

Public Service  
Electric and Gas  
Company

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April 1, 1986

Dr. Thomas E. Murley, Administrator  
U. S. Nuclear Regulatory Commission  
Office of Inspection and Enforcement  
Region I  
631 Park Avenue  
King of Prussia, Pennsylvania 19406

Dear Dr. Murley:

SIGNIFICANT CONSTRUCTION DEFICIENCY  
ENVIRONMENTAL QUALIFICATION OF  
TOBAR TRANSMITTERS  
HOPE CREEK GENERATING STATION

On March 3, 1986, a verbal report was made to Region I, Office of Inspection and Enforcement representative, Mr. J. Strosnider, advising of a potentially significant construction deficiency concerning environmental qualification of Tobar pressure transmitter polyester housing and base assemblies. The following final report is provided in accordance with 10CFR50.55(e).

#### Description of the Deficiency

Fifty-three (53) Tobar Model 32 Series 2 transmitters included in the harsh Environmental Qualification Program were found to be supplied with polyester housing and base assemblies which were not environmentally qualified. A program was immediately initiated to qualify the polyester housing and base assemblies to the environmental requirements. During this test program, the electrical amplifier assembly of the transmitters failed to function during irradiation testing.

#### Safety Analysis

The Tobar pressure transmitters are installed in various safety related systems including High Pressure Coolant Injection (HPCI), Residual Heat Removal (RHR), Station Service Water, and Reactor Core Isolation Cooling (RCIC). The transmitters are intended

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to provide control and initiation signals, and process information to the operator during emergency modes of operation. Failure of the transmitters during accident conditions could result in transmission of false signals to the operator or loss of control/initiation signals which could, in turn, adversely affect safe operation of the plant. We therefore conclude that the subject deficiency is reportable in accordance with 10CFR50.55(e).

#### Corrective Action

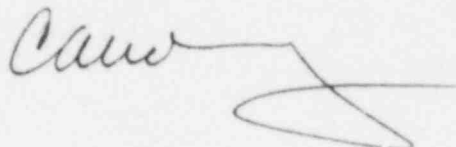
As a result, the fifty-three Tobar Model 32 Series 2 transmitters which, although could not be qualified for harsh environmental conditions, are qualified for mild environments, will be replaced with Rosemount Model 1153B transmitters which are qualified for harsh environmental conditions. The qualification of these Tobar and Rosemount transmitters is documented in the HCGS Environmental Qualification Summary Report.

Seven (7) of the Tobar transmitters will be replaced with Rosemount 1153B transmitters prior to fuel load. These seven transmitters are components within the Safety Auxiliaries Cooling System (SACS) and the Residual Heat Removal System (RHR). Six transmitters in the SACS are being replaced to support normal operation of this system which will be required at fuel load, and the seventh transmitter, in the RHR system, was originally planned to be replaced at the time the test plan was developed for the polyester housing/base assembly qualification. The balance, or forty-six (46) of the polyester style Tobar transmitters, will be replaced with Rosemount 1153B transmitters prior to initial criticality.

All fifty-three transmitters being replaced are located in areas outside primary containment, but inside the Reactor Building. The environmental conditions in these areas are not capable of becoming harsh until after initial criticality is achieved. Therefore, these transmitters will only experience mild environments prior to initial criticality.

We have notified the Director of Nuclear Reactor Regulation, by letter dated March 26, 1986, of our plans and submitted the necessary information identifying the Reactor Building as a non-harsh environment prior to initial criticality.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Caw', followed by a large, stylized flourish or loop.

C Office of Inspection and Enforcement  
Division of Reactor Construction Inspection  
Washington, D. C. 20555

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