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Director of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

REGULATORY DOCKET FILE COPY

Attention: Mr. Olan D. Parr, Chief
Light Water Reactors Branch 3
Division of Project Management

Gentlemen:

RESPONSE TO REQUESTS FOR
ADDITIONAL INFORMATION
NO. 2 UNIT
SALEM NUCLEAR GENERATING STATION
DOCKET NO. 50-311

Public Service Electric and Gas Company hereby submits sixty (60) copies of its updated response related to the Seismic Qualification data for electrical, instrumentation and mechanical components. The attached information updates the March 23, 1979 submittal related to item 11-b concerning seismic qualification of the vital appurtenances associated to the Diesel Generators.

Should you have any questions, please do not hesitate to contact us.

Very truly yours,

R. L. Mittl
General Manager -
Licensing and Environment
Engineering and Construction

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SALEM NUCLEAR GENERATING STATION
UNIT NO. 2
NRC SEISMIC QUALIFICATION REVIEW
RESPONSES TO ADDITIONAL INFORMATION REQUESTS

The NRC Seismic Qualification Review Team met with PSE&G personnel at the Salem site on February 26-28, 1979 to conduct a review of the seismic qualification data for electrical, instrumentation and mechanical components. In a previous submittal to the NRC staff on March 23, 1979, we responded to additional information requests as identified at the meeting. The following information updates the March 23, 1979 submittal related to item 11-b concerning seismic qualification of the vital appurtenances associated to the Diesel-Generators.

11. Diesel-Generators and Vital Appurtenances

(b) Area of Concern:

The major components of the diesel generator have been analyzed for structural integrity at an acceleration level higher than the acceleration required at Salem Unit 2. No information was available at the February 26-28 meeting for the NRC staff to conclude that those appurtenances necessary for startup and continued operation of the diesel generator can perform their required function during the earthquake event. Therefore, additional information is required for the NRC staff to complete the review.

Response: Discussion with Alco had indicated that the emergency diesel generators at Diablo Canyon, were the same make and model as the diesels used at Salem Units 1 and 2. In addition, the appurtenances were similar both functionally and in physical arrangement with few exceptions as noted below.

Public Service verified this by contacting Pacific Gas and Electric Co. and further visiting the Diablo Canyon facility. During the Diablo Canyon visit, some differences were noted and are as follows:

- (1) Differences were found between Diablo Canyon and Salem's EDG supports. PSE&G will modify the Salem support so it will be identical to Diablo Canyon. The following modifications will be performed:
 - a. The space between the bottom flange of the EDG skid beams and the floor slab shall be completely grouted.

- b. The isolator pads supporting the engine shall be welded to the top flange of the skid beams.
 - c. Seismic stays similar to those at Diablo Canyon shall be added at the ends of the skid beams.
- (2) At one end of the skid support the Salem Unit has two tube and shell heat exchangers whereas Diablo Canyon has a radiator housing at the same location. The weights, however, are similar in both cases, and only represent approximately 5 percent of the EDG mass. Therefore, the effect on the seismic response of the units is negligible.
- (3) Diablo Canyon has a 550 gallon fuel oil tank enclosed between the skid beams. Salem does not have this arrangement. This represents only a small percentage of the total mass and since it is located at the support base the enclosures of the tank stiffening the skid beam webs. However, the effect on the seismic response for the engine and the generator is negligible.

To verify that Diablo Canyon's response curves completely envelope the Salem curves, the Diablo Canyon's horizontal and vertical ground response spectra were superimposed onto Salem's response spectra for the elevation for which the diesels were located the results were positive throughout the frequency range.

Pacific Gas and Electric Company has informed Public Service the seismic analysis has been performed on the diesel appurtenances and had been accepted by the NRC Seismic Qualification Review Team.

In conclusion, Salem Units 1 and 2 diesel generator appurtenances are seismically qualified due to the following reasons:

- (1) They are similar to Diablo Canyon's in design and arrangement.
- (2) Salem's response spectra falls within Diablo Canyon's response curve.
- (3) Salem has a lower seismic input at all modal frequencies.

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