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Tennessee Valley Authority Chattanooga, Tennessee 37401 J. E. Gilleland	8-15-74	8-17-74	X			

TO:	ORIG	CC	OTHER	SENT AEC PDR	SENT LOCAL PDR
Mr. Schwencer	1 signed			X	X

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DESCRIPTION:
Ltr trans the following:

ENCLOSURES:
Responses to 7-25-74, Informal AEC Comments on TVA Responses to AEC Question 2.57 on the Bellefonte PSAR.

(1 cy rec'd)

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ACKNOWLEDGED

PLANT NAME: Bellefonte Units 1 & 2

FOR ACTION/INFORMATION 8-17-74 AB

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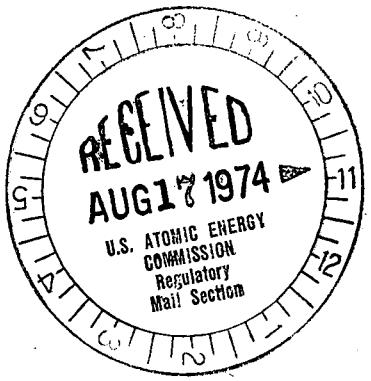
Regulatory File Cy.

TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE
37401

TVA 40TH ANNIVERSARY OF PEOPLE IN PARTNERSHIP

August 15, 1974



Mr. A. Schwencer, Chief
Light Water Reactors Branch 2-3
Directorate of Licensing
U.S. Atomic Energy Commission
7920 Norfolk Avenue
Bethesda, Maryland 20014

Dear Mr. Schwencer:

In the Matter of the Applications of) Docket Nos. 50-438
Tennessee Valley Authority) 50-439

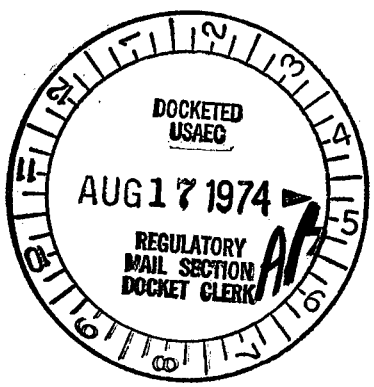
Please find enclosed our responses to several comments which were raised during recent telephone conversations between members of your staff and TVA in regard to Question 2.57 in the Bellefonte Nuclear Plant PSAR.

Very truly yours,

J E Gilleland

J. E. Gilleland
Assistant to the Manager of Power

Enclosure
CC: William D. Paton, Esq.
Office of the General Counsel
Office of Regulation
U.S. Atomic Energy Commission
Washington, DC 20545



8509

ENCLOSURE

RESPONSES TO JULY 25, 1974, INFORMAL AEC COMMENTS ON TVA RESPONSE TO AEC QUESTION 2.57 ON THE BELLEFONTE PSAR.

Comment 1 - Are the X/Q values for the Bellefonte PSAR reasonably representative and conservative, and are the observed temperature difference (delta-T) values consistent with the X/Q values?

Response - We believe that the X/Q values used in the Bellefonte PSAR are reasonably representative of the site area and show adequate conservatism. The offsite delta-T corresponding to the first year of onsite wind data are consistent with the X/Q values presented in the PSAR. The onsite X/Q values for the data period November 1972 - October 1973 are in reasonably good agreement with those in the PSAR. Subsequent site meteorological data indicate slightly less adverse dispersion conditions.

The accuracy of the delta-T values is less critical for stability classes F and G, which contribute most to the accident diffusion estimates, because the respective ranges of values are large, i.e., $>1.5^{\circ}C$ to $\leq 4.0^{\circ}C$ and $>4^{\circ}C$. The daily data summaries for the period of record, November 1972 - October 1973, show a strong tendency towards stable conditions. Therefore, with respect to X/Q values and accident diffusion estimates, we feel that the meteorological data for the Bellefonte site meets the intent of Regulatory Guide 1.23.

Comment 2 - How well has the accuracy of TVA's direct delta-T system behaved under the Pasquill stability conditions F and G? Why was a range of only $\pm 0.5^{\circ}F$ delta-T values used in the analysis?

Response - The range of delta-T values given on page 2 of the May 30, 1974, response material was erroneous. The report from the TVA Engineering Laboratory Branch, on which the discussion of the direct delta-T accuracy was based, stated that the system errors were evaluated for delta-T values ranging from $-5.0^{\circ}F$ to $+5.0^{\circ}F$. Therefore, the same system error statistics would be applicable for F and G stability conditions, which correspond to Bellefonte delta-T values of -0.8 to $-2.1^{\circ}F$ and $\leq -2.2^{\circ}F$, respectively. The period of time over which the actual total error would be averaged and consequently diminished is 60 minutes for each hourly delta-T value collected in the field. Under normal operation the direct delta-T system is expected to meet the Regulatory Guide 1.23 specifications with a calibration schedule of once a month.

Comment 3 - How significant is the effect on the delta-T values of the difference between the temperature data averaged for five minutes of each hour and the temperature data averaged for 60 minutes of each hour?

Response - The five-minute averaging period for Pulse-O-Matic data has the effect of leaving out the delta-T value every third tenth of a degree, i.e., 0.1°F, 0.2°F, 0.4°F, etc. This has considerable effect on the percentages of stability class B and C values, some effect on percentages of class A and D values, and little effect on percentages of class E, F, and G values. The data period for the five-minute average value for each hour at Bellefonte is late September 1972 to August 1, 1973. Sixty-minute average values for each hour have been collected before and after that period.

Comment 4 - When will the final statistical analysis of the comparative accuracy of the Hartsville Pulse-O-Matic delta-T relative to the Hartsville digital delta-T data be available?

Response - The final analysis has been delayed and may not be available until this fall. However, the preliminary analysis indicated general agreement between the mean delta-T values for the Pulse-O-Matic and digital data sets. The Pulse-O-Matic data showed significant scatter of the delta-T values relative to the digital delta-T values. We believe that the Pulse-O-Matic delta-T are reasonably representative of site stability conditions, at both Hartsville and Bellefonte but the digital delta-T data are (or would be, in the case of Bellefonte) more accurate and represent more precise stability information.