TELEDYNE
ENGINEERING SERVICES

130 SECOND AVENUE
WALTHAM, MASSACHUSETTS 02254
(617) 890-3350 TWX (710) 324-7508

April 21, 1983
5633-64

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

Reference: TES Letter No. 5633-43 to USNRC dated February 11, 1983

Dear Mr. Denton:

In accordance with the procedures defined in the referenced letter, we are forwarding a copy of the minutes of the meeting held on April 8, 1983, between TES, LILCO and SWEC personnel. The purpose of this meeting was for further clarification of several TES review items classified as Additional Concerns.

If you have any questions or comments, please do not hesitate to contact Mr. Donald F. Landers or the writer.

Very truly yours,

TELEDYNE ENGINEERING SERVICES

James P. King

James P. King
Assistant Project Manager

JPK/lh

Attchment

cc: D. F. Landers (TES)
J. A. Flaherty (TES)
J. H. Malonson (TES)
TES Document Control

B001

Interface Meeting for Discussion of
Several TES Review Items, Part of IDR for
Shoreham Nuclear Power Station,
Held at Teledyne Engineering Services
April 8, 1983 - 1:30 PM

Attendees

LILCO	TES	SWEC
E. F. Montgomery	D. F. Landers	R. E. Foley
	J. A. Flaherty	J. Hall
	J. P. King	R. Hankinson
	L. J. DiLuna (Part Time)	P. Pepi
	G. S. Blanchet (Part Time)	
	J. F. Maher (Part Time)	
	L. E. Barron (Part Time)	
	J. G. Perley (Part Time)	

TES Review Item ICR No. 5633-1

(a) SWEC/LILCO have completed a review of all small bore calculations with respect to relative displacements. This review covered small bore calculations performed before and after the issuance of SWEC Procedure SBM #6. SWEC review disposition cover sheets for all calculations will be included with the formal response to this item. TES requested that complete data be submitted for at least two each of the review packages (before and after SBM #6) along with the formal response.

(b) Further discussion was held on the subject of the consideration of seismic vertical displacements for building and piping, attached to horizontal beams, being in phase. A subsequent TES review (see March 30, 1983 meeting notes) has indicated that there are locations where the fundamental frequency of horizontal beams is less than 30 hertz. LILCO/SWEC will respond to this concern in the formal response to ICR No. 5633-1.

TES Review Item ICR No. 5633-28

LILCO/SWEC have conducted a review of all small bore branch piping lines connected to the main run pipe by means of a tieback support. A summary of this review will be forwarded to TES as part of a formal response. A detailed response will be furnished for small bore tiebacks on piping model AX-10A, where the initial TES concern was focused. In addition, Revision 4 to the AX-10A piping model calculation package is being issued and will be forwarded for TES review.

TELEDYNE
ENGINEERING SERVICES

TES Review Item ICR No. 5633-2

Reference the following TES Additional Concerns of March 11, 1983:

(1) The SWEC process was described whereby the additional local stresses, due to offset supports, are added in by hand. The TES concern also questions the effects on the entire piping system due to offset supports. LILCO/SWEC will respond to this.

(2) The three support calculation packages containing vendor designed reinforcing pads, given to TES on February 15, 1983, contained only supplementary information. TES requested that the complete calculation packages for the three supports be submitted with the formal response.

(3) SWEC is in agreement with TES' assessment of applicable Codes. SWEC has performed an extensive review and identified seven supports, with pads, where wrong allowable values were used. A formal LILCO/SWEC response will address the results of this review.

(4) It is SWEC practice to consider all stresses as being primary in the evaluation of pipe supports attached to pads. TES suggested that the stresses be broken up into their appropriate categories for the qualification of pipe support 1E21-PSSH005.

(5) The referenced Interoffice Correspondence was in advance of its entry into the Shoreham Design Criteria Document. The following SWEC criteria apply: Document SATM-17, for pipe support trunnions attached to pads; and Document EMD 79-24 for pipe support trunnions attached to pipes with pad reinforcement. The application of these criteria were discussed in detail. TES will evaluate these applications and inform LILCO/SWEC of any further concern.

(6) It is SWEC practice to combine stresses due to offset welded attachment with intensified elbow stresses. TES has concern with effects of offset support on flexibility of the overall system. SWEC considers the effects to be minimal and will address same in a formal response.

TES Review Item ICR No. 5633-18

All the supports listed by TES on Additional Concerns issued March 10, 1983 have been identified by SWEC as being part of piping model AX-10B. It appears that there was a misunderstanding of the wording contained in the transmittal of support loads from the pipe stress group to pipe support group for this piping model only. All applicable pipe support calculation packages for AX-10B will be reissued. All AX piping models are being reviewed for this concern with a sampling of at least two models to be reported.

TELEDYNE ENGINEERING SERVICES

TES Review Item ICR No. 5633-19

Reference the following TES Additional Concerns of March 15, 1983:

(1) SWEC allows that both a reflected decompression wave and steady state thrust load do exist. They will demonstrate that the loadings in the piping system due to these two cases are lower than those already used in the analyses for the fluid transient test case.

(2) SWEC allows that there is an omission in their Piping Design Specification for the definition of which loading conditions combine with the test mode fluid transient condition for piping models AX-8K and AX-8AA. A revision, in process, to the Design Specification will clearly define these combinations.

(3) LILCO/SWEC will provide confirmation of a 2-4 second pump start-up time in a formal response.

JPK/lh