

Illinois Power Company

U-0636
L30-83(05-10)6

500 SOUTH 27TH STREET, P. O. BOX 511, DECATUR, ILLINOIS 62525-1805

Docket No. 50-461

May 10, 1983

Director of Nuclear Reactor Regulation
Attention: Mr. A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Schwencer:

Subject: Clinton Power Station Unit 1
SER Outstanding Issue #3 (NUREG-0853)

Reference: IP letter U-0633, dated April 18, 1983,
G. E. Wuller to A. Schwencer, NRC

As requested by the NRC at a meeting held in Bethesda, MD on April 28, 1983 with Illinois Power Company and Sargent & Lundy, we will provide the following as documentation of the discussions held concerning SER Outstanding Issue #3 - Seismic Analysis:

1. Buried Pipe Design

The buried pipes were designed for a maximum ground particle velocity of 12 inches per second consistent with a 0.25g RG 1.60 spectrum. The maximum ground particle velocity for the site specific spectrum, including the effect of the rock-soil velocity contrast, is 8 inches per second. Thus, the design basis is conservative.

2. Structural Response

The structural frequencies and participation factors are listed in FSAR Tables 3.7.2 through 3.7.7, 3.7.12 and 3.7.13. Note that the structural frequencies are all higher than 1.95 Hz. As the theoretical site specific spectrum exceeds the 0.2g time history spectrum used for reevaluation only in the 1.1 to 1.6 Hz range, the conclusions of the reevaluation are not affected by the new site specific spectrum.

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3. Floor Response Spectra

The seismic reevaluation of piping and equipment was based on a floor response spectrum based on a 0.2g RG 1.60 consistent time history input. Floor response spectra using the theoretical site specific spectrum were not generated; however, it is our judgement that the floor response spectra used for reevaluation will envelop those using the theoretical site specific spectrum except in the 1.1 to 1.6 Hz range. In this range, we expect the floor response spectrum to be proportionally higher. Our judgement is based on the following:

- a) The 0.2g time history spectrum used for floor spectra generation for reevaluation envelops the site specific spectrum at all frequencies except in the 1.1 to 1.6 Hz range.
- b) There are no structural frequencies in the 1.1 to 1.6 Hz range to amplify the input spectrum. This can be confirmed by comparing floor spectra generated for the seismic reevaluation and presented in Figures 220.15-14 (elevation 712') 220.15-17 (elevation 762') and 220.15-20 (elevation 802') of the December 3, 1981 response. Note that the floor spectral ordinates are essentially unchanged throughout the plant in the 1.1 to 1.6 Hz range.
- c) As the predominant horizontal structural frequencies are all 4.85 Hz or higher, we do not expect any amplification of the ground input in the 1.6 Hz range based on the amplification curves of single degree of freedom oscillator.

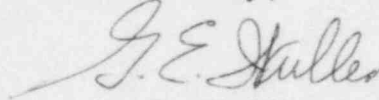
4. Equipment Response

A review of the frequencies of safety related equipment leads us to conclude that there are no critical frequencies in the 1.1 to 1.6 Hz range and thus the conclusions of the reevaluation are not affected by the new site specific spectrum.

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We believe that the above provides the information necessary to satisfy the site specific spectrum concerns and to close out SER issue #3.

Sincerely,



G. E. Wuller
Supervisor-Licensing
Nuclear Station Engineering

HBP/jmm

attachment

cc: Dr. H. Abelson, NRC Clinton Project Manager
Mr. G. V. Giese-Koch, NRC GB
Mr. B. N. Jagannath, NRC HGEB
Mr. N. C. Chokshi, NRC SEB
Mr. A. J. H. Lee, NRC EQB
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