

PUBLIC SERVICE COMPANY OF OKLAHOMA
A CENTRAL AND SOUTH WEST COMPANY

P.O. BOX 201 / TULSA, OKLAHOMA 74102 / (918) 583-3611



Public Service Company of Oklahoma
Black Fox Station Units 1 and 2
Excavation Seal Unit 2
U.S. NRC Docket No. STN 50-556, 50-557

October 19, 1979
File 6212.125.3500.21L

Mr. Steven A. Varga, Assistant Director
Division of Project Management
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20002

Dear Mr. Varga:

This letter updates and confirms several conversations concerning the excavation of Unit 2 which took place between representatives of PSO and the technical staff of NRR and I&E Region IV during the latter part of July and mid-August of this year. During these discussions, we reported the preliminary results of the field testing activities which were completed in the foundation area for Unit 2 structures and the recommendations of our Architect-Engineer regarding the nature of the subgrade material found in the Unit 2 excavation area.

Excavation for Unit 2 was authorized under Amendment 2 of the Limited Work Authorization on November 30, 1978. The initial work commenced in December, 1978, resumed in April, 1979 after the unusually severe winter forced shutdown and reached the base foundation elevation in mid-June. At that time, field tests showed that a soft, siltstone layer underlaid a large portion of the excavation surface at depths ranging from two to seven feet. Our Architect-Engineer recommended that the depth of the excavation in the Unit 2 foundation areas be extended to remove the soft siltstone layer. Subsection 2.5.4 of the BFS Preliminary Safety Analysis Report predicted such overexcavation below the base foundation elevation and stated that these areas would be backfilled with lean concrete.

As discussed previously with Dr. Cecil O. Thomas, Licensing Project Manager of NRR and William A. Crossman, Chief, Projects Section, I&E Region IV, the soft, siltstone layer material has now been removed from the excavation area, and a nominal six-inch concrete seal coat has been applied to protect the underlying rock structure from weathering.

In order to bring the entire excavation up to design base foundation elevation, a mass fill of lean concrete will be required. The Unit 2 structures (i.e., the

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U. S. Nuclear Regulatory Commission
Mr. Steven Varga

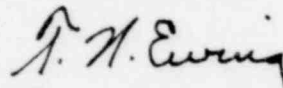
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fuel building, the reactor building, and auxiliary building) would therefore be supported on fill concrete founded directly on the same competent siltstone as Unit 1. However, in accordance with our oral commitment to Mr. Thomas, we intend to provide the NRC Staff with certain analyses prior to taking this action. These analyses involve an assessment of the strength of the concrete as a foundation material as compared with the natural rock structure and the effect of this relative thick concrete fill on the dynamic responses of the safety-related structures.

During our previous discussions, we expected to supply these analyses within a 30 to 60 day time period for Staff review. Unfortunately due to manpower constraints associated with reviewing the Staff's TMI requirements in preparation for our upcoming hearing, we have fallen behind schedule in providing you with this information.

We will advise you further when the engineering effort on the analyses work is completed.

Very truly yours,



T. N. Ewing, Manager
Black Fox Station Nuclear Project

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