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August 28, 1985

50-354

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  
BAILEY CONTROLS - RZ MODULES  
HOPE CREEK GENERATING STATION

On June 12, 1985, a verbal report was made to Region I, Office of Inspection and Enforcement representative, Mr. E. Kelly, advising of a significant construction deficiency concerning oxidized jumper clips in type RZ push button modules supplied by Bailey Controls. On July 17, 1985, an interim report was sent to your office. The following final report is provided in accordance with 10CFR50.55(e).

Description of the Deficiency

During contact resistance testing of twelve (12) RZ modules, two (2) of the 72 push button switch units showed high resistance values (112K ohms and 125K ohms). These values are high enough to prevent the 862 digital and 7000 analog systems from performing as required by the depression of the RZ push button. Inspection of the push button switch units revealed oxidation of the spring steel jumper clip used to connect the normally open contacts in series.

The cause of the high contact resistance in the push button switch unit was determined to be oxidation between the jumper clip and the push button switch unit wiring terminal. The voltage and current levels used to interrogate the push button switch units are too low to prevent this oxidation.

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638 RZ modules are affected, including twelve (12) spares. There are six (6) switches per module with one (1) jumper clip in each switch.

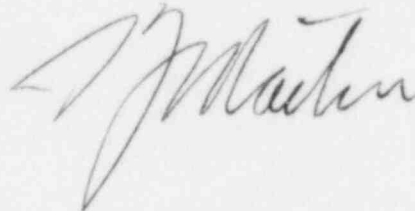
#### Safety Analysis

The RZ modules are installed in the main Control Room Vertical Board, Operator's Console and the Remote Shutdown Panel to provide manual operation of various safety related pumps, motors, valves, breakers, etc. via the 862 digital and 7000 analog systems. Functional failure of the RZ modules could adversely impact safe shutdown of the plant. We therefore consider the subject deficiency to be reportable in accordance with 10CFR50.55(e).

#### Corrective Action

Bechtel has issued Design Change Package No. 463 to replace the jumper clips with soldered connections using #22 AWG bare solid wire. As of August 25, 1985, this work has been completed on 513 of the affected RZ modules (80.4%). We anticipate completion of this work by September 15, 1985.

Very truly yours,



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Division of Reactor Construction Inspection  
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