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MEMORANDUM FOR: Commissioner Ahearne
FROM: William J. Dircks
Executive Director for Operations
SUBJECT: DECEMBER 14, 1981 MEMORANDUM: SECY-81-504
AND SECY-81-603

In response to the questions raised in your December 14, 1981 memorandum, the following items summarize these issues:

1. A draft version of the USI A-46 Task Action Plan is currently being reviewed by the NRR staff with an expected issue date of March 1982; and
2. The December 2 response concerning the findings of the SQRT case-by-case audits listed the types of shortcomings encountered during the site audit of NTOL plants. It should be pointed out, however, that the majority of the safety-related equipment audited in the NTOLs do meet the applicable seismic qualification requirements. A better characterization would have been that "for NTOLs, the negative findings of the SQRT audits were..." rather than the general findings.

Detailed response to the issues raised by you in the above mentioned memorandum is provided in Enclosure 1.

(Signed) William J. Dircks

William J. Dircks
Executive Director for Operations

Enclosures:

1. Responses to questions
2. Table I (attachment to Encl. 1)

cc: Chairman Palladino
Commissioner Gilinsky
Commissioner Bradford
Commissioner Roberts
SECY
OPE
OGC

CY:ROSS
ARLOTTO/SHAO
D. SULLIVAN
S. AGGARWAL
FILE

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EXA

(See previous concurrence page for more concurrences.)

A45

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DATE	1/ /82	1/ /82	1/ /82	1/ /82	1/ /82

Responses to Commissioner Ahearne's Questions
(Memorandum Dated December 14, 1981)

- Q. What is the status of the USI A-46, "Seismic Qualification of Equipment in Operating Plants?" Is there a Task Action Plan? If not, what is the status of the development of such a plan?
- A. Information on the status of USI A-46 provided in our December 2, 1981 memorandum on this subject remains valid.

The Task Action Plan (TAP) for A-46 is currently undergoing NRR review. The approved TAP is scheduled for issuance by March 1982. The target completion date for A-46 is December 1983. This will allow use of the results of A-46 in the final rule. Prior to that, the proposed rule will have the benefit of seismic qualification cost-benefit work underway at BNL, as well as some information developed by A-46.

- Q. On page 3, (December 2, 1981 memorandum referred to in the above answer) your response states:

"For NTOLs, the general findings of SQRT audits were as follows: (a) the applicants were unaware of modifications recommended by testing laboratories, (b) in some cases where applicants were aware of recommendations, the modifications were not in place at the plant, (c) mounting conditions were different from the way tests were conducted, (d) inadequate clearances, (e) tests did not simulate fatigue effects caused by many cycles of hydrodynamic loads, and (f) inadequate anchorages."

This sounds bad. Please explain the significance, for which NTOLs these comments apply, and what has been done about the problems.

- A. The December 2 response concerning the findings of the SQRT case-by-case audits listed the types of shortcomings encountered during the site audit of NTOL plants. It should be pointed out, however, that the majority of safety-related equipment audited in the NTOLs do meet the applicable seismic qualification requirements. A better characterization would have been that "for NTOLs, the negative findings of the SQRT audits were..." rather than the general findings.

Items (a) through (f) indicate the types of deficiencies encountered during site audits of seven NTOL plants completed so far. Table I lists these items for specific plants. The table also shows the number of items audited against the number of items with shortcomings. In all cases, corrective actions have been vigorously pursued and implemented for specific shortcomings, as well as for generic shortcomings uncovered by the audit.

The issue of qualification of equipment for multiple cycles of hydrodynamic loads applies to BWR plants only. The need to include hydrodynamic loads, due to safety relief valve discharge or LOCA blowdown into the suppression pools of BWR plants with Mark II and Mark III containments, was determined about 1975. This is now being treated as a generic issue. Analysis performed by one applicant has indicated that fatigue effects caused by the hydrodynamic loads are insignificant, and study (both analysis and testing) is still continuing by several applicants. This issue is not an immediate concern since fatigue effects are accumulative; it takes repeated cycles of loading and thus time to manifest its effect. In the case of a NTOL (LaSalle 1/2), where tests did not simulate fatigue effects caused by many cycles of hydrodynamic loads, technical justification for using the reduced "equivalent number of cycles" will be provided by the applicant and reviewed by the staff.

Table 1

Plant Name Shortcoming*	LaSalle 1/2	Zimmer 1	Grand Gulf 1	Waterford 3	Summer 1	Susquehanna 1/2	Fermi 2
a	-	-	-	1	-	-	-
b	2	3	3	2	-	1	-
c	-	1	-	2	-	-	-
d	-	-	-	1	-	-	1
e	**	**	**	-	-	**	**
f	1	1	-	1	2	1	2
No. of items with Shortcoming	3	5	3	7	2	2	3
No. of items Audited	30	32	29	31	25	26	24

*Legend: (a) the applicants were unaware of modifications recommended by testing laboratories, (b) in some cases where applicants were aware of recommendations, the modifications were not in place at the plant, (c) mounting conditions were different from the way tests were conducted, (d) inadequate clearances, (e) tests did not simulate fatigue effects caused by many cycles of hydrodynamic loads, and (f) inadequate anchorages and supports.

**Review of this issue is currently underway.