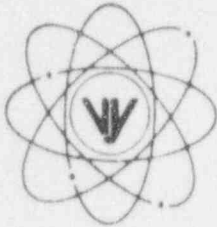


VERMONT YANKEE NUCLEAR POWER CORPORATION



Ferry Road, Brattleboro, VT 05301-7002

REPLY TO
ENGINEERING OFFICE
580 MAIN STREET
BOLTON, MA 01740
(508) 779-6711

January 15, 1996
BVY 96-04

United States Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

- References:
- a. License No. DPR-28 (Docket No. 50-271)
 - b. Letter, USNRC to VYNPC, NVY 96-01, dated December 22, 1995
 - c. Letter, VYNPC to USNRC, FVY 85-60, dated June 28, 1985
 - d. Letter, VYNPC to USNRC, FVY 85-102, dated October 31, 1985
 - e. Letter, USNRC to VYNPC, NVY 86-240, dated December 1, 1986

Subject: Appendix R Supplemental Information

This letter provides additional information regarding subjects discussed at the predecisional enforcement conference held January 11, 1996 at NRC's Region I office.

Appendix R Scenario Graphs

At the conference, graphical representations of two Appendix R scenarios were presented during Vermont Yankee's Technical Analysis Presentation. At the request of the NRC, Vermont Yankee is providing a smaller copy of these graphs (figures 1 & 2, attached). As noted during the conference, the graphs were developed by Vermont Yankee to assess the safety significance of our self-identified Appendix R deficiencies, not to define new design basis scenarios.

The Plant Response curves which appear on the two graphs were generated using Vermont Yankee's NRC approved, BWR version of RELAP5YA Evaluation Model (EM) code. For this analysis, all EM input options were used except for decay heat and initial fluid conditions. For decay heat, the 1979 ANS standard plus two-sigma (2σ) uncertainties and 2% core power uncertainties, were used. For initial fluid conditions, fluid conditions present at 100% power were used. Additional analysis inputs, unique to the Appendix R scenarios presented, including operator actions, were also used.

The curves represent base case results. In addition to the base case, sensitivities were performed to assess the effect of entrainment and reactor coolant pressure boundary leakage uncertainties. The analysis concluded that for the two Appendix R scenarios evaluated, no clad damage is

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predicted. This analysis was prepared and reviewed in accordance with our 10CFR50 Appendix B Quality Assurance Program.

During the presentation, Vermont Yankee noted that the indicated level curves are not representative of true level when the level drops below 0 inches or top-of-active-fuel (TAF). This is because the computer runs used an indicated level range between +177 inches and -48 inches. The actual indicated level for the two scenarios presented are shown in attached figures 3 and 4.

Alternate Shutdown Timeline Analysis

During the conference, Vermont Yankee informed the NRC that we had completed our Appendix R Alternate Shutdown Timeline Analysis and that the result of that analysis differed from the preliminary result noted in the Appendix R inspection report (reference (b)). According to the completed analysis, 31.7 minutes are available prior to core uncover (i.e. onset of core heatup). This assumes no reactor coolant pressure boundary leakage. 26.7 minutes are available if a conservative reactor coolant pressure boundary leakage value of 61 GPM is assumed.

Fuse Replacement Exemption

In the Appendix R inspection report (reference (b)), NRC considered fuse replacements an unauthorized repair, "in that the repairs involve several systems beyond the NRC-approved exemption for the RCIC and RHR systems." Vermont Yankee noted during the enforcement conference that docketed correspondence between Vermont Yankee and NRC indicates that although some fuses replaced as part of Vermont Yankee's alternate shutdown procedure are not in either the RCIC or RHR systems, the replacement of these fuses was included in Vermont Yankee's technical basis accepted by NRC in granting the fuse replacement exemption.

The technical basis upon which the exemption request was approved is stated in reference (c), Vermont Yankee's response to I&E Notice 85-09, and in our exemption request, reference (d). Enclosure 2 of reference (d), drawing on the technical analysis of reference (c), states:

It is estimated that less than 20 minutes will be required to complete the task of replacing fuses to provide the necessary electrical power to the RCIC system. In parallel with startup of the RCIC system, operators would be preparing the RHR-Torus cooling system for operation. ...The necessary fuses and equipment are available to perform the task and it is estimated that 20 minutes will be required to complete the fuse replacement.

From the above statements, it can be seen that Vermont Yankee considered replacement of all fuses necessary to make the RCIC and RHR systems operable following a fire requiring implementation of the alternate shutdown system. This included replacement of fuses not in the RCIC or RHR systems but in systems necessary for the operation of RCIC and RHR.

In reviewing reference (e), the letter granting Vermont Yankee an exemption to perform the fuse replacement, it appears that NRC considered only RHR and RCIC system fuses in considering

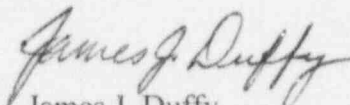
Vermont Yankee's exemption request. However, the technical basis for acceptance of Vermont Yankee's fuse replacement strategy is based upon acceptance of Vermont Yankee's 20 minute fuse replacement duration. As shown above, this 20 minutes includes replacement of all fuses necessary for operation of the RCIC and RHR systems.

In summary, given the information provided above, Vermont Yankee considers the apparent violation for unauthorized repairs a miscommunication between Vermont Yankee and NRC. As such, Vermont Yankee requests NRC reconsideration of this apparent violation in light of the facts presented.

We trust this information is satisfactory; however, should you have any questions, please do not hesitate to contact us.

Sincerely,

VERMONT YANKEE NUCLEAR POWER CORPORATION

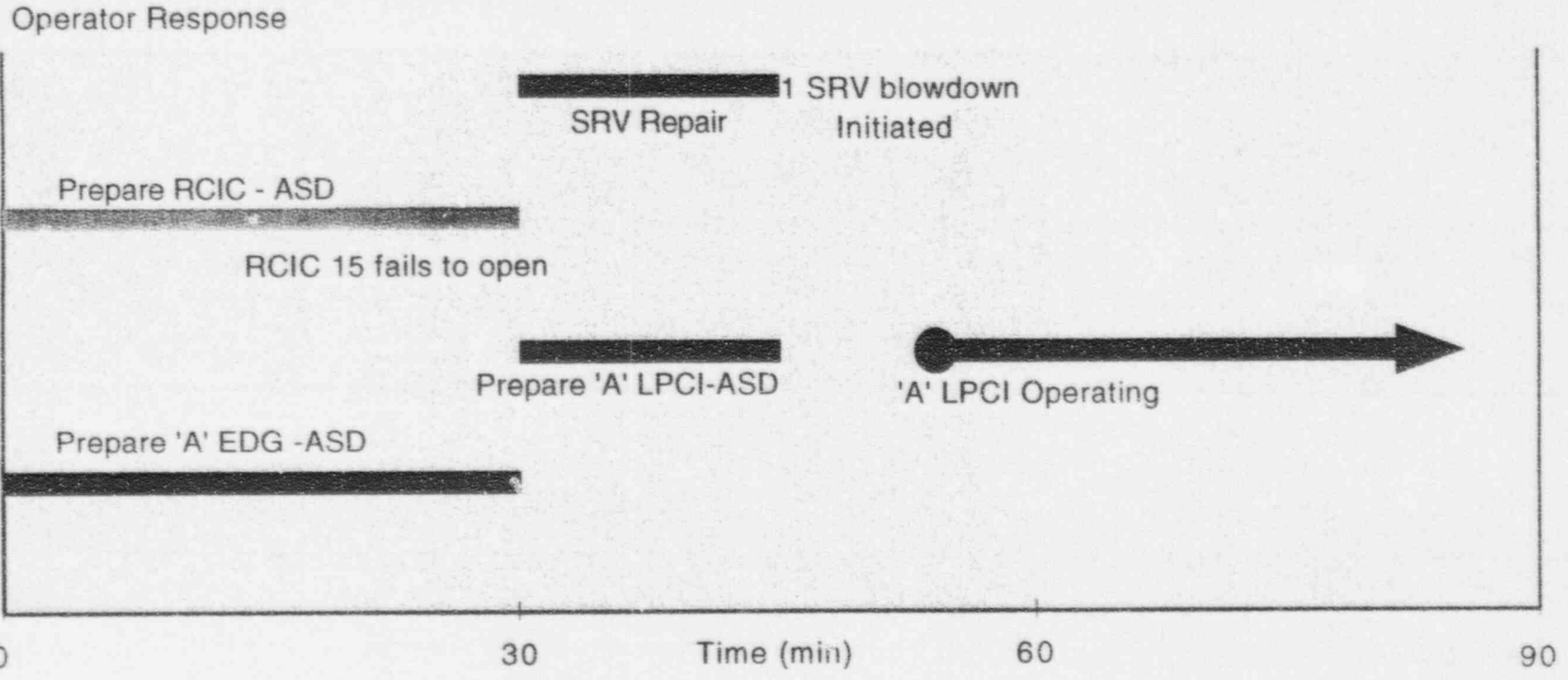
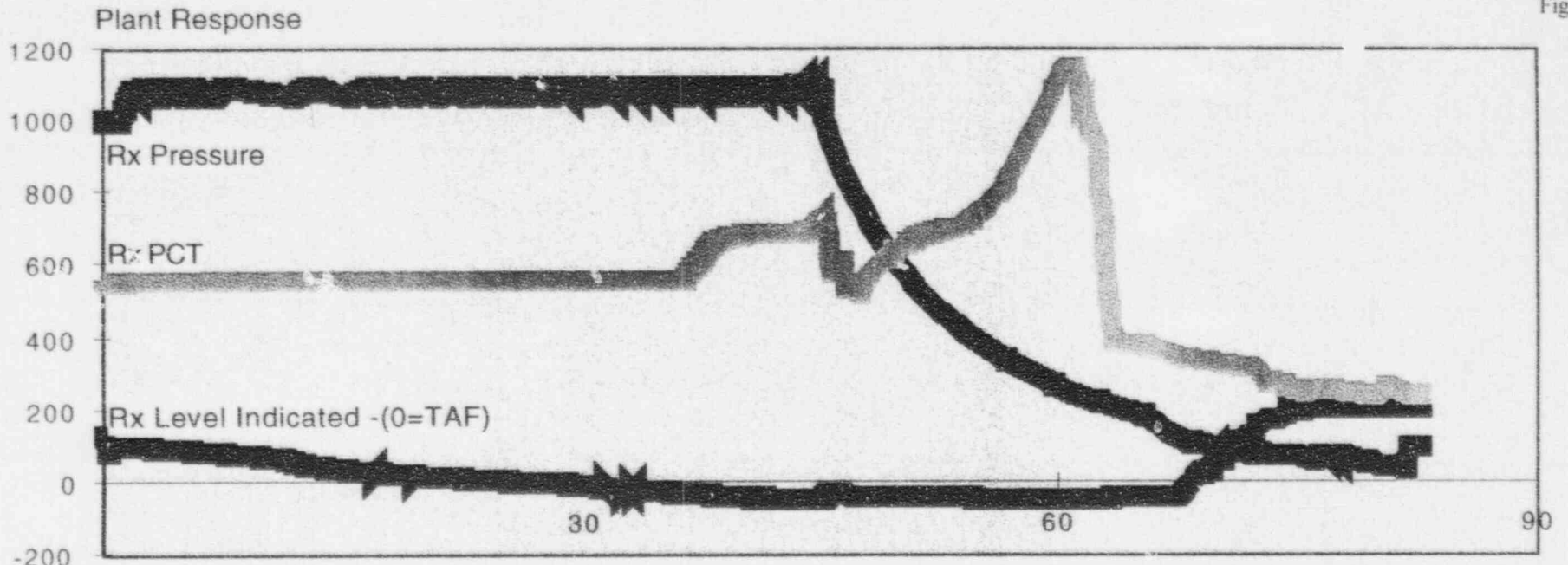


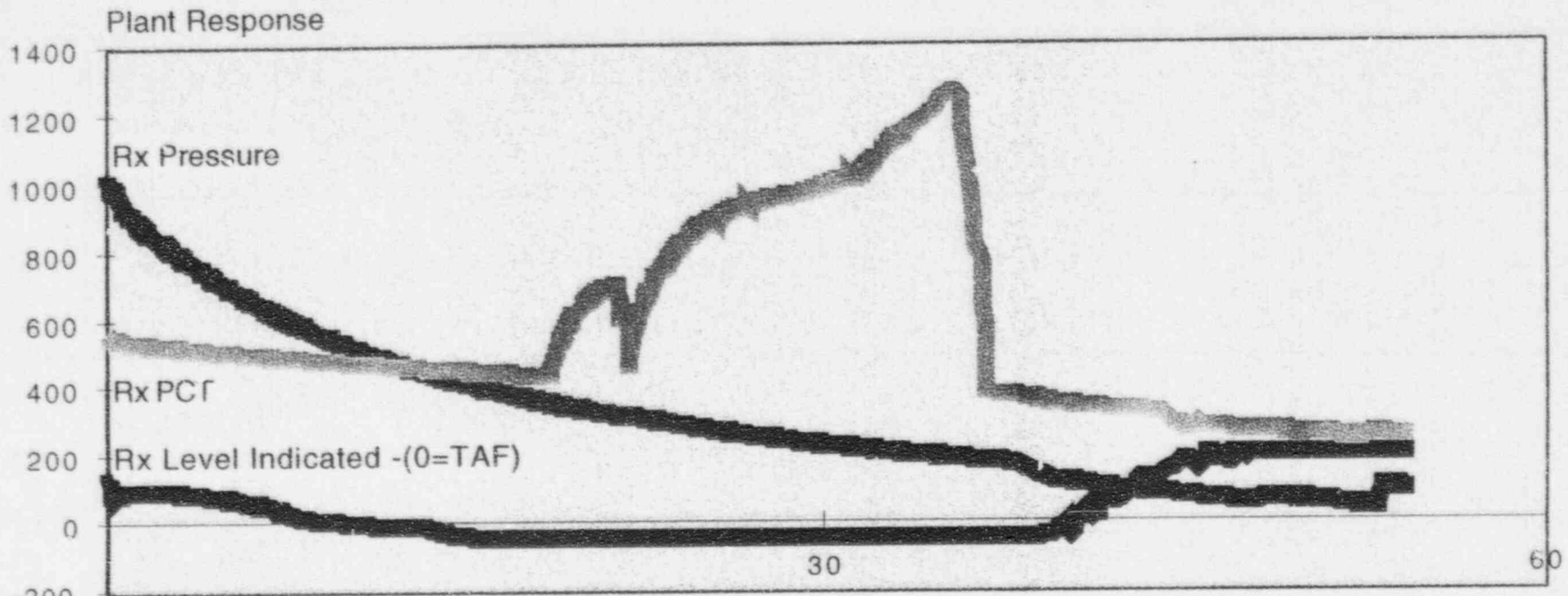
James J. Duffy
Licensing Engineer

- c: USNRC Region I Administrator
- USNRC Resident Inspector - VYNPS
- USNRC Project Manager - VYNPS

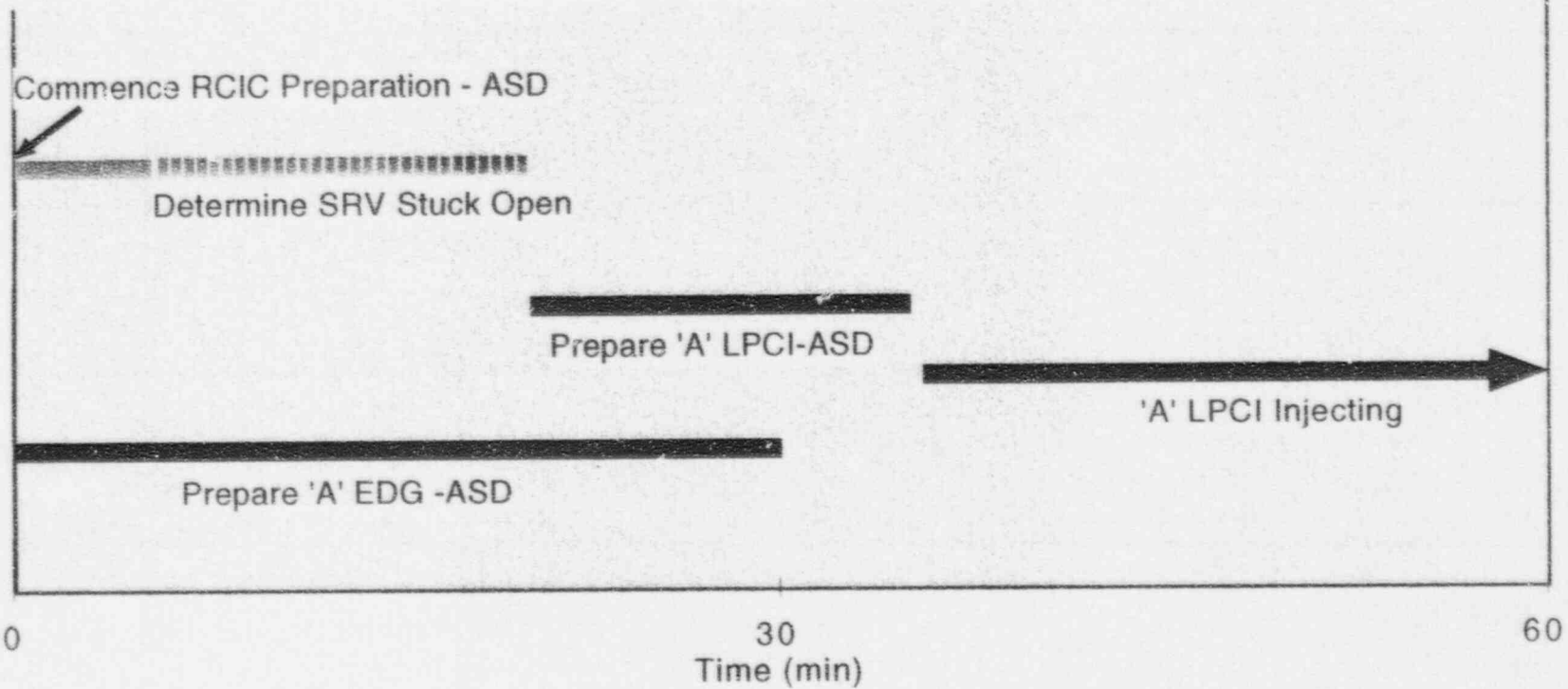
Appendix R Fire in CR/CV with Loss of RCIC

BVY 96-04
Figure 1

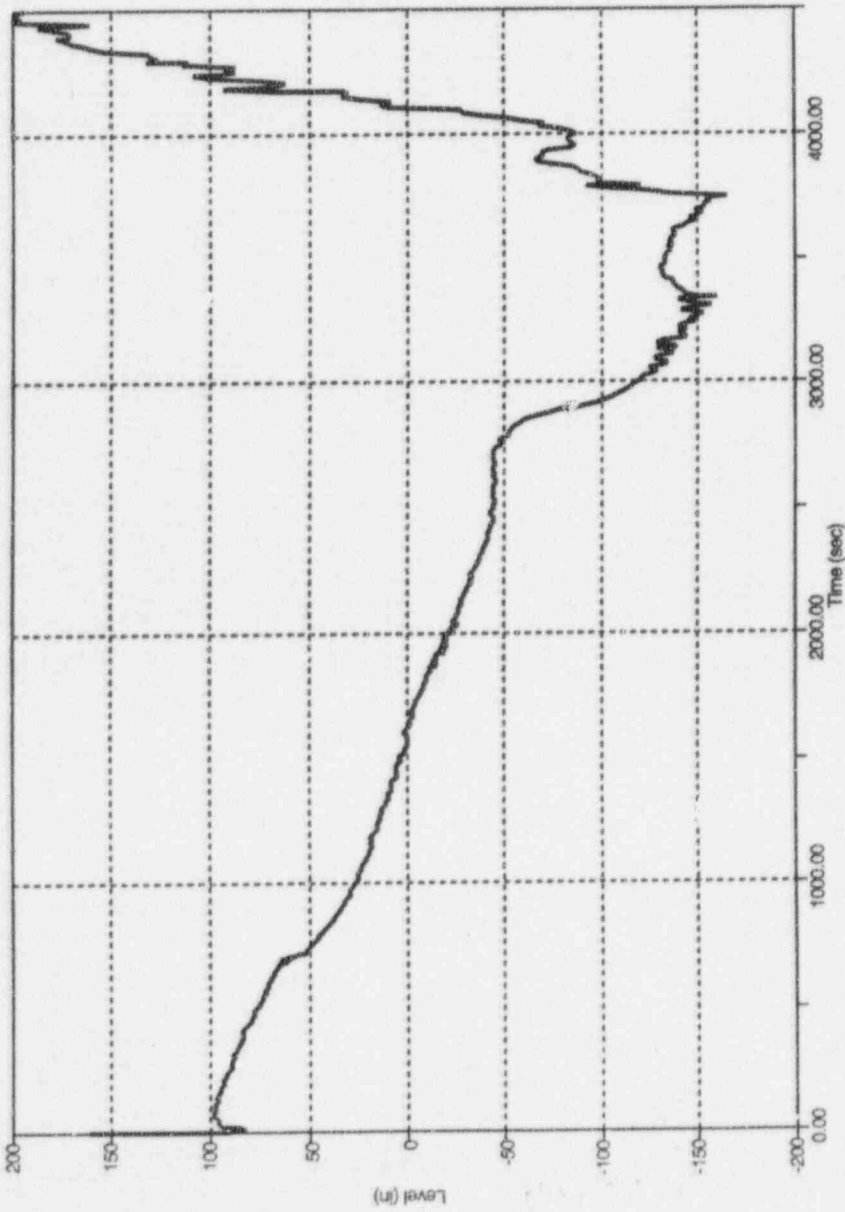




Operator Response



Appendix R Boil-Off
1 SRV opens in 45 min



Appendix R Stuck 1 Open SRV
1 LPCI available in 35 min

