTS

COMMITMENT	TYPE (Check one)		SCHEDULED COMPLETION DATE
	ONE-TIME ACTION	CONTINUING COMPLIANCE	
1. The integrity of the subject piping will be verified and monitored by performing leakage rate testing in accordance with the River Bend Station Leakage Reduction and Monitoring Program and the Appendix J Program. The system leakage rate test will be performed on the supply and return pneumatic tubing/piping and the hydrogen analyzer components; specifically, from two manual isolation valves (one each in the supply and return pneumatic lines for the analyzer) located within containment to the pneumatic tubing, analyzer, isolation valves, and piping located outside containment (see Figures 1 and 2). System piping will be pressurized to $\geq$ 8 psi and held for 15 minutes. The leakage rate will then be measured and compared to the acceptance criterion, which for the subject piping is $\leq$ 2,000 sccm per loop as established in the Leakage Reduction and Monitoring Program.		✓	
2. A local leak-rate test will be performed for the four (4) SSR containment isolation valves in accordance with 10 CFR 50 Appendix J. The CMS and SSR piping leak rate will be measured as part of the containment leak rate during the integrated leak-rate test, which is performed in accordance with the Appendix J Program.		✓	