Dated April 25, 1988

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
before the
ATOMIC SAFETY AND LICENSING BOARD

In the Matter of:	)	
	)	
PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE, et al.	)	Docket Nos. 50-443-OL Docket Nos. 50-444-OL
	)	
Seabrook Station, Units 1 and 2)	)	On-site Emergency Planning and Safety Issues

AFFIDAVIT OF JOHN N. ESPOSITO
ON THE NORTH ANNA TUBE RUPTURE EVENT

I, John N. Esposito, being duly sworn, depose and state:

1. I am employed by Westinghouse Electric Corporation as Manager of Technology Development in the Service Technology Division of the Power Systems Business Unit.

2. My professional qualifications are attached hereto and marked "A".

3. The purpose of my affidavit is to provide a discussion of the North Anna tube rupture event including the mechanism which led to the event and show that it is not applicable to the steam generators installed at Seabrook Units 1 and 2.

4. On July 15, 1987, a steam generator tube rupture occurred at North Anna Unit 1. The ruptured tube was located in Row 9, Column 51, in steam generator C. The leakage location was found to be at the top tube support plate on the cold leg side.

5. The cause of the tube rupture was high cycle fatigue. The source of the loads was a combination of a mean stress level in the tube and a superimposed alternating stress. The mean stress was produced by denting of the tube at the top tube support plate and the alternating stress was due to out-of-plane deflection of the tube above the top tube support caused by flow induced vibration.

6. Denting at the tube support plates is a phenomenon which experience has shown has only occurred with carbon steel material.

7. The steam generators installed in the Seabrook nuclear steam supply system are Model F steam generators which utilize stainless steel support plates, not carbon steel.

8. A steam generator tube rupture event of the type that occurred at North Anna will not occur in the Seabrook nuclear steam supply system because the requisite dented condition, will not occur because stainless steel support plates are used.

Further affiant sayeth not

John N. Esposito

SUBSCRIBED AND SWORN to before me
this 25th day of April, 1988.

Lorraine M. Piplica
NOTARY PUBLIC

LORRAINE M. PIPLICA, NOTARY PUBLIC
MONROEVILLE BORO, ALLEGHENY COUNTY
MY COMMISSION EXPIRES DEC. 14, 1991
Member, Pennsylvania Association of Notaries

John N. Esposito

My name is John N. Esposito. My business address is P.O. Box 355, Pittsburgh, PA., 15230. I am employed by Westinghouse Electric Corporation as Manager, Technology Development, Service Technology Division.

I graduated from Youngstown University, Youngstown, Ohio with a B.S. Degree in Chemistry in 1960. In 1966, I received a Ph.D. in Chemistry from Case Institute of Technology, Cleveland, Ohio. I also spent a portion of 1961 and 1962 in service with the United States Army.

In late 1965, after completion of all the requirements for the granting of the Ph.D. degree, I began employment with the Westinghouse Electric Corporation at the Central Research Laboratories in Pittsburgh, PA. I was continually employed at those laboratories until November of 1976. At that time I transferred into the commercial nuclear power division. My initial position was Manager, Chemistry Technology. The responsibilities of this position included investigation of corrosion and other forms of degradation for Westinghouse steam generators. I have been involved with steam generator related activities to the present time. My present managerial duties include activities related to evaluation of steam generator inspection data, steam generator materials, and chemistry technology studies related to steam generators.