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 50-270 Oconee Nuclear Station, Unit 2, Duke Power Co.      05000270  
 50-287 Oconee Nuclear Station, Unit 3, Duke Power Co.      05000287

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SUBJECT: Forwards response to request for addl info re GL 87-02, suppl  
 1, re resolution of USI A-46.

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**DUKE POWER**

January 15, 1993

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555

Re: Oconee Nuclear Station, Units 1, 2, and 3  
Docket Nos. 50-269, 50-270, 50-287  
License Nos. DPR 38, 47, 55  
Response to Supplement 1 to Generic  
Letter 87-02 on SQUG Resolution of USI A-46

The Oconee Nuclear Station provided information in support of Generic Letter 87-02 to the NRC in a letter dated September 21, 1992. On November 19, 1992, the NRC responded to the Oconee Nuclear Station with a letter of request for additional information. Also, the NRC requested clarification as to the Oconee Nuclear Station's commitment to the Generic Implementation Procedure (GIP), Revision 2, as corrected on February 14, 1992 and the associated Supplemental Safety Evaluation (SSER) No. 2.

The NRC Staff raised a concern regarding whether the Oconee Nuclear Station will fully implement all provisions of the guidance sections of the GIP and, if not, what will be the Oconee Nuclear Station's process for notifying the Staff of deviations. With regard to this concern, Oconee Nuclear Station's actions will be in accordance with Part 1, Section 1.3 of the GIP, Rev. 2 (Corrected February 14, 1992), which was accepted by the Staff in its SSER No. 2 on the GIP, dated May 22, 1992. Thus Oconee Nuclear Station continues to reserve the option to change its licensing basis methodology for verifying the seismic adequacy of new and replacement, as well as existing, electrical and mechanical equipment as addressed in the Utility's September 21, 1992 letter referenced above.

The Oconee Nuclear Station recognizes the clarifications as stated in Enclosure 2 of the NRC's November 19, 1992 letter of response to the Utility and will include them as described in the SQUG response to the NRC dated December 23, 1992, shown as Attachment 1.

The response to the request for additional information is shown on Attachments 2 and 3.

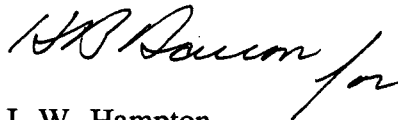
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U.S. Nuclear Regulatory Commission  
January 15, 1993  
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I declare under penalty of perjury that these statements are true and correct to the best of my knowledge.

Very Truly yours,

A handwritten signature in cursive script, appearing to read "J. W. Hampton", followed by a long horizontal flourish.

J. W. Hampton

Attachments

xc: Mr. S. D. Ebnetter  
Regional Administrator, Region II  
U. S. Nuclear Regulatory Commission  
101 Marietta Street, NW., Suite 2900  
Atlanta, GA 30323

Mr. P. E. Harmon  
Senior NRC Resident Inspector  
Oconee Nuclear Station

Mr. L. A. Wiens  
Office of Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555

## RESPONSE TO NRC'S REQUEST FOR ADDITIONAL INFORMATION

1. Question: Please provide a description of the foundation characteristics of the various buildings where safety equipment is housed in order to justify your determination that the supporting media can be classified as rock and thus require no consideration of soil-structure interaction.

Response: Section 3.7.4.1 of the Oconee Nuclear Station FSAR indicates the Reactor and Auxiliary Buildings are on a common rock foundation. The quality (or soundness) of this rock is addressed in Section 2.5.4.2 of the FSAR. Our records indicate that the Keowee Powerhouse is also founded on rock. The Turbine Building is founded on either sound rock or fill concrete down to sound rock. The area under the Turbine Building was excavated down to solid rock and filled with concrete, as required.

2. Question: Describe the basis and methodology used to broaden peak spectra.

Response: The magnitude of broadened peak is not specified as a parameter for the generation of the in-structure response spectra. The methodology used in smoothing and generating the in-structure response spectra curves did not include a specific criteria for the purpose of peak broadening. The curve generation method did include enveloping all the acceleration data points. Some peak broadening is exhibited in many of the plots as a result of this process.

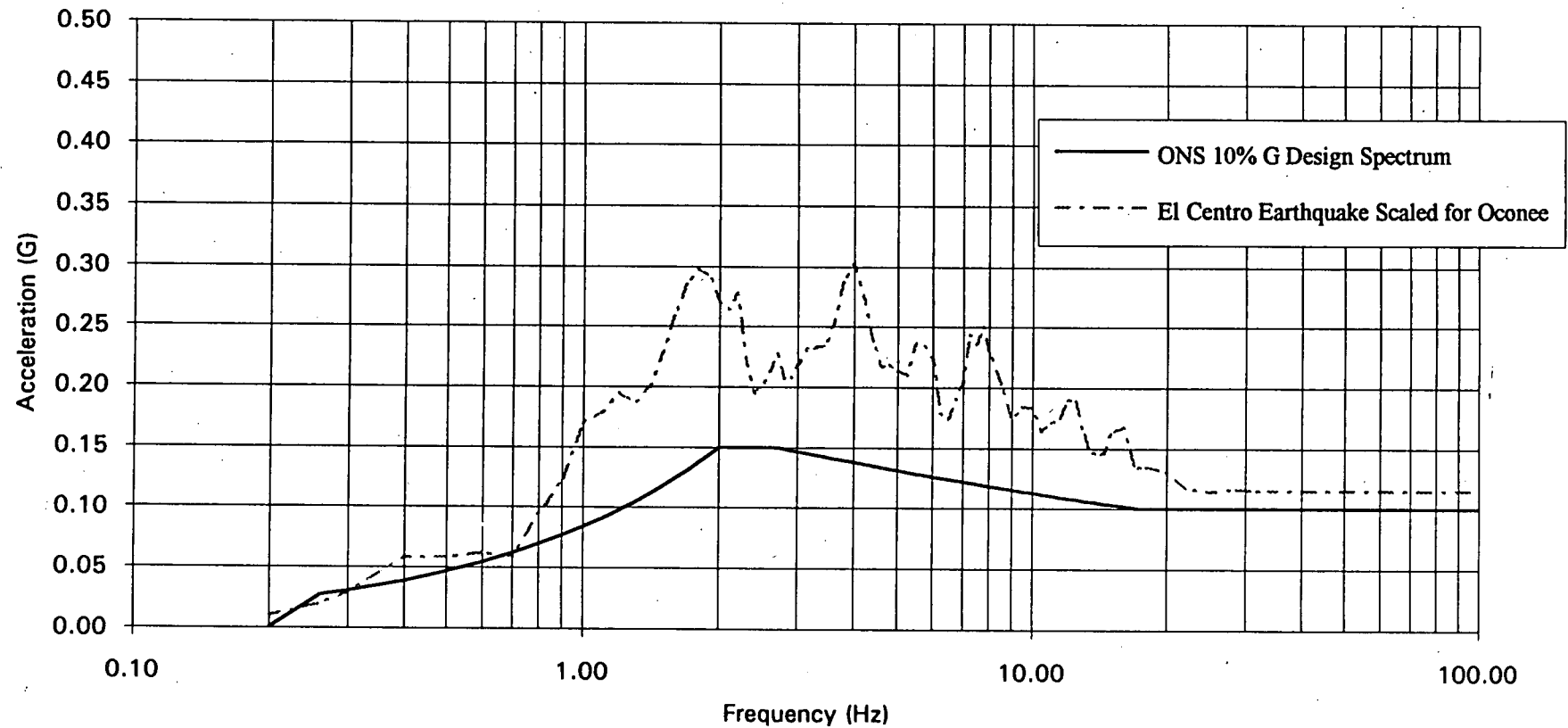
3. Question: State how many horizontal components of the ground motion are used in input motion in generating in-structure response spectra and describe how the horizontal and vertical forcing function components are combined, i.e., algebraic or absolute sum.

Response: The Time-History record of the N-S, May 1940, El Centro earthquake, properly scaled, is used as the horizontal input motion in both the North-South and East-West models for the generation of the in-structure response spectra. The acceleration used from any one of the horizontal in-structure response spectrum is combined by absolute sum with the vertical seismic component to determine the overall acceleration on the subsystem or item evaluated. Also reference Sections 3.7.2.5 and 3.7.3.4 of the Oconee Nuclear Station FSAR.

4. Question: Provide a discussion of the conservatism associated with the time history input by comparing its spectra with the original spectra.

Response: A plot of the scaled El Centro time history spectrum used for generation of in-structure spectra compared with the original design spectrum is shown on Attachment 3. The magnitude of the margin between the scaled El Centro Spectrum and the Design Ground Spectrum is a source of significant conservatism in the in-structure response spectra.

Scaled El Centro May 1940 Ground Response Spectrum Comparison to Oconee Required  
Response Spectrum (5% damping)





December 23, 1992

Mr. James G. Partlow  
Office of Nuclear Reactor Regulations  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Subject: NRC Comments on SQUG's Response to SSER #2

- References:
1. NRC (J. Partlow) letter to SQUG (N. Smith), dated October 2, 1992, with enclosure containing NRC Staff Comments on Reference 2 (below).
  2. SQUG (N. Smith) letter to NRC (J. Partlow), dated August 21, 1992, containing:
    - Comments on Supplement No.1 to Generic Letter (GL) 87-02, and Supplemental Safety Evaluation Report No. 2 (SSER #2), on the SQUG Generic Implementation Procedure, Revision 2, as corrected on 2/14/92 (GIP-2).
    - Procedure for Revising the GIP.

Dear Mr. Partlow:

We received your letter and enclosure (Reference 1) which comments on our letter (Reference 2), containing SQUG's understanding of SSER #2. Reference 2 also contained the procedure which SQUG plans to use to update and revise the GIP in the future.

We appreciate receiving your clarifications and your acceptance of the procedure for revising the GIP. We plan to take the following actions in response to your letter (Reference 1):

1. GIP Revision: We are currently preparing a revision of the GIP to incorporate the NRC Staff clarifications, interpretations, and exceptions contained in SSER #2. In addition, we plan to incorporate the clarifications of SSER #2 contained in Reference 1 as follows:
  - The GIP will be revised to state that licensees should wait for Staff approval or rejection of additional information sent by the licensee after the initial 120-day submittal before proceeding with implementation of USI A-46. The Staff intends to state its approval or rejection of this additional information within

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Mr. James G. Partlow

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December 23, 1992

sixty (60) days of receiving it, or will indicate the time duration needed for review of such information.

- The GIP will be revised to caution users of EBAC and ANCHOR that all of the installation checks and inspections described in Section 4.4.1 for anchorage evaluations should be performed (including checks for base stiffness and prying). Also, the GIP will describe the assumptions and limitations of EBAC and ANCHOR as they apply to the installation checks and inspections contained in the GIP.
2. Transfer of Knowledge During USI A-46 Implementation: As indicated in Reference 2, SQUG plans to issue periodic written reports of major problems identified, and lessons learned, in the USI A-46 walkdowns and third-party reviews. SQUG will include the NRC on the distribution of these reports. The optional utility workshops are intended as utility working sessions in response to specific utility needs; we do not believe routine NRC participation in these workshops would be appropriate. However, we will notify the NRC of planned workshops and may request NRC participation on selected topics.
  3. Procedure for Revising the GIP: The Procedure for Revising the GIP will be changed to delete NRC participation in the selection of the Peer Review Panel members. The procedure will also reflect the timing of Staff responses to GIP changes to be similar to the approach described in Item 1 above.

Sincerely,

*Neil P. Smith gmu*

Neil P. Smith, Chairman  
Seismic Qualification Utility Group

cc: P. Sears, NRC  
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