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TO: M O PARR

FROM: TVA
CHATTANOOGA, TENN
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DESCRIPTION
LTR REF THEIR 6-30-76 LTR CONCERNING FUEL SURVEILLANCE PROGRAM AT BELLEFONTE..... TRANS THE FOLLOWING.....

PLANT NAME: BELLEFONTE 1 & 2

ENCLOSURE
MARK C 17 X 17 FUEL SURVEILLANCE PROGRAM.....

ACKNOWLEDGED
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PROJECT MANAGEMENT	ROSS	<input checked="" type="checkbox"/>	BISENHUT	<input type="checkbox"/>	STEPP
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TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

October 8 1976

Mall Section
Docket Clerk



Director of Nuclear Reactor Regulation
Attention: Mr. Olan Parr, Chief
Branch No. 3
U.S. Nuclear Regulatory Commission
Washington, DC 20555

50-438
439

Dear Mr. Parr:

Our letter of June 30, 1976, indicated that the Tennessee Valley Authority (TVA) would conduct a fuel surveillance program at the Bellefonte Nuclear Plant unit 1 if this plant were the first to use the Babcock & Wilcox Company (B&W) Mark C 17 x 17 fuel assembly design. A summary description of the program is provided in the enclosure. Further details will be provided in the Final Safety Analysis Report (FSAR).

We are aware that correspondence has been exchanged between the Nuclear Regulatory Commission (NRC) and B&W over the past few years concerning agreements for out-of-pile and in-pile proof testing and verification surveillance of Mark C 17 x 17 fuel assemblies. The in-pile testing of four special Mark C demonstration assemblies, each with four precharacterized fuel rods, in Oconee 2 should be essentially completed and analyzed in time to influence the scope of verification surveillance required for confirmatory performance evaluation in the first total core of the Mark C 17 x 17 design. If Bellefonte unit 1 is the first total core of these assemblies, TVA will endeavor to cooperate with B&W in implementing the surveillance program which has been proposed by them and approved by NRC or some reasonable modification thereof. Such TVA involvement, of course, is dependent on reaching satisfactory agreement with B&W concerning respective responsibilities for the surveillance as well as TVA's operational considerations in utilizing the Bellefonte unit.

For planning purposes it would be worthwhile to clarify what is meant by "the first plant that has a total core of the Mark C 17 x 17 design." Is the first to be determined by date of operating license receipt, date of commercial operation, date of first refueling shutdown or by some other criterion? Is verification surveillance performed on a foreign plant acceptable? Some guidance on these aspects would be appreciated.

Very truly yours,

J. E. Gilleland
Assistant Manager of Power

Enclosure

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10182

Mr. Olan Parr

October 5, 1976

CC: Mr. James McFarland
Senior Project Manager
Babcock & Wilcox Company
P.O. Box 1260
Lynchburg, Virginia 24505

ENCLOSURE

BELLEFONTE UNIT 1

MARK C 17 X 17 FUEL SURVEILLANCE PROGRAM

To provide verification of the reliable performance of Babcock and Wilcox Mark C 17 X 17 fuel assemblies, a supplemental fuel surveillance program will be conducted at Bellefonte unit 1 if this unit is the first to use a total core of the fuel. The program will consist of a visual inspection of peripheral rods in the initial core fuel assemblies. A minimum of 24 assemblies discharged during each of the first three refueling outages will be selected for examination in the spent fuel pool during the outage. Selection will be made to provide a representative range of fuel duty conditions. The remaining fuel assemblies will be visually examined as soon as practicable after resumption of operations. The visual inspection will include observations for cladding defects, fretting, rod bowing, corrosion, crud deposition, and geometric distortion.

If any significant anomalies in the discharged fuel are detected during the visual examination, further investigation may be performed if it is believed that the anomalies could be clarified through such examination. Depending on the nature of the observed condition, the further examination could include appropriate surface, dimensional, or gamma inspections of the fuel assemblies. Under unusual circumstances, destructive examination of a fuel assembly or individual fuel rods may be required, but this would not be accomplished on site or within the time of the refueling outage.

Six fuel assemblies in the initial core, two in each region, will be precharacterized for rod-to-rod spacing when manufactured.

The NRC will be advised of the normal refueling schedule and will be notified at least 10 days in advance of fuel surveillance inspections so that it may observe the inspections and the resultant evaluations of the fuel assembly performance. If NRC representatives are present, an exit interview will be scheduled between the NRC representatives and the plant staff to discuss the results of the inspection. Following inspections an oral report of the results and conclusions will be made to NRC. Within 60 days of completion of the inspection, a written report will be submitted to NRC.

If a similar fuel surveillance program is completed, through the second and third refueling shutdowns, on another B&W reactor before the completion of the Bellefonte program, the remaining Bellefonte surveillance program may be cancelled. Cancellation of the program will be subject to the review and approval of the NRC staff.