TELEDYNE
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April 7, 1983
5633-62
50-322

Mr. Harold Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
7920 Norfolk Avenue
Bethesda, Maryland 20114

Subject: Independent Design Review for the Shoreham Nuclear Power Station

Dear Mr. Denton:

Please find enclosed the final classification of ICR No. 5633-10 from the subject design review.

TES has received responses from LILCO to this item originally classified as a Finding and the results of our review of this response is enclosed.

If you have any questions or comments, please do not hesitate to contact Mr. James P. King or the writer.

Very truly yours,

TELEDYNE ENGINEERING SERVICES

Donald F. Landers

Donald F. Landers
Senior Vice-President

DFL/lh

Enclosures

cc: J. A. Flaherty (TES)
J. P. King (TES)
J. H. Malonson (TES)
TES Document Control

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Control No. _____

Originator D. F. Landers

Project No. 5633

Date 4/7/83

Client PO 363981

Transmit To: H. R. Denton
USNRC
7920 Norfolk Ave.
Bethesda, MD 20112

Transmitted Under Separate Cover To: M. Milligan (LILCO)

NOTE: Furnish complete identification for items transmitted (below).

QTY	TYPE	ITEM IDENT NO.	REV	DESCRIPTION - Title and Number of Sheets/Pages	REC'D
6		ICR-5633-10	1		

ACKNOWLEDGEMENT OF RECEIPT BY _____ TITLE _____ DATE _____

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4/81

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DOCUMENT

INDEPENDENT DESIGN REVIEW

SHOREHAM NUCLEAR POWER STATION

TES PROJ. NO. 5633 (290L)
DATE 4.7.83

ICR NO.
5633-10, Rev. 1

Reference: RRF No. 5633- 27
PMR No. 5633- 27

Date: 4/6/83

Final Classification of Item: Closed

J C Tsoczyanu
Reviewer Signature

James A. Flaherty
Committee Chairman Signature

D. F. Landers
Project Manager Signature

1.0 SUMMARY

Referenced Documents:

(1) TES ICR No. 5633-10 (March 15, 1983)

(2) TES Trip Report No. 1683 (March 22, 1983)

(3) SWEC EMTP 3.22-0, Engineering Mechanics Seismic Report Standard Review Procedure

During the original review of the seismic analysis report for Anchor Darling 10" Globe Valve, IE21 MOV-035, the TES reviewer noted that:

(1) Cantilever bending mode not computed

(2) Some Class 1 allowables were used in the evaluation for the Class 2 valve

(3) Yoke section properties calculations contained mathematical errors

LILCO/SWEC in their response stated that:

(1) Vendor technical documents are checked and reviewed for compliance with applicable specifications and documents and the results of the review are reported on a SWEC form delineating additions and corrections required for approvals.

(2) The cantilever mode was computed by SWEC for all 27 Category I valves supplied by vendor. The results of this analysis show all frequencies were above the minimum of 33 Hz.

(3) Vendor used Class 2 allowables for yoke and based non-code bolt material (A574) allowable values on Code procedures (1/4 Su).

2.0 RESOLUTION

The Reference (1) disposition raised questions relative to SWEC procedures establishing review methods of vendor calculations and implementation of those procedures relative to Shoreham, and requested certain documents be made available for further TES review.

The Reference (3) procedure provides general guidelines to the SWEC reviewer of vendor seismic qualification reports. A checklist (Form 5040.51B) provides broad guidance for items to be checked, such as, consistency with specification requirements, appropriateness of analytical techniques, assumptions, etc. More specific review aspects are determined by the reviewer whose assignment is based on SWEC internal assessment of the reviewers qualifications.

The Reference (2) trip report documents the purpose and scope of the subsequent TES review and summarizes the information obtained. The review seeked to establish whether the "apparent" omission of the cantilever mode frequency check by the SWEC reviewer was indicative of an inherent deficiency in the SWEC design process as applied to Shoreham, which may have directly caused or contributed to the omission. This subsequent review indicated that such a deficiency does not exist.

TES considers the Reference (3) approach to be sufficient for general application in the design process and not a direct cause of the original finding. However, the circumstances would indicate that an oversight in the specific review aspects occurred by failure to consider and/or record the lower cantilever mode frequency. The significance of this oversight has been assessed in Reference (1) to the satisfaction of TES and this item should be closed.