

Public Service  
Electric and Gas  
Company

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United States Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555

Gentlemen:

AUGUST 26, 1986 REACTOR TRIP AND FALSE BLACKOUT SIGNAL  
AT SALEM UNIT NO. 2 - STATUS OF CORRECTIVE ACTIONS  
SALEM AND HOPE CREEK GENERATING STATIONS  
DOCKET NOS. 50-272, 50-311 AND 50-354

This letter forwards the fifth monthly report on the status of corrective actions taken in response to the August 26, 1986 reactor trip and false blackout signal which occurred at Salem Unit No. 2.

The Salem Units are operating in accordance with our previous commitments to: 1) supply all electrical loads from the Station Power Transformers (SPT) and 2) reduce electrical loads to within the limits of the Degraded Grid Study of October 10, 1979. An interim evaluation performed by Power Technologies, Inc. (PTI) has shown this configuration to be stable under the most severe transient conditions. It is our intention to continue operating in this mode until additional transient analyses being conducted by PTI are completed and a long term corrective action plan can be formulated. It is expected that both of these activities will be completed by March 1, 1987. At that time Public Service Electric and Gas (PSE&G) will make a presentation to Region I personnel on the following items:

- 1) The results of the PTI PSS/E computer model validation study,
- 2) The conclusions of the PTI analysis,
- 3) The root cause of the August 26, 1986 event at Salem Unit No. 2,
- 4) The PSE&G long term action plan.

The preliminary data for Item 1 above was discussed with Mr. F. Paulitz (NRC Region I) during his site visit on January 23, 1987. Mr. Paulitz also reviewed the preliminary data on short circuit protection and breaker/relay coordination.

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As you are aware, PSE&G has been evaluating various options which could allow Salem Station to return to full generating capacity. Each of the proposed options was evaluated by PTI to ensure that an adequate degree of reliability (i.e., minimum probability of transient instability) was provided. The option selected for implementation involved the transfer of six Circulating Water System pumps (three per unit at 2000 KVA per pump) from the Salem electrical distribution system to the Hope Creek system. The transfer was accomplished by routing a 13 kV feeder from the Hope Creek switchyard to the Salem switchyard. The 13 kV circuit was then connected to four (two per unit) 13-4 kV temporary transformers. The circulating water pumps were then physically disconnected from the Salem system and connected to the output of the temporary transformers. Attachment 1 illustrates the physical arrangement of the circulating water pumps and temporary transformers.

This modification satisfies the requirements for load reduction which were identified in Attachment 1 to the Safety Evaluation S-C-E130-NSE-0458-1 which was transmitted in our September 30, 1986 status report. Under the current arrangement, all electrical cross-ties between Salem Unit No. 1 and 2 have been eliminated. This results in the No. 11 condensate pump being returned to the No. 11 SPT and a resultant decrease of 4000 KVA in the required load reduction on the No. 21 SPT. No increase in load reduction requirement occurs on the No. 11 SPT because no credit was taken when the original transfer was accomplished. The following summarizes the required load reductions for each SPT:

11 Station Power Transformer	- 3166 KVA
12 Station Power Transformer	- 2166 KVA
21 Station Power Transformer	- 4166 KVA
22 Station Power Transformer	- 2166 KVA

The disconnection of the circulating water pumps removes 4000 KVA from the No. 11 and 21 SPTs and 2000 KVA from the No. 12 and 22 SPTs. The remaining 166 KVA which must be removed from the No. 12, 21 and 22 SPTs is accounted for in the conservative nature of the original load compilation. For example, part of the 4166 KVA of load on the 21 SPT was derived from the nameplate data of a 1000 KVA transformer on the non-radwaste basin. The actual measured load with all equipment operating was 300 KVA. Similar conservative assumptions were made for load centers on the remaining SPTs.

On January 19, 1987 a briefing on the details of this modification was conducted at the Salem Station. Messrs. Bettenhausen, Kenny, Gibson, and Allsopp of the NRC Region I staff were in attendance. No outstanding concerns remained at the conclusion of the meeting.

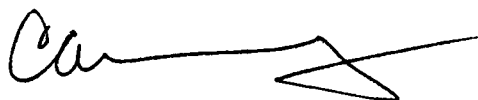
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We trust that this information will be of use in the ongoing review of this issue. Should you have any questions relative to the information provided, please feel free to contact us.

Sincerely,

A handwritten signature in black ink, appearing to be 'C. Kane', with a long horizontal stroke extending to the right and a loop at the end.

C Mr. William F. Kane, Director  
Division of Reactor Projects

Mr. D. H. Wagner  
Licensing Project Manager - Hope Creek

Mr. R. W. Borchardt  
Senior Resident Inspector - Hope Creek

Mr. D. C. Fischer  
Licensing Project Manager - Salem

Mr. T. J. Kenny  
Senior Resident Inspector - Salem

# HOPE CREEK 13 KV. ISLAND SUB

