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February 28, 1996

ComEd

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Subject: LaSalle County Nuclear Power Station Units 1 and 2
ComEd Response to NRC Staff Request for Additional Information (RAI) Regarding the Main Steamline Isolation Valve (MSIV) Leakage Control System (LCS) Alternate Leakage Treatment (ALT) Path
NRC Docket Nos. 50-373 and 50-374

References: (See Attached)

The purpose of this letter is to respond to the NRC staff's questions involving LaSalle Station's MSIV LCS ALT Path. Reference (a) provided LaSalle Station's proposal for revising the Technical Specification requirements regarding the MSIV LCS ALT Path. References (b) thru (d) provided additional information to NRC questions. As a result of the Reference (a) thru (d) submittals, and the Reference (e) thru (i) telecons, the NRC staff has requested additional clarification. LaSalle's responses to provide clarification are provided as an attachment to this letter.

If there are any further questions, please contact this office.

Sincerely,

Gary G. Benes
Nuclear Licensing Administrator

Attachment

cc: H. J. Miller, Regional Administrator - RIII
M. D. Lynch, Project Manager - NRR
P. G. Brochman, Senior Resident Inspector - LaSalle
Office of Nuclear Facility Safety - IDNS

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References: (a) G. Benes letter to U. S. NRC, dated August 28, 1995, LaSalle Submittal Regarding Elimination of the Main Steamline Isolation Valve (MSIV) Leakage Control System (LCS) Alternate Leakage Treatment (ALT) Path.

(b) G. Benes letter to U. S. NRC, dated December 15, 1995, Response to questions from the NRC Staff transmitted in the NRC RAI dated November 16, 1995.

(c) G. Benes letter to U. S. NRC, dated February 5, 1996, Response to questions from the NRC Staff transmitted in the NRC RAI dated February 1, 1996 .

(d) G. Benes letter to U. S. NRC, dated February 9, 1996, Supplemental information to the LaSalle Submittal dated August 28, 1995.

(e) February 6, 1996 telephone conference between ComEd and NRR involving LaSalle Station's MSIV LCS ALT Path.

(f) February 8, 1996 telephone conference between ComEd and NRR involving LaSalle Station's MSIV LCS ALT Path.

(g) February 9, 1996 telephone conference between ComEd and NRR involving LaSalle Station's MSIV LCS ALT Path.

(h) February 15, 1996 telephone conference between ComEd and NRR involving LaSalle Station's MSIV LCS ALT Path.

(i) February 20, 1996 telephone conference between ComEd and NRR involving LaSalle Station's MSIV LCS ALT Path.

NRC DOCKETS: 50-373 and 50-374

# RESPONSES TO NRC COMMENTS
# MAIN STEAMLINE ISOLATION VALVE (MSIV) LEAKAGE CONTROL SYSTEM (LCS) ALTERNATE LEAKAGE TREATMENT (ALT) PATH

## 1. TURBINE BUILDING ROOF STRUCTURE

The following information supersedes information contained in Section C of Response to Comment 8 issued February 5, 1996:

C. Roof Evaluation

Vertical Loads:

The Turbine Building shares a common wall with the Auxiliary Building as shown in Attachment 8-1 of our submittal dated February 5, 1996. The original seismic analysis of the plant included the Turbine Building in order to quantify the effect the Turbine Building would have on the Reactor and Auxiliary Buildings.

A sketch of the vertical seismic model is shown on Attachment 1-1. The vertical members shown on this sketch represent Column Rows R and W. Node 51 of this model represents the vertical response of the structure at the roof level and is the basis for Spectra 126-DB-VS (Attachment 1-2). The horizontal members connecting node 51 to nodes 50 and 52 were modeled rigid. Since the frequency of the roof with the girder stiffness is approximately 2.4 hz (Attachment 1-3), the inertial forces from the roof at 2.4 hz will be approximately 0.32g using Spectra 126-DB-VS.

The finite element model that was created to confirm the horizontal behavior of the roof, as described below, was also used to verify the vertical behavior of the roof. Spectra 126-DB-VS is used as input to the response spectra analysis. The vertical inertial force from the roof panel is 123 kips based on 466 kips seismic weight; therefore, this detailed evaluation resulted in an equivalent acceleration value of 0.27g (123/466) which compares to the 0.32g extracted from the response spectra. In the vertical direction, since the increase in allowable for SSE and normal loads for flexure is 1.6, the design margin in the vertical direction is 1.21 (=1.6/1.32) based on Updated Final Safety Analysis Report (UFSAR) allowables.

NRC DOCKETS: 50-373 and 50-374
Responses to NRC Comments - MSIV-LCS

Horizontal Seismic Loads on Roof Structure:

In order to verify the previous analysis and more accurately model the horizontal behavior of the roof, a finite element model was developed for a portion of the roof as shown in Attachment 1-4.

The SAP90 program was used to perform a detailed response spectra analysis using the horizontal roof spectra (126-DB-EW and 126-DB-NS, Attachments 1-5 and 1-6, respectively) obtained from the original seismic model.

This analysis provided the following results:

- Total Seismic Weight 2800 kips
- E-W Roof Frequency 21 hz
- N-S Frequency 11.2 hz
- Total E-W Seismic Shear 1174 kips
- Total N-S Seismic Shear 1026 kips

The Turbine Building was originally designed for the following tornado loads applied at the roof level:

- E-W Tornado Shear 2694 kips
- N-S Tornado Shear 3438 kips

Therefore, the design margin of the roof resulting from this analysis is 2.3 in the E-W direction and 3.3 in the N-S direction.

Based on the above evaluation, it is concluded that the Turbine Building roof structure remains elastic and meets UFSAR allowables under SSE seismic conditions.

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## 2. CONDENSER ANCHORAGE

The Response to NRC Comment 5, Section B, in the February 5, 1996 submittal, is amended to reference the Unit 1 design details for the additional seismic supports at the base of the condenser instead of the conceptual detail 5-4 provided in the February 5, 1996 submittal; the Unit 2 details will be similar after a detailed walkdown is performed to determine dimensions. In addition, Comment 5, Section B is amended to confirm that the required seismic supports at the base and at the center of gravity elevation of the condenser will be completed prior to each unit start-up in which the MSIV-LCS removal will be accomplished.

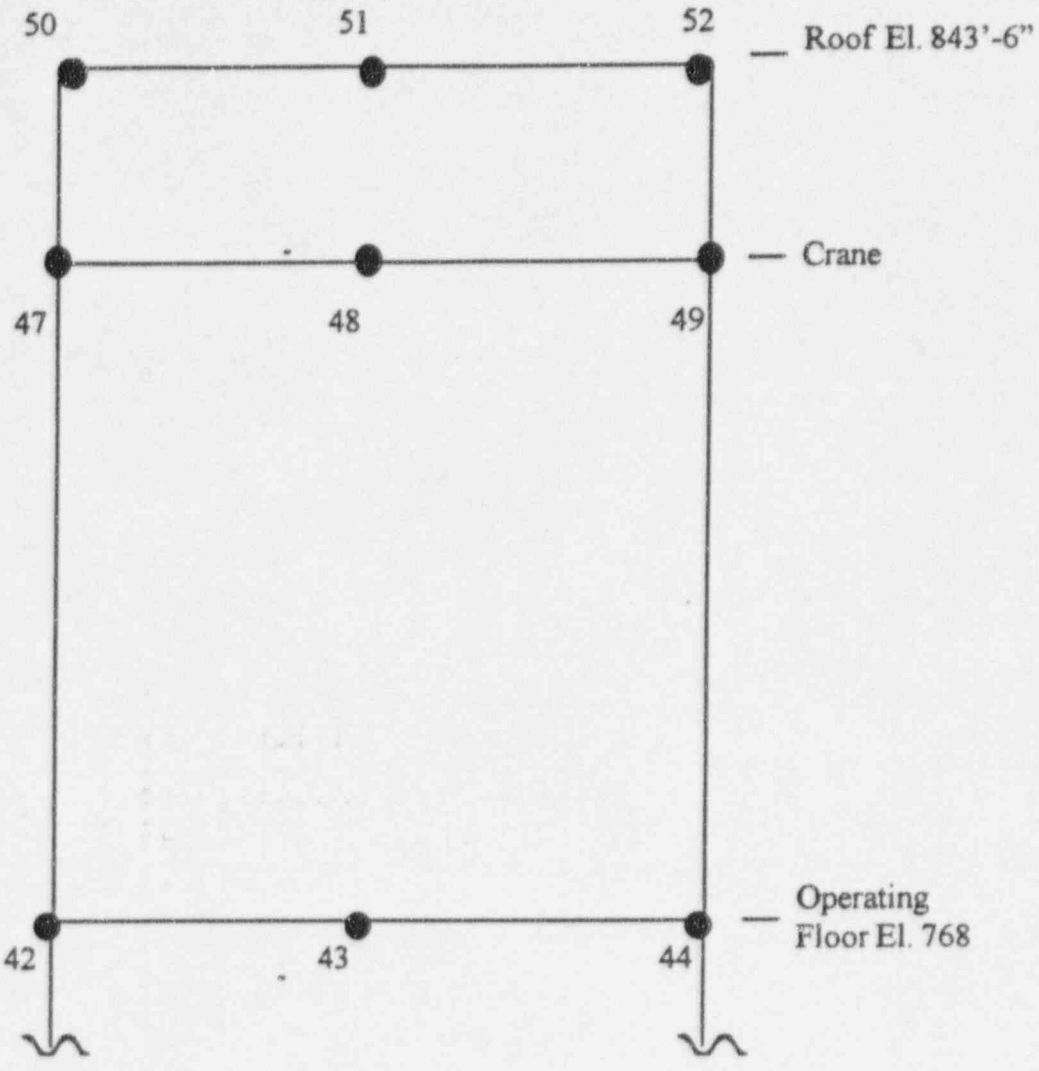
The seismic supports in the N-S direction have conservatively been designed to resist 2400 kips to provide additional margin. In addition to these restraints, the total anchor bolt shear capacity is 1625 kips after deducting the affect of tension. As requested, the following items are attached:

- The plan and details for the Unit 1 N-S seismic supports at the base of the condenser (Attachment 2-1).

- Calculation L-000203, pages 3 through 8, which determines the thermal growth of the condenser in the E-W and N-S directions, and Calculation L-000197, page 9, which determines the associated gaps between the seismic restraints and the condenser based on the thermal movements (Attachment 2-2).

- Calculation L-000197, pages 4 through 8, and 14, which determined the load capacity of the N-S seismic supports at the base of the condenser. (Attachment 2-3).

- Calculation L-000190, pages 74 through 78, which determined the total anchor bolt shear capacity of 1625 kips in the N-S direction (Attachment 2-4).




Turbine Bldg. Portion
of
Vertical Seismic Model
Ref. (Seismic Response Spectra
Design Criteria DC-SE-02-LS, Rev. 0)

DC-SE-02-LS
REVISION 0

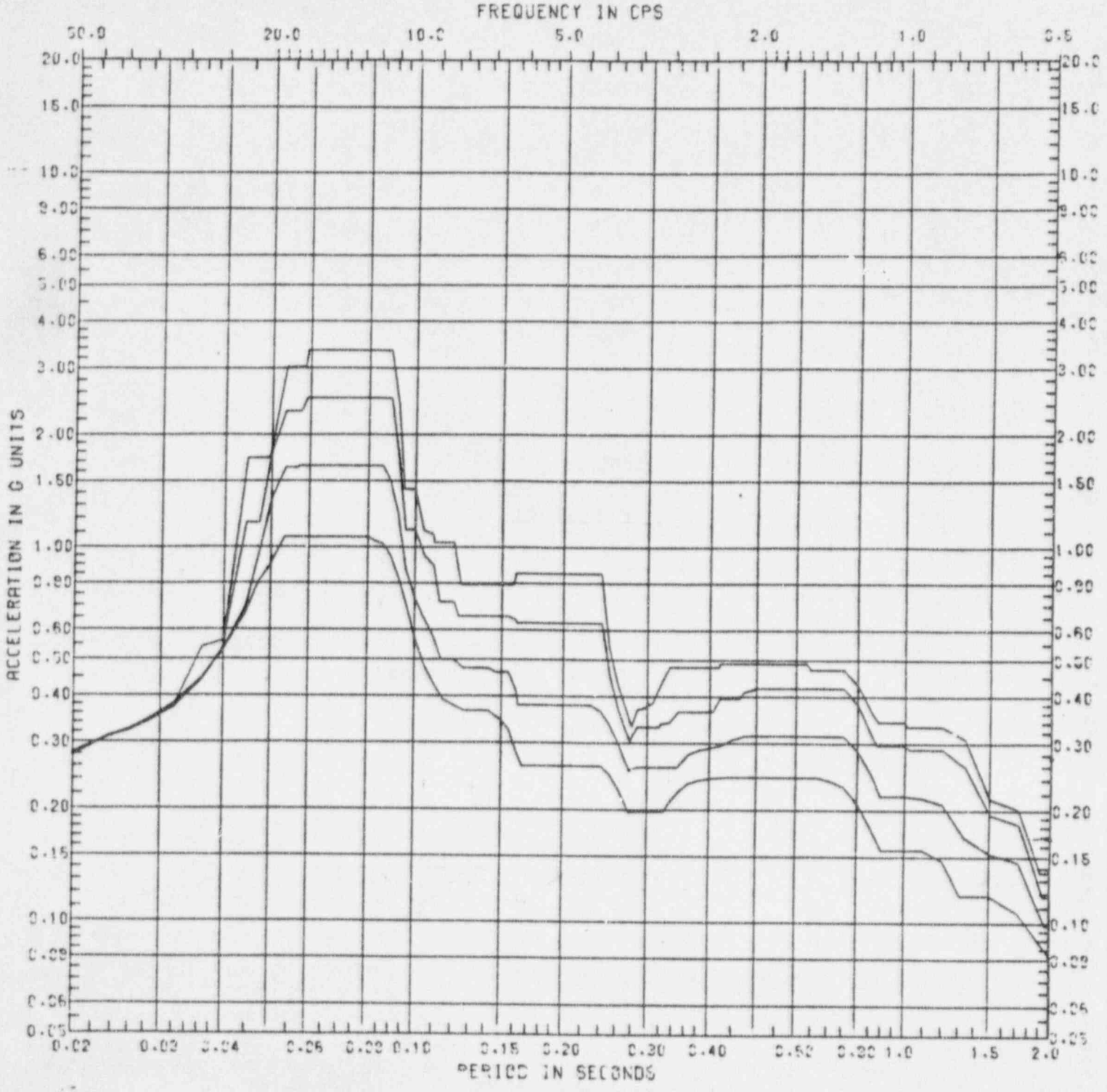
1

SARGENT & LUNDY ENGINEERS

20 DEC 79
715BFH

LAS AUX.BLDG.ROOF EL 943.5 SSE VERT
DESIGNER B. Henley CHECKER G. Eckert
DESIGN SPECTRA AT JOINT/SLAB 57 X
PEAKS WIDENED BY 20% ON EACH SIDE
DAMPING 0.010 0.020 0.050 0.100
PAGE C-110F OF
Calc. 163
Project Nos. 4266/4267
Rev. 2

SAFETY RELATED




VERTICAL RESPONSE SPECTRA
DESIGN BASIS EARTHQUAKE
ELEVATION 843'-6"
AUXILIARY BUILDING ROOF
TURBINE BUILDING ROOF

SPECTRA NO.
126-DB-VS
(REFER TO NODE 51
OF SEISMIC MODEL)