



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

FEB 18 1981

Docket No.: STN 50-483

Mr. John K. Bryan  
Vice President  
Union Electric Company  
1901 Gratiot Street  
P. O. Box 149  
St. Louis, Missouri 63166



Dear Mr. Bryan:

Subject: Request for Additional Information for the Review of the  
Callaway Plant Unit 1 - Addendum

As a result of our continuing review of the Callaway Plant Unit 1 Addendum, FSAR, we find that we need additional information to complete our evaluation. The specific information required is as a result of the Hydrologic and Geotechnical Engineering Branch's review and is presented in the Enclosure.

To maintain our licensing review schedule for the Callaway Plant FSAR, we will need responses to the enclosed request by April 3, 1981. If you cannot meet this date, please inform us within seven days after receipt of this letter of the date you plan to submit your responses so that we may review our schedule for any necessary changes.

Please contact Mr. Dromerick, Callaway Licensing Project Manager, if you desire any discussion or clarification of the enclosed request.

Sincerely,

Robert L. Tedesco, Assistant Director  
for Licensing  
Division of Licensing

Enclosure:  
As stated

cc: See next page

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241.0 Geotechnical Engineering

- 241.10 Identify the extent and location of areas where Category I Granular  
(2.5.4.5) Structural Fill and Backfill were used as a substitute for Category I Cohesive Fill. Provide the design criteria for the fill originally planned to be placed in these areas and explain how the substituted fill material meets these criteria.
- 241.20 In Section 2.6 of the Callaway Safety Evaluation Report dated  
(2.5.4.6 and 2.5.5.1) August 1975, it is stated that the side slopes and bottom of the ultimate heat sink retention pond will be sealed with a compacted clay liner. In Sections 2.5.4.6 and 2.5.5.1 of the Callaway FSAR, it is indicated that you consider it unnecessary to seal the pond side slopes and bottom with an impervious blanket. To justify this change, provide the following information:
- (i) any new information that indicates that impervious seal is not required.
  - (ii) the data base and procedure used to estimate the magnitude and rate of potential seepage loss through side and bottom boundaries of the pond. Provide the results of this analysis.
  - (iii) The extent, location and classification of any pervious sand or silt lenses encountered along the perimeter of the pond during excavation.

- (iv) the procedure used for any field permeability tests performed to evaluate the need for an impervious seal around the sides and bottom of the pond, and the results.

- 241.3 C      Provide time vs settlement plots of up-to-date settlement data  
(2.5.4.10)      obtained for all category I structures where settlements are being monitored. Show comparisons of the measured data with anticipated settlements assumed in the analysis of these structures and their appurtenances, and evaluate the impact of any differences between the measured and anticipated settlements on the design and construction of these structures and appurtenances.
  
- 241.4 C      You indicate that the connections between structures and important  
(2.5.4.10)      utilities will be made toward the end of construction. Indicate if these connections have been made. If so, how much settlement of the structures has occurred since the connections were made. Evaluate the effect of the past and anticipated future settlement of structures on safety related utility connections.
  
- 241.5 C      In Section 2.5.4.10 of the Callaway FSAR you indicate that the rigid  
(2.5.4.10)      subsurface walls were designed to resist static at rest lateral earth pressures. What value of the coefficient of earth pressure at rest for compacted backfill was used in these calculations.

Describe any conservatism involved in your earth pressure computations. Provide a plot of earth pressure vs depth needed to design subsurface walls under static and dynamic loads.

241.6C      In the second paragraph of Section 2.5.5.1.1 you indicate that the  
(2.5.5.1)      Riprap details are given in Section 2.4.5.3. This section number  
is incorrect. Provide the correct reference.