

409 Cameron Circle # 2402
Chattanooga, TN 37402
June 17, 1989

Mr. Lando Zech, Jr., Chairman
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Zech:

This letter is in reference to my letter of May 8, 1989 to you and in reference to the NRC reply in a letter of June 15, 1989 from Mr. B. D. Liaw, Director, TVA Projects Division, Office of Nuclear Reactor Regulation (copy enclosed).

In my letter to you I expressed some concerns related to the design of sample lines. The Tennessee Valley Authority (TVA) fabricated three sample panels with essentially the same design of sample lines and control valves. One of the panels was installed at the makeup water treatment plant at Sequoyah Nuclear Plant (SQN). Another panel was installed for sampling the reactor water at Browns Ferry Nuclear Plant (BFN). TVA engineers have been trying for four months to get the panel at SQN to operate properly. The pressure control valves will not maintain pressure and the pressure in the sample line will fluctuate wildly whenever a grab sample is taken. As I mentioned in my letter of May 8, 1989, the pressure of the reactor water being sampled at BFN is near 1300 pounds-per-square inch gage (psig). There is a glass rotameter on the sample line rated at 250 psig. In light of the fact that the control valves in the panel at SQN have not operated properly, I would say that the sample panel installed for measuring the reactor water at BFN is a potential safety hazard. I do not believe the NRC should ignore this hazard just because the area is not covered by NRC regulations.

Sincerely,

Eugene D. Buggs
Eugene D. Buggs

Enclosure

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

JUN 15 1989

Mr. Eugene D. Buggs
409 Cameron Circle, #2402
Chattanooga, Tennessee 37402

Dear Mr. Buggs:

This letter is in reply to your May 8, 1989 letter to Chairman Lando Zech, Jr. of the U. S. Nuclear Regulatory Commission.

In your letter you reiterated your concern that TVA had not fulfilled their agreement to verify that flow and pressure drop calculations have been performed for the Reactor Water Cleanup (RWCU) and feedwater and condensate sample panels at the Tennessee Valley Authority's (TVA) Browns Ferry and Sequoyah Nuclear Plants, respectively. In our review of this concern we found that the sample panels in question are located in non-safety categories of piping. Because of this, the sample panel designs have minimal impact on the overall safety of the nuclear power plants and we have, therefore, developed no regulatory concerns in reference to your agreement with TVA. However, TVA has assured us that post-maintenance testing is in progress to verify that the sample panel designs will fulfill their intended functions.

We have researched the dispositions of the four Condition Adverse to Quality Reports (CAQRs) about which you were concerned. The CAQRs in question were closed at the TVA offices in Chattanooga, and the technical concerns identified in those CAQRs were initiated as Problem Reporting Documents (PRDs) at Browns Ferry. The actions to remedy the concerns you identified are contained in two engineering change notices which are currently scheduled for implementation in September of this year. TVA's dispositions of these CAQRs were in accordance with their procedures for identifying, reporting, tracking and correcting conditions which may be adverse to quality. As no reactor safety concerns were identified in those CAQRs, we have concluded that TVA's actions did not violate NRC regulations, and that the health and safety of the general public and the environment are not affected.

Concerning TVA's selection of a glass rotameter for use in the Browns Ferry Reactor Water Cleanup system sampling line, as well as the associated pressure reducers, our review shows that TVA's design does not violate NRC regulations. The responsibility for a safe and effective system design belongs to the licensee. The NRC's role in the design process is one of establishing design and performance criteria which will guarantee the safe operation and shutdown of the nuclear reactor. This particular portion of the RWCU system is non-safety related; that is, it is not relied on to perform any function essential to the safe shutdown of the reactor and to ensure that the general public are not endangered in the event of a plant accident.

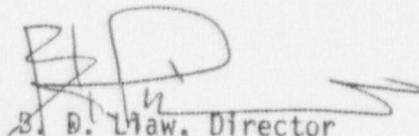
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We have reassessed your concerns about TVA's selection of corrosion inhibitors for closed cooling water systems. Being a chemical engineer, you are aware that the state of the art in the fields of corrosion protection and materials science advance very rapidly. In addition to corrosion prevention effectiveness, utility management selection of corrosion inhibitors must include consideration of federal, state, and local environmental and occupational safety and health regulations, equipment design and life expectancy, manufacturer's recommendations, and cost-benefit trade-offs. As such, it is not feasible for the NRC to specify which corrosion inhibitors must be used by licensees. In response to your concern that the NRC should verify that systems required for the safe operation and shutdown of the nuclear reactor are properly maintained, we must reiterate that although the Commission's range of regulation is generally limited to nuclear safety related and associated systems, the choice of corrosion inhibitors for closed cooling water systems is an issue that does not fall under its area of control. We do, however, share the essence of your concern, which is that those systems which are required for the safe operation and shutdown of the nuclear plant must be able to perform their designated safety functions. In this regard, we can assure you that requirements do exist for the periodic inspection and testing of those systems to verify that they can perform their intended safety functions. These requirements are embodied in the Inservice Testing (IST) and Inservice Inspection (ISI) programs which TVA has implemented at each of their operating nuclear power plants. These programs, which, along with their implementing procedures, have been reviewed by the NRC and are routinely inspected for their proper execution. The IST and ISI programs are developed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code, and include equipment performance testing as well as non-destructive examination techniques such as ultrasonic testing, eddy current testing, dye penetrant testing, radiography, pressure testing and visual inspection.

In summary, we find that while your concerns have technical merit, TVA's actions in these matters do not violate NRC regulations. In reference to your concerns, therefore, it is our position that TVA's actions do not have an adverse impact on nuclear reactor safety to the extent that the protection of the health and safety of the general public and of the environment are affected.

We appreciate your interest in nuclear power plant safety.

Sincerely,



B. D. Law, Director
TVA Projects Division
Office of Nuclear Reactor Regulation