

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD



In the Matter of )  
METROPOLITAN EDISON COMPANY ) Rocket No. 50-289  
(Three Mile Island Nuclear ) (Restart)  
Station, Unit No. 1) )

AFFIDAVIT OF JAMES H. CORREA

Ocean County )  
: SS  
State of New Jersey )

JAMES H. CORREA, being duly sworn according to law, deposes and says as follows:

1. I have reviewed the "Order To NRC Staff Regarding Board Notification of Unsatisfactory Test Results of Safety Valve," dated August 25, 1981, and the attached Board Notification No. 81-20 (in the McGuire proceeding), which includes a Memorandum from J. P. Knight to R. L. Tedesco and T. H. Novak, dated July 1, 1981, and a Memorandum from John J. Carey dated June 26, 1981.

2. The memoranda attached to the McGuire Board Notification address, inter alia, "quick look" data from the Electric Power Research Institute (EPRI) steam tests at the CE-Windsor facility during the period of June 19-25, 1981, on the Dresser valve of the type used at TMI-1.

3. The EPRI memorandum that is included in the Board Notification is typical of many received during the conduct of the EPRI test program. The tests being conducted in the program are in many instances unique opportunities not previously available to valve manufacturers to test valve performance. It is common that, during the conduct of these tests, adjustments are made to the component and configurations associated with the valves in an attempt to determine all the parameters of interest which affect valve performance. EPRI is developing an analytical dynamic valve model and such results are necessary for the development and verification of the model, to allow the model to be used to predict plant specific valve performance.

4. The EPRI screening criteria were developed for the purpose of flagging valve performance anomalies which represent potential operational and/or safety concerns. EPRI obtained information from each NSSS vendor which was utilized in developing a unique set of screening criteria dependent on the specific valve and fluid condition tested.

5. Due to the nature of the screening criteria adopted for the testing program, an isolated failure to meet the screening criteria is not in and of itself significant. According to EPRI, "failure to meet the criteria specified for the Wyle and CE tests will not necessarily mean that a safety concern exists, rather that an evaluation should be performed to assess the potential impact to plant safety." The compilation and analysis of all data associated with the full range of testing for each valve type is

required before any well-founded engineering judgments can be made. Conclusions regarding valve performance prior to the complete analysis of all raw data may be made only if there are repeated failures of a specific valve type under varying conditions which include actual plant conditions. This has not been the case.

6. EPRI performed a total of fourteen steam tests on the Dresser valve of the type used at TMI-1, between June 17 and July 6, 1981. The fourteen steam tests were divided into essentially two groups of tests: the first group of tests (tests 1 through 4) generated valve performance data with Dresser recommended control ring settings, varying ramp rate and back pressure; the second group of tests (tests 5 through 14) generated valve performance data by varying control ring settings and back pressure (to purposefully affect valve performance to determine the effects on valve performance of various control ring settings).

7. The data discussed in the memoranda attached to the Board Notification is for tests 2 through 6. The test in which the valve did not meet the EPRI screening criteria for passing rated flow is test number 6, in which the control ring settings from the first set of tests were used, but with a different back pressure.

8. The control ring settings used in test number 6 are not considered representative of the settings used at TMI-1. All screening criteria were met in the test in which control ring settings considered representative of those at TMI-1 were used.

9. The determination that rated flow was not achieved in test number 6 is "based on preliminary venturi flow data," as stated in the EPRI memorandum. This data must be reduced to its final form and then reviewed against other test number 6 data such as pressurizing tank pressure vs. time, valve inlet pressure vs. time and valve stem position vs. time, to determine the actual significance of the test result. Then, that result will be applied to plant specific analyses to conclusively determine whether it has an impact on plant safety.

10. GPU has evaluated the preliminary results of the fourteen steam tests and has determined that, due to the significant variance between the control ring settings used at TMI-1 and those used where test screening criteria were not met, the failure to meet test screening criteria provides no basis to doubt that the TMI-1 pressurizer safety valve will perform its safety function if called upon to do so. Similarly, the preliminary results of the EPRI steam test program do not alter the conclusions reached in Licensee's testimony in this proceeding on UCS Contention No. 5, Board Question/UCS Contention No. 6, and the Board Question Regarding UCS Contention 6.

*James H. Correa*  
 \_\_\_\_\_  
 James H. Correa

Subscribed and sworn to  
 before me this 4 day  
 of September 1981.

*Michael J. Maggart*  
 \_\_\_\_\_  
 Notary Public

My Commission expires on

MICHAEL MAGGART  
 NOTARY PUBLIC - NEW JERSEY  
 My Commission Expires December 31, 1986

September 4, 1981



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CERTIFICATE OF SERVICE

I hereby certify that copies of "Licensee's Response to Order to NRC Staff Regarding Board Notification of Unsatisfactory Test Results of Safety Valve," and supporting "Affidavit of James H. Correa" were served upon those persons on the attached Service List by deposit in the United States mail, postage prepaid, this 4th day of September, 1981.

  
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Delissa A. Ridgway

Dated: September 4, 1981

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