

# BALTIMORE GAS AND ELECTRIC COMPANY

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March 9, 1981

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VICE PRESIDENT  
SUPPLY

Office of Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Attn: Mr. Robert A. Clark, Chief  
Operating Reactors Branch #3  
Division of Licensing



Subject: Calvert Cliffs Nuclear Power Plant  
Units Nos. 1 & 2; Dockets Nos. 50-317 & 50-318  
NRC Requirements for Auxiliary Feedwater System

Reference: Draft Safety Evaluation Report (SER) CCNPP Imple-  
mentation of Recommendations for Aux Feedwater System

Gentlemen:

On 4 March 1981 the NRC and BG&E held a meeting to discuss the Draft SER referenced above. The NRC requested that we verify, in writing, the following information.

A. Short Term Recommendations

1. GS-2

The only valves which could interrupt all AFW flow to one unit are as follow:

0-AFW-166 Condensate Storage Tank (CST) #12 AFW Supply to Unit  
1 and 2

1-AFW-161 #12 CST Unit 1 AFW Pump Suction

2-AFW-161 #12 CST Unit 2 AFW Pump Suction

These valves, per Operating Instruction (OI)-32 are required to be locked open.

2. GS-4

- a. Should the primary water supply not initially be available the operator would not start the AFW pump per OI-32. One of the initial conditions for start-up of the AFW pump is, "Water in #12 Condensate Storage Tank (CST) is available". Should the level in the #12 CST not be adequate, the operator

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is directed how to shift to the alternate water supply prior to starting the AFW pump. In addition to the procedure, there is also a checklist available for this evolution. Tech Spec 3.7.1.3 requires that #12 CST always have 150,000 gallons available per operating unit. This is verified at least once per 12 hours. Therefore, the likelihood of #12 CST not having adequate level is remote. Based on the above information there is adequate direction to prevent damage to the AFW pump should the primary water supply initially not be available.

- b. For the case in which the primary water source is being depleted, Abnormal Operating Procedure (AOP)-15 directs the operator to transfer to an alternate water source. The procedures detail, for the operator, how to perform this function.

### 3. GS-5

- a. Communications: Should all AC power be lost, an operator will be directed to proceed to the steam admission valves for the AFW pumps and open them. The control room would know when the valves are being opened because the pump will immediately start, therefore, it is not necessary for the operator to communicate this fact to them. The operator will be aware that the valves are open because he performed the function, he does not need verification from the control room. There are walkie-talkies available in the control room but they are not dedicated to use for the AFW system. In addition, there is a sound powered phone at each level in a stairwell readily accessible to the steam admission valves.
- b. Lighting: The corridors on the 45' Elevation are illuminated during a station blackout by emergency lighting units with an 8 hour rating. We plan to install additional lights in the vicinity of the steam admission valves to augment that which is already available. We expect this work to be completed in six months.

### 4. GS-6

- a. Any locked valve which is repositioned must be checked and then rechecked independently by a second operator to verify its position.
- b. We understand that the NRC finds the following to be satisfactory in regard to the flow test required after a greater than 14 day cold shutdown period. During a normal start-up we use the AFW system to feed the steam generators. The use of the AFW system in this manner is sufficient to meet this test as long as it establishes flow to both steam generators from the primary water source tank and reaches a minimum flow requirement. This minimum flow will be determined prior to issuance of the revision to the Tech Spec.

## 5. GS-8

The existing AFW system meets, with the exception of the first item, all seven criteria from Item 2.1.7.a of NUREG-0578. At present the NRC has not approved the CCNPP AFW system for automatic initiation of flow, we only automatically start the AFW pumps. Upon approval by the NRC, we will implement automatic initiation of flow.

## 6. Recommendation

It should be noted that the Tech Spec change (3.7.1.2) submitted on 22 January 1980 does not state what is contained in this paragraph. The SER states that manual valves that are normally closed or open should be tested for operability at least once a quarter. The tech spec change reads, "At least once per quarter verify the operability of remote operated valves."

Our position is that testing the operability of normally open or shut valves does not in any way contribute to the health and safety of the public. Valves critical to proper AFW system operability are locked in position. To unlock a valve, shut it, and then reopen, demonstrates nothing and only contributes to system unavailability. We agree that remote operated valves should be tested quarterly. The above comments are consistent with ASME Section III IWV 2000 and IWV 3000 of the applicable codes at both units (Unit 1 - 74 Edition Summer 1975 Addenda, Unit 2 77 Edition, Summer 1978 Addenda). In addition to this, the same tech spec requires that every 31 days the plant is required to verify that each valve in the flow path is in its correct position.

B. Additional Short Term Recommendations

1. The addition of redundant level indication for #12 CST can not be completed by 1 July 1981 due to equipment ordering lead times. We expect delivery of the required parts by April of 1982. Should these parts arrive in time for the 1982 outages, they will be installed at that time, if not they will be installed with the rest of the AFW modifications with an expected completion time of late 1983.
2. A 48 hour endurance test as described in this recommendation will be performed on AFW pumps 12, 21, and 22 by 1 May 1981. Endurance tests will be conducted on the motor driven pumps after they are installed.

C. Long Term Recommendations

## 2. GL-2

- a. This recommendation requires, "The licensee should propose Technical Specifications to incorporate appropriate periodic inspections to verify the valve positions." The valves

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discussed are those valves installed which are redundant to those in the suction flow path. The requested Tech Spec change forwarded on 22 January 1980 requires that every 31 days the plant must verify that each valve in the AFW flow path is in its correct position. We feel that this change meets the requirement of this portion of the recommendation.

- b. In letter dated 2 February 1981 from Ash to Conner we discussed our modifications to the suction piping line up. We are in the process of submitting a request to the NRC to allow us to delete these bypass valves based on a small increase in availability but a large cost to install them.

#### 4. Recommendation

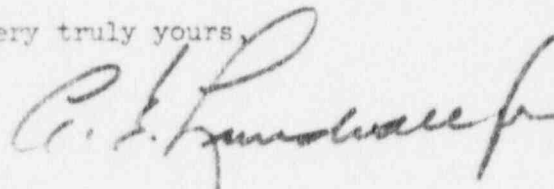
- a. All equipment installed, as discussed in our 18 November 1980 letter, will be environmentally qualified in accordance with the existing requirements. Every specification forwarded to vendors for bids is reviewed by our environmental qualification group to ensure that the equipment will be properly qualified.
- b. The existing motor operated steam inlet valves are presently installed in the main steam room on the 27 foot elevation. Reach rods have been installed to allow manual operation of the valves from the 45 foot elevation corridor. The estimated time to open these valves, should a break occur in the main steam room that resulted in the valves not opening, is 15 minutes including time to detect the need to manually open them. This is adequate to ensure that we would not lose the steam generator as a heat sink.

#### 5. Recommendation

The design and procedural changes required to implement the AFW system modifications have been reviewed to ensure that they will maintain the capability to supply the required flow to the steam generator(s) assuming a pipe break anywhere in the AFW pump discharge lines concurrent with a single active failure. The design and procedural changes are sufficient to ensure the capability to detect and isolate the break, and direct the required feedwater flow to the steam generator(s) before they boil dry.

Should you have any questions, feel free to contact us.

Very truly yours,



cc: J. A. Biddison, Esquire  
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