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

OFFICE OF THE
CHAIRMAN

May 21, 1979

The Honorable G. William Whitehurst
United States House of Representatives
Washington, D. C. 20515

Dear Congressman Whitehurst:

I have received the inquiry regarding the shutdown of the Surry Power Station, dated March 19, 1979, from yourself and from other members of the Virginia Congressional delegation and I share your concern that this matter be resolved promptly.

With respect to your request that the Nuclear Regulatory Commission's staff be prepared to expedite the review of the Surry Power Station pipe stress reanalyses, certain steps have already been taken by the staff toward this end. Following the Nuclear Regulatory Commission's order to shut down the five nuclear power plants, including the two-unit Surry Power Station, independent review teams for each affected power plant were established within the staff of the Office of Nuclear Reactor Regulation. In particular, the staff review team for the Surry facility is dedicated to prompt review and analysis of submittals by the Virginia Electric and Power Company (VEPCO) with respect to the Surry shutdown order. The Surry review team has met with the licensee at the site of the Surry facility and has travelled to the Stone and Webster offices in Boston to review the preliminary reanalysis results. The Surry review team shares no members with review teams for the other affected power plants and remains ready to promptly review VEPCO's reanalyses.

It should be pointed out that at this time VEPCO is reanalyzing the affected piping systems of Surry Unit No. 1 only. Surry Unit No. 2 has been shut down for steam generator replacement, and a stress analysis of the Unit No. 2 piping systems will follow the current reanalysis effort for Unit No. 1. The staff review team for the Surry Power Station will remain available for prompt review of the VEPCO submittals for both Unit No. 1 and Unit No. 2.

With respect to your comments regarding site-specific considerations for seismic events at the Surry Power Station, I offer the following comments. As you noted, the foundation conditions at the Surry and Beaver Valley sites do differ. The Beaver Valley facility is founded on about 50 feet of sands and gravel which overlay rock. The Surry facility is founded on about 1300 feet of sediments which overlay rock. These conditions, including the characteristics of overburden damping and amplification of vibrations from bedrock to the surface, were taken into account in establishing the seismic design basis for each of the plants.

Insofar as local seismicity is concerned, the 1300 feet of overburden at Surry site masks the basement rock so that faulting cannot be identified in the area. This is true for most of the eastern United States. Since the tectonic structures which give rise to earthquakes cannot be identified and localized, our practice is to assure that earthquakes at least as severe as regional historical earthquakes could occur anywhere in the region. In addition, in establishing the seismic design bases for a nuclear power plant, we take into account the impacts on that plant of more distant earthquakes. For example, the Charleston, South Carolina earthquake of 1886 was felt in the region of the Surry site.

VEPCO is considering using an advanced analysis method which takes into account soil-structure interactions to determine Surry plant response motion due to seismic events. This method was used by VEPCO for the design of the now-cancelled Surry Unit Nos. 3 and 4. However, it was not used in the original design analysis for Surry Unit Nos. 1 and 2. We have maintained a dialogue with VEPCO regarding the use of this technique for Unit Nos. 1 and 2, and VEPCO is aware of our requirements in this matter.

While we continue to meet with VEPCO and Stone and Webster representatives to discuss preliminary results of their reanalyses, we are at this time awaiting submittal of these results by VEPCO for staff evaluation. Following the staff evaluation of the VEPCO submittals for each reactor unit, we will be in a position to reconsider whether continued suspension of operations at that unit remains necessary or appropriate. The staff's recommendation concerning possible resumption of operation will be considered by the Commission before a final decision is made. If you have any additional questions, please contact my office.

Sincerely,

Joseph M. Hendrie
Chairman