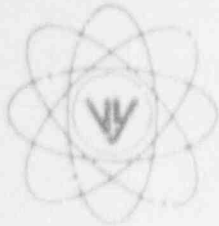


VERMONT YANKEE NUCLEAR POWER CORPORATION



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September 18, 1992
BVY 92-111

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

- References:
- a) License No. DPR-28 (Docket No. 50-271)
 - b) Generic Letter 88-20, Supplement 4, "Individual Plant Examination of External Events (IPEEE) for Severe Accident Vulnerabilities - 10CFR50.54(f), NVC 91-122, June 28, 1991
 - c) NUREG-1407, "Procedural and Submittal Guidance for the Individual Plant Examination of External Events (IPEEE) for Severe Accident Vulnerabilities."
 - d) Letter, VYNPC to USNRC, "Response to Generic Letter 88-20, Supplement 4", BVY 91-123, December 19, 1991
 - e) Letter, USNRC to VYNPC, "Review of Response to Generic Letter 88-20, Supplement 4", NVC 92-099, June 22, 1992.
 - f) Generic Letter 88-20, Supplement 1, "Initiation of the Individual Plant Examination for Severe Accident Vulnerabilities - 10CFR50.54(f), NVC 89-180, August 29, 1989
 - g) Letter, VYNPC to USNRC, "Vermont Yankee Response to Generic Letter 88-20, Supplement 1", BVY 89-100, October 24, 1989
 - h) Generic Letter 88-20, "Individual Plant Examination for Severe Accident Vulnerabilities - 10CFR50.54(f), NVC 88-259, November 23, 1988

Subject: RESPONSE TO GL 88-20 (SUPPLEMENT 4)

Dear Sir:

Reference e) requested that VYNPC submit an IPEEE plan consistent with Supplement 4 of the Generic Letter (Reference b), including the project schedule, milestones, and methods. Our response is provided herein.

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Schedule

As you know, we are currently performing the IPE for internal events (Reference f). The IPE is scheduled for submittal on December 31, 1993 (Reference g). This work is currently on schedule.

We plan to begin the IPEEE no later than January 1, 1994. We plan to submit the IPEEE on June 30, 1995. This is consistent with your request in Reference e) ("...no later than June 1995").

Milestones

The following tentative milestones are planned for the VY IPEEE:

01-01-94	Begin IPEEE
12-31-94	Complete Screening Analysis for High Winds, Tornadoes, External Floods, Transportation and Nearby Facility Accidents
03-31-95	Complete Walkdowns for Seismic IPEEE
05-31-95	Complete Internal Fire, Internal Flood and Seismic Event Analyses
06-30-95	Submit IPEEE Results to NRC

Methods

High Winds, Tornadoes, External Floods, Transportation and Nearby Facility Accidents will be analyzed using the screening approach outlined by Figure 1 of Reference b).

Internal Fires and Internal Floods will be analyzed with a Level 1 PRA. The FIVE methodology will be used as a screening tool to help establish the scope of the Level 1 PRA fire analysis.

Seismic events will be analyzed using a walkdown-based approach that takes maximum advantage of recognized industry experts. This approach is supported by the following statements from References b), c), and e):

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"However, the NRC recognizes that other methods capable of identifying plant-specific vulnerabilities to severe accidents due to external events may exist." (Page 3 of Reference b)

"The application of the above [NRC approved] approaches involves considerable judgement with regards to the requested scope and depth of the study, level of analytical sophistication, and level of effort to be expended...The detailed guidelines presented in NUREG-1407 do not preclude use of this type of judgement. Consistent with engineering practice, expert opinions, simplified scoping studies, and bounding analysis (which should be documented), are expected to be used, as appropriate, in forming these judgements." (Page 5 of Reference b)

"The staff recognizes that other methods capable of identifying plant specific vulnerabilities to severe accidents may be acceptable. A licensee may request that the staff review any other systematic examination method to determine if it is acceptable for IPEEE purposes." (Page X of Reference c, "Alternative Methods")

"If you desire to propose a new approach (i.e.: an approach not specifically considered in NUREG-1407), you should provide sufficient supporting documentation to allow NRC to determine whether the proposed approach is acceptable." (Page 1 of Reference e)

We are still in the process of formulating the details of the approach to be used for the seismic analysis. These details will be provided to you as they are developed and finalized, but no later than three months prior to the plant walkdowns. However, in order to satisfy your request for the best information that we can provide at this time, we offer the following outline of the approach:

1. A team of recognized industry experts will participate in the seismic IPEEE.
2. The scope of equipment to be reviewed will be determined by VY based on input from these experts, using their experience and judgement, with assistance from in-house personnel. This will allow resources to be concentrated on equipment found to be most important in enhancing safety.
3. Walkdowns will be performed and documented by the team of experts along with in-house personnel. This will assure that in-house personnel are involved in the examination as encouraged by Reference b).

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4. Equipment within the scope (see Step 2) will be reviewed using methods judged acceptable by the team. The preferred methods will be engineering judgement and comparison to existing analysis. New analysis will only be performed if, in the opinion of the expert team, such analyses are required in order to quantify a perceived vulnerability.

Further Information

The following information is provided in order to assist NRC in their evaluation of the proposed schedule and methods.

Reference e) requested that we reassess opportunities for submitting the IPEEE on a more expeditious schedule than we offered in Reference d). We have done such a reassessment and we conclude that the schedule can be improved from March 30, 1997 to June 30, 1995. As explained earlier, the VY IPE will be completed in December 1993. The same personnel used for IPE will be used for IPEEE in order to take maximum advantage of the in-house expertise which has been developed. This is consistent with Reference b) and e) which state:

"...Each licensee is requested to use its staff to maximum extent possible in conducting the IPEEE..." (Page 3 of Reference b)

"The information you obtained and the expertise you acquired through the IPE process should be used to fulfill part of the IPEEE requirements." (Page 2 of Reference e)

Thus the schedule proposed herein was structured to meet the NRC target date while most efficiently utilizing our available resources. The proposed methods have been previously approved by NRC (Reference b) except for our seismic IPEEE method. We believe that our proposed seismic IPEEE method is supported by the following facts:

1. The estimated resources of the VY IPEEE effort (including all external events) is about 6 person years. This is consistent with the level of effort estimated by NRC in the "Regulatory Basis" Section of Reference b):

"The estimated average burden would not exceed 6 person-years per licensee response..." (Page 10 of Reference b).

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2. The general philosophy of all IPEEE methods is one of "progressive screening". Detailed and costly analysis should not have to be performed when expert engineering judgement can be relied upon instead. VY's proposed seismic IPEEE method reflects this general philosophy which underlies all methods found acceptable by NRC.
3. The objectives of the IPEEE (Page 2 of Reference b) are:
 1. To develop an appreciation of severe accident behavior
 2. To understand the most likely severe accident sequences that could occur at its plant under full power operating conditions,
 3. To gain a qualitative understanding of the overall likelihood of core damage and radioactive material release, and
 4. If necessary, to reduce the overall likelihood of core damage and radioactive material releases by modifying hardware and procedures that would help prevent or mitigate severe accidents.

By pursuing our proposed method (examining potentially vulnerable plant configurations for potential severe accident sequences), VY will ensure that Objectives 1 and 2 are met.

Objective 3 for IPEEE notes the need "to gain a qualitative understanding [emphasis added] of the overall likelihood of core damage and radioactive material release..." This is to be contrasted with the corresponding goal of IPE for internal events, "to gain a more quantitative understanding [emphasis added] of the overall probabilities of core damage and fission product releases..." (Page 1 of Reference b). We do not believe that detailed calculations are necessary to achieve a qualitative understanding. Rather, our approach achieves the qualitative understanding through use of judgements and comparisons made by recognized experts, thereby meeting Objective 3.

To meet Objective 4 without incurring excessive costs, VY has proposed a method that takes advantage of existing industry expertise along with plant specific walkdowns. Although VY is not a reduced scope plant, our method is founded on an agreement with the following statement on page 12 of Reference c):

"Well conducted, detailed walkdowns have been demonstrated to be the most important tool for identifying seismic weak links whose correction is highly cost effective."

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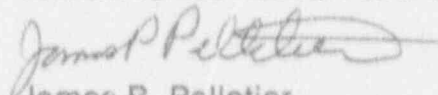
4. As a recipient of Generic Letter 87-20, and as a member of SQUG, VY intends to resolve USI A-46 by implementing a program which fully meets the requirements set forth by the GIP and endorsed by the NRC. Satisfactory completion of this program will insure seismic adequacy of Vermont Yankee's identified Safe Shutdown Train (SST) equipment relative to the plant licensed design basis and commensurate with current licensing criteria. To the extent that beyond-design-basis accidents rely on the same mitigating systems and structures as within-design-basis accidents (which is the case to a large extent), the substantial effort being performed by VY to resolve A-46 is expected to support many of the objectives of seismic IPEEE.

Conclusions

This letter has provided you with the information requested in Reference e) regarding schedule, methods and milestones for the VY IPEEE and therefor supersedes in its entirety prior submittal (Reference d). In order for Vermont Yankee to prepare for IPEEE efforts, we request that NRC provide concurrence of our plan and schedule by January 1, 1993.

Very truly yours,

Vermont Yankee Nuclear Power Corporation

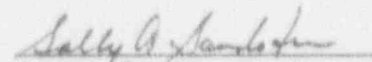

 James P. Pelletier
 Vice President, Engineering

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

STATE OF VERMONT)
) SS
 WINDHAM COUNTY)
 SALLY A. SANDSTRUM
 NOTARY PUBLIC
 WINDHAM COUNTY, VERMONT
 My Term Expires 2/10/95



Then personally appeared before me, James P. Pelletier, who, being duly sworn, did state that he is Vice President-Engineering of Vermont Yankee Nuclear Power Corporation, that he is duly authorized to execute and file the foregoing document in the name and on the behalf of Vermont Yankee Nuclear Power Corporation and that the statements therein are true to the best of his knowledge and belief.

 9/18/92
 Sally A. Sandstrum Notary Public
 My Commission Expires February 10, 1995