

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
)	Docket Nos. 50-348-CivP
ALABAMA POWER COMPANY)	50-364-CivP
)	
(Joseph M. Farley Nuclear Plant,)	
Units 1 and 2))	
)	(ASLBP NO. 91-626-02-CivP)

REBUTTAL TESTIMONY OF WILLIAM LEVIS ON BEHALF
OF THE NRC STAFF CONCERNING LIMITORQUE OPERATORS

Q1. State your full name and current position with the NRC.

A. William Levis, Senior Resident Inspector, Davis Besse Nuclear Power Station.

Q2. Have you prepared a copy of your Professional Qualifications?

A. A copy of my Professional Qualifications has been admitted previously into evidence as Staff Exh. 1.

Q3. What is the purpose of your testimony?

A. The purpose of my testimony is to rebut portions of the Alabama Power Company (APCo) Testimony regarding violations of the environmental qualification (EQ) requirements for the Limitorque Motor Operated Valves (MOVs) at the Farley nuclear plant which led to the civil penalty that is the subject of this hearing. The APCo testimony which is the subject of this rebuttal testimony is contained in

Direct Testimony of Jesse E. Love, James E. Sundergill and David H. Jones on Behalf of Alabama Power Company (ff. Tr. 978) (hereafter L/S/J) and Direct Testimony of Philip A. DiBenedetto on Behalf of Alabama Power Company (ff. Tr. 1227) (hereafter DiBenedetto).

Q4. Are you aware of any 30 day tests of Limitorque motor valve operators in which a motor operator without a T-Drain installed failed the test? (L/S/J Q&A 162, pp.183-85; DiBenedetto Q&A 160, pp.125-26)

A. No. I am not aware of any test to either support use of Limitorque motor valve operators without T-drains in a long term post LOCA environment or that shows failures of Limitorques without T-drains in that environment. The point is that there have not been opportunities in industry in which a MOV had to operate for 30 days in post LOCA environment. Absent testing to simulate those harsh conditions for that period of time, we just do not know how the motors will respond. Mr. DiBenedetto's testimony answering APCo Q160 is misleading in that he states that he is unaware of any failures without stating basis for his conclusion.

Q5. Would not the information in NUGEQ Report "Clarification of Information Related to the Environmental Qualification of Limitorque Motorized Valve

Operator," April 1966, and the absence of information regarding the installation of T-drains in test reports 600456 or B0058 lead a reasonable engineer to conclude though Arrhenius techniques and reasonable engineering judgment that T-drains were not required for the environmental qualification of Limitorque motor valve operators? (L/S/J/ Q&A 162 & 163, pp.183-85; Q&A167 & 168, pp. 187-90)

- A. To begin with, in his answer to question APCo Q162 at pp.184-85, Mr. Sundergill states that "[i]nstallation of T-drains is not revealed anywhere in Test report 600456 or Test Report B0058." I do not agree with that statement. Paragraph 6.0 on page 30 of Test Report B0058 (Staff Exh. 54) describes the design and construction of Limitorque MOVs for use inside containment and states that T drains were one of the features added to permit the actuator to withstand the more severe containment chamber DBE conditions. The paragraph specifically uses the term "chamber," which any reasonable engineer would take to mean the test chamber used in qualifying the MOVs.

Mr. Sundergill's argument that all Limitorque motor valve operators at Farley are covered by test report 600198, the test without T-drains installed, in answer to Q168 is flawed. During the inspection the inspectors acknowledged the existence of the NUGEQ document which discussed the Limitorque issues. Some equipment items perform their safety function prior to 7 days and are not required

after that time. For that very reason the inspectors stated that the use of the 600198 test report (Staff Exh. 52) could be used for those Limitorque MOVs with short operating times, less than 7 days. However for those valves which have a greater than 7 day operating requirement, the report was not acceptable because the long term effects of moisture were not evaluated. I can not understand how Mr. Sundergill can assume that NUGEQ is endorsing the principle of extending the test. In fact, Mr. Sundergill acknowledges in his testimony that the test can be used if conditions in the test report envelope the plant specific conditions. In the case of valves with a greater than 7 day operating requirement, the test simply does not envelope plant required conditions. As Mr. Sundergill stated in answer to APCo Q167, the Arrhenius technique shows that the conditions of high temperature for short durations can be equated to a condition of lower temperature for a longer period of time. This demonstrates the ability to withstand these temperatures for a given period, not necessarily the effects of moisture.

Q6. Was the issue of T-drains in Limitorque motor valve operators an issue in industry prior to November 30, 1985? (L/S/J/ Q&A 160, p. 181; DiBenedetto Q&A 161, pp. 126-27)

A. Yes it was. In his answer to APCo Q160, Mr. Sundergill states that the T-drain issue "clearly evolved after the EQ deadline" of November 30, 1985. I can state

that I know of several sites where this configuration attribute was checked prior to the deadline. For example, on page 13 of the inspection report for a March 1985 inspection of Crystal River, (Staff Exh. 65) the NRC Staff notes that the licensee planned to verify the presence of T-drains and other details of their Limitorque MOVs during a March 1985 outage. Prior to my employment with the NRC, the company for whom I worked prior to November 30, 1985, had developed a series of checklists for EQ equipment that detailed qualification requirements. The checklist for MOVs indicated that T-drains were required for those MOVs in harsh (high energy line break) environments.

On page 127 of Mr. DiBenedetto's Direct Testimony, he states that the fact that the T-drain issue was cited at 21 different utilities demonstrates that issue was not a concern of many reasonable and prudent engineers. I do not draw the same conclusion from those facts. I see the NRC consistently applying the same criteria to all licensees inspected. The fact that more facilities were not cited shows that many reasonable and prudent licensee personnel knew that T-drains were required and properly installed them.

- Q7. Is Mr. Sundergill correct when he says that he suspects that the Limitorque recommendation regarding the installation of T-drains was offered to you more as a maintenance matter than a qualification matter? (L/S/J Q&A 161, pp.182-83)

A. No. In his answer to APCo Q161 at p.183, Mr. Sundergill is misusing the wording I used to describe my conversation with Limitorque. The fact of the matter is that Limitorque would not state to me that it was acceptable not to use T-drains for those MOV's which experience LOCA environmental conditions. In fact T-drains are shipped with the actuators with accompanying instructions stating to install the T-drains for EQ purposes.

Q9. Does this complete your testimony regarding this matter?

A. Yes.