

**TENNESSEE VALLEY AUTHORITY**

**CHATTANOOGA, TENNESSEE 37401**

**6N 38A Lookout Place**

**January 11, 1987**

**Mr. Victor Stello  
Executive Director of Operations  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555**

**Dear Mr. Stello:**

The purpose of this letter is to provide the Commission and the staff with (1) additional information relating to the quality of design and construction at TVA's Watts Bar Nuclear Plant (WBN) including recent actions I have taken and those I intend to take in this regard, and (2) my views on the question of 10CFR50 Appendix B compliance at WBN.

Because of the lack of good communication between the TVA and the NRC on the issues and events related to the Appendix B controversy, I think it is important to provide you with my views of those events and their meaning to me.

In 1985 TVA, on its own, shut down all five of its operating nuclear plants. TVA also held in abeyance any effort to proceed with fuel loading at WBN unit 1. While each of these actions was precipitated by a specific set of problems at each site, it became clear that there were a number of fundamental management problems facing TVA's nuclear program. One of the actions taken by the Board of Directors to resolve these problems resulted in my coming to TVA as the Manager of Nuclear Power on January 13, 1986.

Prior to my arrival, on December 19, 1985, in response to his request, Commissioner Asselstine was briefed by TVA's Nuclear Safety Review Staff (NSRS) on their perceptions of the situation at WBN. At the conclusion of that briefing, a member of the NSRS presented a slide summarizing the NSRS perception that "10CFR50 Appendix B requirements are not being met" (at WBN). The NSRS Manager was unaware of the basis upon which his representative had drawn this conclusion and, thus, commented that the opinion by that individual did not necessarily represent the TVA corporate position. As a result, the NRC, in a letter dated January 3, 1986, requested TVA "to furnish under oath or affirmation, TVA's corporate position with respect to whether or not 10 CFR Part 50, Appendix B requirements are being met at the Watts Bar facility." This was to be done in writing no later than January 9, 1986. This date was later extended in view of my anticipated arrival on January 13.

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**EXHIBIT 76**

Mr. Victor Stello

January 11, 1987

When I assumed the position as Manager of Nuclear Power, my first and most pressing task was to identify the basic problems within TVA's nuclear program and to set in motion those actions which would be most effective. It is important to note that I became responsible not only for the four plants under construction but for five operational nuclear plants with their attendant nuclear safety implications. By all comparisons this was an enormous undertaking. Although responding to the NRC on the Appendix B issue at WBN was one of the more important issues we knew had to be resolved, it was not the only one, nor did we view it as the single most important issue. It is important to remember that WBN was unlicensed (without fuel) and posed no immediate concern to public safety. Nevertheless, one of my actions was to call upon two separate groups of non-TVA experts, each experienced in those areas highlighted by the NSRS, to provide me with their independent assessment of a review of these 11 issues which had been performed within TVA. Even though I felt it would require many months of effort to investigate and thoroughly review the QA situation at WBN, I set a short time span for completion of the review of the 11 perceptions because I believed NRC urgently desired at least a preliminary response.

On March 20, 1986, TVA responded to the NRC request. Subsequent to this, some have read into that response more than was intended. Simply stated, I attempted to convey the following points:

1. Based on a limited review of the 11 issues cited by the NSRS, I could not conclude that there had been a "pervasive breakdown" of QA at WBN. Also, TVA would remedy all deficiencies and noncompliances. As a consequence it was TVA's corporate position that, taken as a whole, Appendix B requirements were being met. ?
2. I was fully aware that there were QA problems at TVA, and specifically at WBN, and I was in the process of finding out what they were so that corrective action could be taken in each individual case. ?
3. I would continue to review not only those 11 areas involving the quality of work at WBN but also many others I had reason to question and would keep the NRC fully advised.

This position was reiterated in my letter to Mr. Denton dated June 5, 1986. Nothing more should be read into these letters than the above three points.

I regret if there has been any misunderstanding as a result of my prior response. Specifically, there was no intent in my letters to imply that there was no merit to any of the NSRS concerns, that there were no QA problems at WBN, that each element of Appendix B was being met in every instance, or that our review of the QA program had been completed. The fact that we were aware of and

Mr. Victor Stello

January 11, 1987

concerned about the problem areas at WBN is evidenced by a number of indicators including my testimony before the Commission on March 11, 1986, in which I discussed my concerns about TVA's QA program. Another indicator is my letter of April 11, 1986, to the NRC Regional Administrator for Region II, Dr. Grace, which advised the NRC that TVA was withdrawing its request to load fuel. In addition, I significantly expanded the investigation of employee concerns in all categories including the NSRS perceptions, NSRS reports, and other sources of allegations. This alone was an extensive effort which involved the use of approximately 500 additional people.

There is no question that there have been instances of noncompliance with TVA's QA program at WBN and thus with individual requirements of Appendix B. In 1986 alone there have been 1,335 Nonconformance Reports (NCRs) written at WBN; and, of these, approximately 70 were serious enough to warrant the writing of 10CFR50.55(e) reports. In addition, as your January 5, 1987 letter discusses, the results of our review of the welding program indicate TVA has had serious problems in the areas of structural steel welding and interpretation of radiographs. I have no doubt that the extensive reviews still being conducted at WBN will generate even more examples of QA problems. The results of these reviews have been and will continue to be forwarded to the NRC. It continues to be my intent to determine how extensive these problems are and so to advise the NRC along with my plan to correct them.

It would be unfortunate, indeed, if semantics were allowed to impede the programs I have put in place to identify and remedy problems. I sincerely hope that this amplifying letter adequately explains the intent of my March 20 and June 5 letters.

As you are aware, I have just returned to my position as the Manager of Nuclear Power having been absent for almost three months while legal and contractual differences were resolved. Just prior to, and during my absence, some of the aforementioned ongoing reviews at WBN provided results which now indicate that in certain specific areas of work at WBN there was a significant breakdown in the quality assurance program established under Appendix B. These results have been reported to the NRC.

In order to permit me to personally review the situation as it presently stands, I have today directed that Stop Work Orders (SWOs) be issued for all construction/modification/repair work on certain areas of WBN activities until I am satisfied that work should be resumed. These areas are:

1. Instrumentation sensing, sampling, signal, control air, and radiation monitoring lines, supports, and any associated instrument installation

Mr. Victor Stello

January 11, 1987

2. Circumferential welds in spiral HVAC ducts
3. Circumferential welds in hydrogen collection piping
4. Wall mounted instrument panel supports

While these SWOs are in effect, no work may be performed on the affected systems or components other than required maintenance or QA/QC related activities. During these suspensions, I will have the opportunity to find out just where we stand. Specific details are now being worked out by which I will specify what must be done prior to resumption of work. I intend to keep the NRC fully informed of my actions.

In addition, I have directed that, prior to commencing the actual welding or weld repair on the structural platform at the 741' elevation, I be provided with the results of the final quality assurance, engineering assurance, and management overview so that I may verify that all aspects of the program are satisfactory and that the structure is ready for welding.

Further, I have directed that all WBN unit 1 and unit 2 piping welds fabricated by TVA which have already been radiographed shall have a second independent evaluation of the radiographs and that a 100-percent overinspection of those welds using Level III inspectors shall be performed. For future welds, all new radiographs shall be evaluated by a Level II and a Level III inspector.

As I resume my duties, I may find it appropriate and necessary to stop additional work in other areas at WBN. I have also directed that the Watts Bar Nuclear Performance Plan (Volume 4) be compiled and submitted to the NRC within 90 days. It is my intent that this Plan will readdress all of the outstanding issues involved including those cited by the NRC, by the NSRS, Congressional staffs, and any others available to us. This Plan will provide all interested parties with a concise, detailed plan outlining the problems we face, what we intend to do about them, and the schedule for their resolution. All I ask is that you give me the opportunity to carry out my program in a professional and deliberate manner.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

  
S. A. White

Manager of Nuclear Power

cc: See page 5

Mr. Victor Stello

January 11, 1987

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