PSNH PUBLIC SERVICE
Company of New Hampshire

SEABROOK STATION
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B 7.1.2

United States Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Mr. Frank J. Miraglia, Chief
Licensing Branch No. 3
Division of Licensing

References: (a) Construction Permit CPPR-135 and CPPR-136, Docket Nos. 50-443 and 50-444
(b) PSNH Letter, dated August 27, 1982, "Reliability Analysis of the Emergency Feedwater System", J. DeVincentis to F. J. Miraglia
(c) PSNH Letter, dated July 27, 1982, "Response to Requests for Additional Information (RAIs) from Instrumentation and Controls Systems Branch (ICSB); A-K", J. DeVincentis to F. J. Miraglia

Subject: Seabrook Station Emergency Feedwater System Design Changes

Dear Sir:

During the Staff review of the Seabrook Station Emergency Feedwater System (EFW), a number of design changes have been recommended and are being implemented. These design changes are based on the review of the Emergency Feedwater System Reliability Analysis [Reference (b)] and also bring the Seabrook design into compliance with the latest Standard Review Plan. These design changes will be incorporated into a revision to the Final Safety Analysis Report as soon as the final details are established.

The following describes design changes which are presently being implemented relative to the Seabrook EFW System. An attached simplified sketch is included for clarification of some of the design changes.

1. A continuous minimum flow recirculation path will be provided from each EFW pump's discharge to the condensate storage tank via the opposite pump's suction line. This recirculation path will assure a continuous flow through an EFW pump should flow to all four steam generators be reduced below that necessary to prevent pump damage. The original recirculation path will be retained for use during periodic pump performance testing.

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2. Redundant, safety grade flow isolation valves will be provided in each EFW branch supply line to each steam generator. Safety grade controls will be provided at both the main control board and remote shutdown locations for these valves. Further information relative to this modification can be found in Reference (c).

3. Manual isolation valves will be provided upstream of each pair of flow isolation valves to each steam generator. These manual isolation valves will permit isolation of any EFW flow isolation valve while retaining the availability of both EFW pumps and the Startup Feedwater pump.

4. Safety grade, Seismic Category I air accumulators will be provided as a back-up air supply for the actuators of both main steam supply valves (MS-V127 and MS-V128) to the turbine-driven EFW pump, P-37A. These accumulators will be sized to provide at least two complete valve operations plus maintain the valves closed for a minimum of four hours. This safety grade air supply will upgrade the reliability of these valves consistent with the Class 1E controls presently utilized in the design.

5. The Startup Feedwater (SUF) pump discharge valve to the EFW header, FW-V156, will be relocated out of the EFW Pump Room. This will assure the ability to cross-tie the SUF pump to the EFW System should use a series of potential failures render both EFW pumps inoperable and the EFW Pump Room inaccessible.

Additionally, during both our in-house and your Staff review of Reference (b), three areas were found which should be clarified or corrected.

First, on Page 12 of Reference (b), an asterisk notes that only one of the steam admission valves (MS-V127) to the turbine-driven EFW pump can be controlled from the remote shutdown panels. In conjunction with modification #4 listed above, Class 1E controls for the other steam admission valve (MS-V128) will also be provided at the remote shutdown location. These modifications will ensure the ability to start and/or stop the turbine-driven EFW pump from either the main control board or the remote shutdown panels.

Second, on Page 15 of Reference (b), relative to the manual valve realignments required to provide SUF pump flow to the EFW header, it states that the SUF pump recirculation isolation valve (FW-V109) must be closed to prevent a diversion of pump flow to the Condensate Storage Tank (CST) should the recirculation flow control valve (PCV-4326) fail open. What was not considered, however, is that the capacity of the SUF pump is significantly greater than that of an EFW pump. At a TDH equivalent to the design rating of the EFW pump, the SUF pump has a flow capacity greater than an EFW pump, even when maximum flow is diverted back to the CST through the recirculation valve. Therefore, it is unnecessary to close valve FW-V109 to ensure sufficient flow from the SUF pump to the steam generators. This is one less manual action necessary for this operation.

Third, on Page 29 of Reference (b), a note on the bottom of the page indicates that a loss of off-site power will result in closure of the

main feedwater isolation valves. This note is incorrect - the main feedwater isolation valves will not close due to a loss of off-site power. Additionally, it should be noted that the loss of off-site power does not result in a loss of control of the main feedwater regulating valves nor the main feedwater regulating bypass valves. The result is, the SUF pump can be utilized to supply feedwater to the steam generators during a loss of off-site power event without the need of manual valve alignments to provide flow through the EFW System. Flow from the SUF pump to the steam generators can be accomplished utilizing the normal main Feedwater System.

It is hoped that the above information will assist your Staff in their evaluation of the Seabrook Station Emergency Feedwater System and preparation of the Safety Evaluation Report. If further information is necessary, please feel free to contact us.

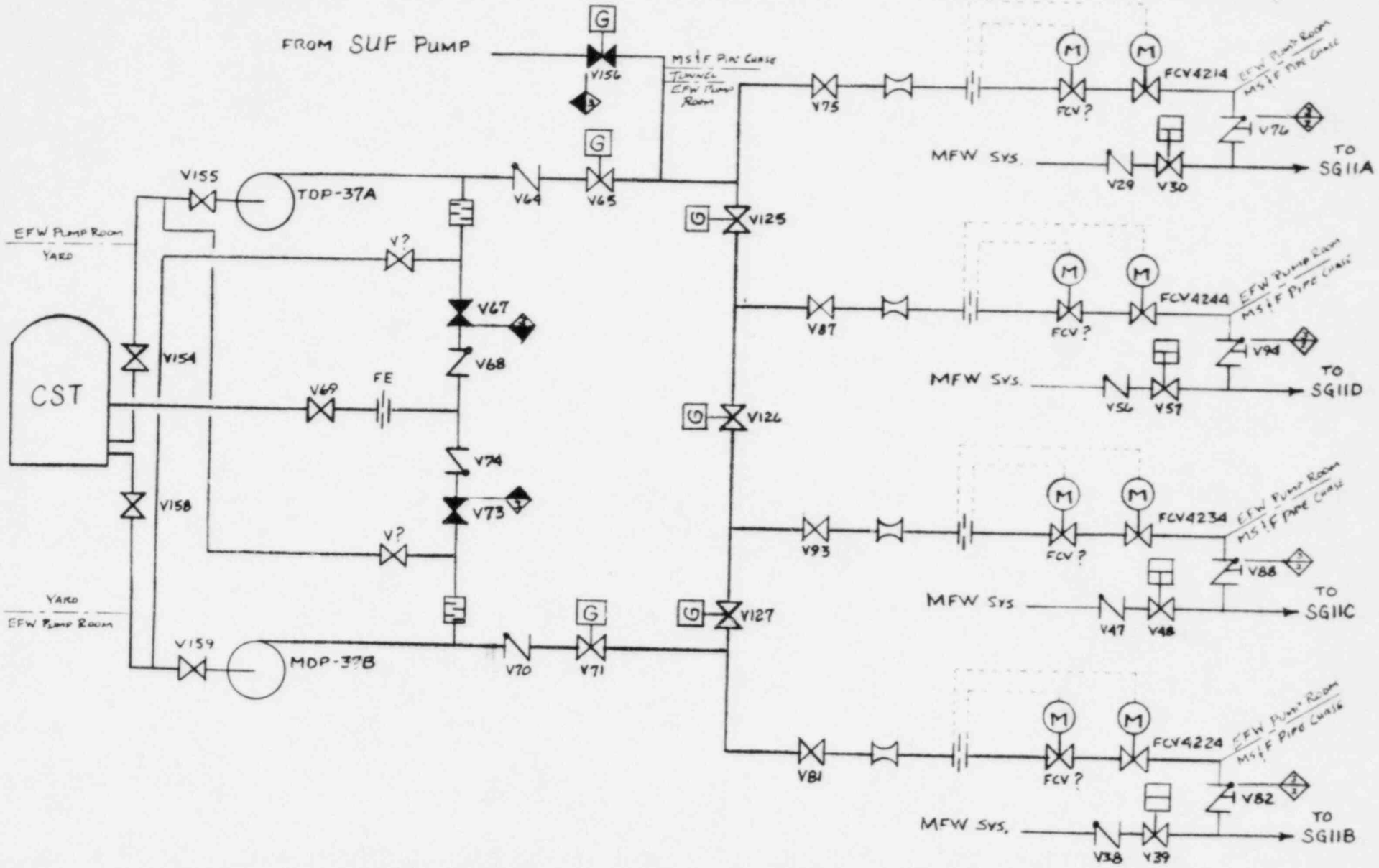
Very truly yours,

YANKEE ATOMIC ELECTRIC COMPANY

J. DeVincentis
Project Manager

PA/kac

cc: Mr. Robert Jaross, Argonne National Laboratories



YANKEE ATOMIC ELECTRIC COMPANY NUCLEAR SERVICES DIVISION	DRAWN BY PLA 8/23/82 CHECKED BY //	TITLE. SIMPLIFIED SKETCH OF THE SEABROOK STATION EFW SYSTEM
DWG. NO. //	APPROVED BY //	