Iowa Electric Light and Power Company

April 30, 1986
NG-86-1506

Mr. Harold Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Duane Arnold Energy Center
Docket No: 50-331
Op. License No: DPR-49
Masonry Wall Design - Inspection and Enforcement Bulletin 80-11

References: 1) Letter, D. Vassallo to L. Liu, dated August 22, 1985
2) Letter, R. McGaughy to H. Denton, NG-85-4801, dated November 4, 1985
3) Letter, R. McGaughy to H. Denton, NG-86-0258, dated January 30, 1986

File: A-101a

Dear Mr. Denton:

Your staff informed us in Reference 1 that all but five of DAEC's masonry walls met the requirements of I&E Bulletin 80-11. Reference 1 also requested additional information regarding those five remaining walls. In Reference 2, we discussed a reevaluation of three of the walls using elastic methods and verified that they remain in the elastic range. This letter provides additional information regarding the last two walls which we feel demonstrates that these walls also meet the requirements of the subject bulletin.

In Reference 3, we informed your staff that we were performing new seismic analyses for the Reactor and Turbine Buildings in an effort to reevaluate the acceleration input to the remaining two walls (200-8 and 417-25). These new analyses have been completed incorporating radiation damping associated with soil-structure interaction and provide more realistic time histories and input accelerations.

The input accelerations for the two walls in question have been reduced significantly. Our original calculations had shown that the applied wall stresses during a Design Basis Earthquake (DBE) would be 1.6 times the acceptable value of .9 fy for Wall 200-8 in the Turbine Building and 1.27 times .9 fy for Wall 417-25 in the Reactor Building. The DBE input

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acceleration for Wall 200-8 in the Turbine Building has been lowered by a factor of 2.0 which reduces the applied stress in the wall to 80 percent of .9 fy and brings it into the elastic range. The acceleration input for Wall 417-25 in the Reactor Building has been lowered by a factor of 1.59 which also reduces the applied stress in the wall to 80 percent of .9 fy and therefore is in the elastic range.

We feel this response provides an acceptable alternative for the remaining two walls and completes our response to your concerns on the original five unacceptable walls discussed in Reference 1. Please contact this office should you require any further information on this issue.

Very truly yours,

Richard W. McGaughy
Manager, Nuclear Division

RWM/MJM/ta*

Attachments

cc: M. Murphy
L. Liu
L. Root
M. Thadani
NRC Resident Office
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