

February 16, 1983

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

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

LICENSEE'S TESTIMONY OF

GARY R. CAPODANNO

IN RESPONSE TO ALAB-708 ISSUE NO. 1

(HOT LEG HIGH POINT VENT SIZING)

SUMMARY

This testimony is in response to the Appeal Board's request for information concerning the sizing and flow rates of the hot leg high point vents to be installed at TMI-1. In accordance with the guidance of NUREG-0737, the vents have been sized such that system failure would not constitute a loss of coolant accident. The system is capable of relieving 7.6 pounds per second of subcooled water at 2500 psig and 600° F.

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INTRODUCTION

This testimony, by Gary R. Capodanno, GPU Nuclear Fluid Systems Director, is addressed to Issue No. 1 of the Appeal Board's Memorandum and Order of December 29, 1982 (ALAB-708), which requests the following information:

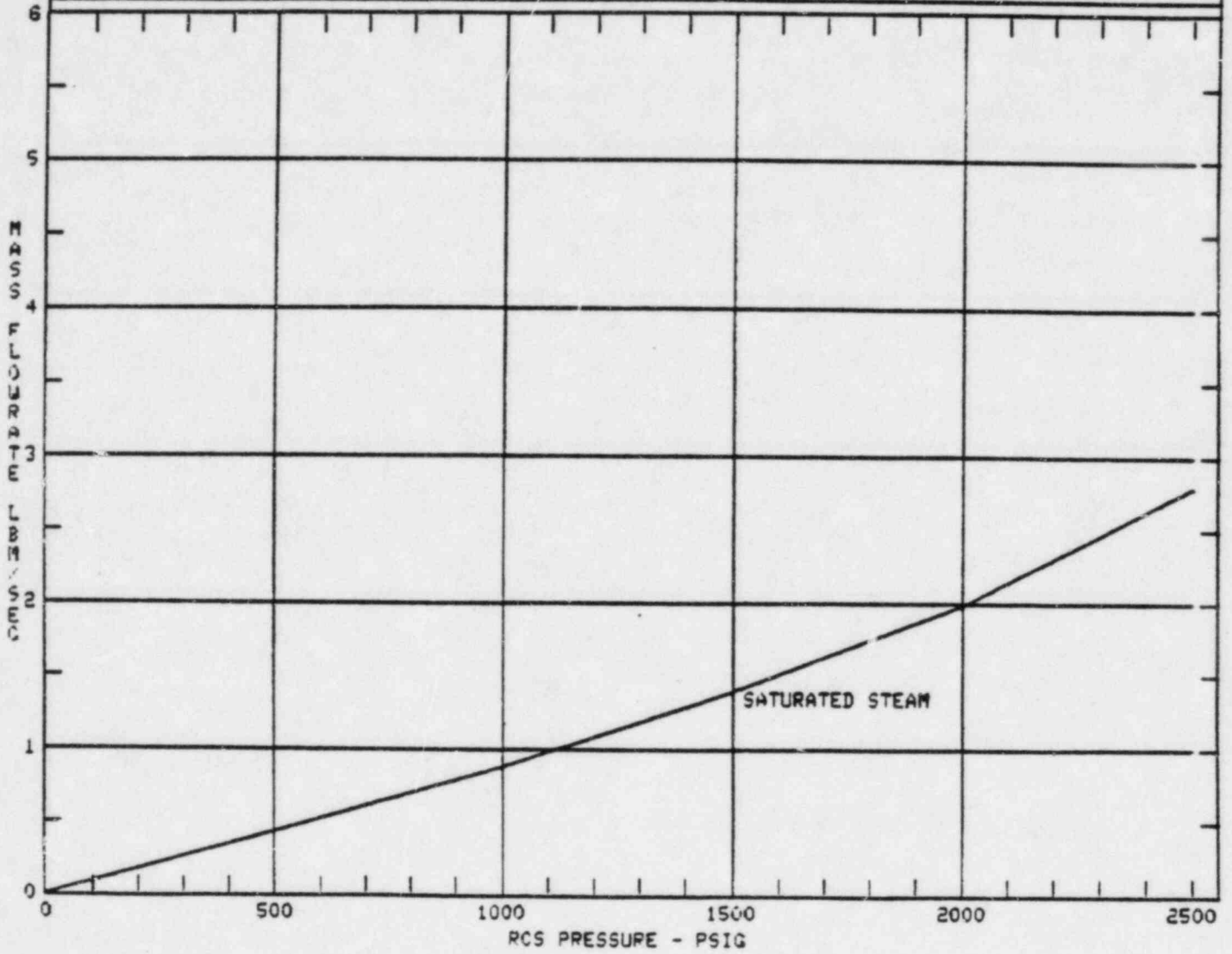
1. The exact size and flow rate of the vents to be installed in the hot legs (from the licensee).

BY WITNESS CAPODANNO:

The vent flow path from each hot leg consists of nominal half-inch diameter piping, two solenoid-operated valves, one manually-operated valve and a flow-detecting orifice. The piping has an internal diameter of 0.464 inches and an outside diameter of 0.840 inches. The solenoid valves have a minimum internal diameter of 0.464 inches and the manual valve has a minimum internal diameter of 0.562 inches. The orifice opening is 0.371 inches in diameter.

The vent path is sized such that it will pass 7.6 pounds per second of subcooled water at design conditions of 2500 psig and 600° F; the sizing follows the guidance in NUREG-0737 and ensures that failure of the vent line would not result in a loss-of-coolant accident as defined in Appendix A to 10 C.F.R. Part 50. The attached figure, "TMI-1 Hot Leg Vent Capability", shows the capability of the vents to remove saturated steam at different reactor coolant system pressures.

TMI-1 - HOTLEG VENT CAPABILITY



GARY R. CAPODANNO

Business Address: GPU Nuclear Corporation
100 Interpace Parkway
Parsippany, New Jersey 07054

Education: B.S., Mechanical Engineering, Fairleigh Dickinson University, 1967.

M.S., Mechanical Engineering, Newark College of Engineering, 1974.

Experience: Fluid Systems Director, GPU Nuclear Corporation, 1982 to present. Responsible for technical and administrative direction of the mechanical and radwaste engineering sections of the Engineering and Design Department with responsibility for secondary plant, reactor plant and radwaste systems and components within GPU Nuclear plants. Directs, through the Mechanical Systems, Mechanical Components, and Radwaste Systems section managers, the engineering for fluid system designs, modification of existing plant systems, operations and maintenance review and troubleshooting for plant systems, and preparation and review of responses to inquiries of regulatory agencies. Directs the reviews and approvals of work done by outside engineering firms to assure conformance to GPU Nuclear criteria and standards. Directs the review of engineering standards and procedures, plant operating and emergency procedures and technical support to the plants during plant outages.

Manager of Mechanical Systems Engineering, GPU Service Corporation/GPU Nuclear Corporation, 1978 to 1982. Responsible for technical and administrative direction of the activities of company mechanical and nuclear engineers in the design of new power plants and major modifications to existing power plants for the three operating companies that comprise the GPU System. Also responsible for directing these engineers in the review of work being done for GPU and the operating companies by architect-engineering firms.

Lead Systems Engineer, Ebasco Services Inc., April 1978 to July, 1978. Work on the synthesis Gas Demonstration Plant Program for W. R. Grace Company and the United States Department of Energy. Responsible for plant arrangements and system design work. Directed mechanical engineers in the design of steam, cooling water and materials handling systems for a plant that was to use coal as a feedstock for the preparation of anhydrous ammonia and the production of elemental sulfur or sulfuric acid as a by-product.

GARY R. CAPODANNO
Continued

Mechanical Group Supervisor, Burns and Roe, Inc., 1974 to 1978. Engineering supervisor responsible for the technical and administrative direction of project engineers in the development of: plant general arrangements, system flow diagrams, engineering calculations, equipment specifications, bid evaluations, construction liaison, and licensing activities for nuclear power plants.

Mechanical Engineer, Burns and Roe, Inc., 1971 to 1974. Responsible for design engineering of nuclear and conventional mechanical equipment and systems for nuclear power stations. This included preparation of specifications and system flow diagrams, evaluation of equipment proposals, performance of design calculations, construction liaison activities and activities related to governmental licensing of nuclear power plants.

Design Engineer, Foster Wheeler Corporation, 1969 to 1971. Responsible for design and development engineering of fossil fuel firing equipment and systems for electric generating plant steam generators, preparation of engineering standards, evaluation of vendor equipment, and engineering assistance to company project site personnel.

Mechanical Engineer, Consolidated Edison Company, 1967 to 1969. Responsible for design and applications engineering of mechanical equipment and systems for nuclear and conventional electric generating stations.

Professional Affiliations:

Licensed Professional Engineer -- New York, New Jersey and Pennsylvania

Member -- American Nuclear Society

Member -- National Society of Professional Engineers

Publications:

"New Approach to Optimization of the Multistage Flash Desalination Process", Summer Simulation Conference, San Diego, 1972.

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