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SUBJECT: Requests enforcement discretion from TS Action 3.6.1.8b so proposed emergency amend can be processed & submitted to NRC re inoperable containment purge valve.

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Director of Nuclear Reactor Regulation
Attention: Mr. C. L. Miller, Project Director
Project Directorate I-2
Division of Reactor Projects
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUSQUEHANNA STEAM ELECTRIC STATION
REQUEST FOR ENFORCEMENT DISCRETION :
INOPERABLE CONTAINMENT PURGE VALVE
PLA-4019 FILES A17-2/R41-2 **Docket No. 50-388**

Dear Mr. Miller:

The purpose of this letter is to request enforcement discretion from the SSES Unit 2 Technical Specifications until a proposed emergency amendment can be processed and submitted to the NRC.

BACKGROUND (See Attached Figure)

At 1715 hours on September 7, 1993, the 18" inboard suppression chamber purge valve HV-25703 was declared inoperable due to its inability to pass Technical Specification Requirement 4.6.1.8.2, which requires that the measured leakage rate is less than or equal to 0.05 La when pressurized to Pa. Accordingly, Actions 3.6.1.8b and 3.6.3a were simultaneously entered.

The requirements of 3.6.3a were accomplished within the required time limits by isolating the affected penetration. Outboard valve HV-25704 and bypass valve HV-25705 were deactivated and secured closed.

Action 3.6.1.8b requires that the HV-25703 valve be restored to operable status within 24 hours, or the unit must be placed in a shutdown condition. Efforts to mitigate leakage through the 03 valve have been unsuccessful.

REQUIREMENTS FOR WHICH ENFORCEMENT DISCRETION IS REQUESTED

PP&L is requesting enforcement discretion for the requirements of Technical Specification Action 3.6.1.8b, so that sufficient time exists to process an emergency proposal to amend the Unit 2 Technical Specifications.

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CIRCUMSTANCES REQUIRING PROMPT ACTION

Susquehanna SES Unit 2 is currently operating at full power. Containment purge valve HV-25703 was found to be inoperable during a required surveillance test. Upon discovery of its condition, PP&L followed all applicable Technical Specification requirements. Per Technical Specification 3.6.1.8, Action b, actions to bring the unit to a shutdown condition must commence at 1715 hours on September 8, 1993 unless enforcement discretion is approved.

SAFETY SIGNIFICANCE AND CONSEQUENCES OF PROPOSED REQUEST

Technical Specification 3.6.1.8 requires that the containment purge supply and exhaust isolation valves be closed during Operational Conditions 1, 2, and 3 except for inerting, deinerting, and pressure control. The basis behind this requirement is to ensure that these valves will prevent accident pressures from reaching the Standby Gas Treatment System (SGTS), and impacting its structural integrity. This concern does not apply to the 2" bypass line which is typically used for pressure control, because a pressure surge through this smaller line has been determined not to threaten SGTS integrity; however, this valve is normally closed as well, and is a containment isolation valve.

As noted, the inboard 18" HV-25703 valve failed its leakage test on September 7, 1993. Per the Technical Specification Bases, the purpose of this test is to provide early indication of resilient material seal degradation. The test is performed by pressurizing the piping outboard of the 03 valve and inboard of the 04 and 05 valves to 45 psig and monitoring leakage. During the September 7 test, significant pressure could not be achieved within this boundary. Acoustic monitoring of the 03 valve and of the common SGTS ductwork beyond the 04 and 05 valves has confirmed that the 03 valve is providing the gross leakage path.

PP&L has subsequently performed vacuum leak rate testing across the 04 and 05 valves to ensure that these valve have not developed any significant leakage. These tests confirmed that the last local leak rate test value attributed to the penetration still applies to the 04 and 05 valves. Therefore, the overall Containment leakage requirements of Specification 3.6.1.2 are met.

Based on the above, the current configuration of the penetration of concern is that the 03 valve is inoperable, and the 04 and 05 valves are operable, deactivated, and secured closed. For the purposes of this request, an acceptable containment boundary is currently in place for this penetration, and based on administrative controls per Specification 3.6.3, is not subject to single failure criteria. This configuration is acceptable for continued operation under Specification 3.6.3. However, the large purge valves have additional requirements due to their resilient material seals (The 2" 05 valve is a globe valve that does not have a resilient material seal).

The 04 valve has a resilient material seal whose integrity requires periodic monitoring. It therefore represents a potential threat to the containment isolation boundary that becomes more significant due to the inoperability of the 03 valve. PP&L is evaluating proposing reperformance of the vacuum leak rate test mentioned above on a 3 month frequency to ensure that the seal is not degrading. This logic appears consistent with the new BWR 4 Standard Technical Specifications (Ref. NUREG-1433, Specification 3.6.1.3, Condition E), and is therefore believed to be acceptable to the NRC.

PP&L is reviewing the performance history of the purge valve seals. So far, we have confirmed 2 cases of seal failure over the life of both SSES units. One, in 1986, was the same HV-25703 valve. The other case was in 1987, and occurred on the inboard drywell vent valve (HV-15713). In one other case, the seals of the HV-15713 and HV-15714 valves (see Figure) were replaced in response to leakage testing results.

The 04 valve, which is being relied upon here for providing part of the containment isolation boundary, has not failed previously, and a review of its leak testing history does not exhibit any adverse trends.

Based on the above information, PP&L believes that continued operation under the limitations of this request for enforcement discretion are warranted.

COMPENSATORY ACTIONS

As described above, actions have already been taken to ensure the integrity of the containment boundary, including administrative controls and leak rate testing that are sufficient to ensure safe operation until NRC action on the forthcoming proposed change to the Technical Specification requirements. The latter proposal will include further action for the long term.

JUSTIFICATION FOR DURATION OF PROPOSED REQUEST

PP&L has to complete a final evaluation of this issue in support of a proposed emergency amendment submittal to the NRC. That submittal will be in the NRC's hands no later than September 15, 1993. PP&L therefore requests that the enforcement discretion remain in effect until the NRC acts on that submittal. The proposed amendment submittal will request permission to operate until the Unit 2 6th refueling and inspection outage (currently scheduled to begin on March 12, 1994) or until the next forced outage of Unit 2.

BASIS FOR CONCLUSION THAT THE ENFORCEMENT DISCRETION WILL NOT BE OF POTENTIAL DETRIMENT TO THE PUBLIC HEALTH AND SAFETY AND THAT A SIGNIFICANT SAFETY HAZARD IS NOT INVOLVED

As discussed above, Specification 3.6.3 remains in effect, and provides acceptable actions for containment penetrations should a containment isolation valve fail. These actions do not currently apply to the containment purge isolation valve of concern, due to its resilient material seal. In order to address the special nature of these valves, PP&L has taken action to ensure containment isolation for the duration of this enforcement discretion, and plans to propose accelerated testing and status verification in accordance with logic provided in the new Standard Technical Specifications.

This approach will ensure that the public health and safety is not jeopardized by attaining a level of protection that is consistent with an approved standard.

- **No Significant Hazards Considerations**

1. This proposal does not involve a significant increase in the probability or consequences of an accident previously evaluated. PP&L is proposing that the 24 hour action be extended to allow a September 15, 1993 submittal of an emergency Technical Specification change and NRC action on that change. We believe that the HV-25704 and 05 valves in their secured and deactivated position, provide an acceptable containment isolation boundary. The resilient material seal in the 04 valve has been judged to be acceptable for continued operation based on a review of its performance history including leak rate trending, and therefore does not represent a significant short term risk to the containment isolation function. This protection will be further enhanced through accelerated monitoring which will be accounted for in our proposed Technical Specification change. The adequacy of the containment boundary, administrative controls on valve position, and judgement that the seal will not degrade in the short term while this request is being reviewed will ensure that the probability or consequences of an accident previously evaluated is not significantly increased.

2. This proposal does not create the possibility of a new or different type of accident from any accident previously evaluated. All efforts associated with this proposal are aimed at ensuring containment isolation capability. The valves will be controlled in the isolation position. Such action will not create the possibility of a new or different type of accident.

3. This change does not involve a significant reduction in a margin of safety.

   As described in 1. above, the adequacy and control of the containment boundary will ensure that a significant reduction in a margin of safety will not occur.

ENVIRONMENTAL CONSEQUENCES

This request is consistent with the Susquehanna design basis, in that adequate compensatory actions are currently in place to ensure that the containment isolation function can be performed for its duration. Therefore, no environmental consequences that have not been previously considered are anticipated.

Very truly yours,

for R. G. Byram

Attachment

cc: NRC Document Control Desk (original)
NRC Region I
Mr. G. S. Barber, NRC Sr. Resident Inspector - SSES
Mr. R. J. Clark, NRC Sr. Project Manager - Rockville

FIGURE 1 (Note: this drawing is uncontrolled and provided only for reference. It is representative of either SSES Unit.)

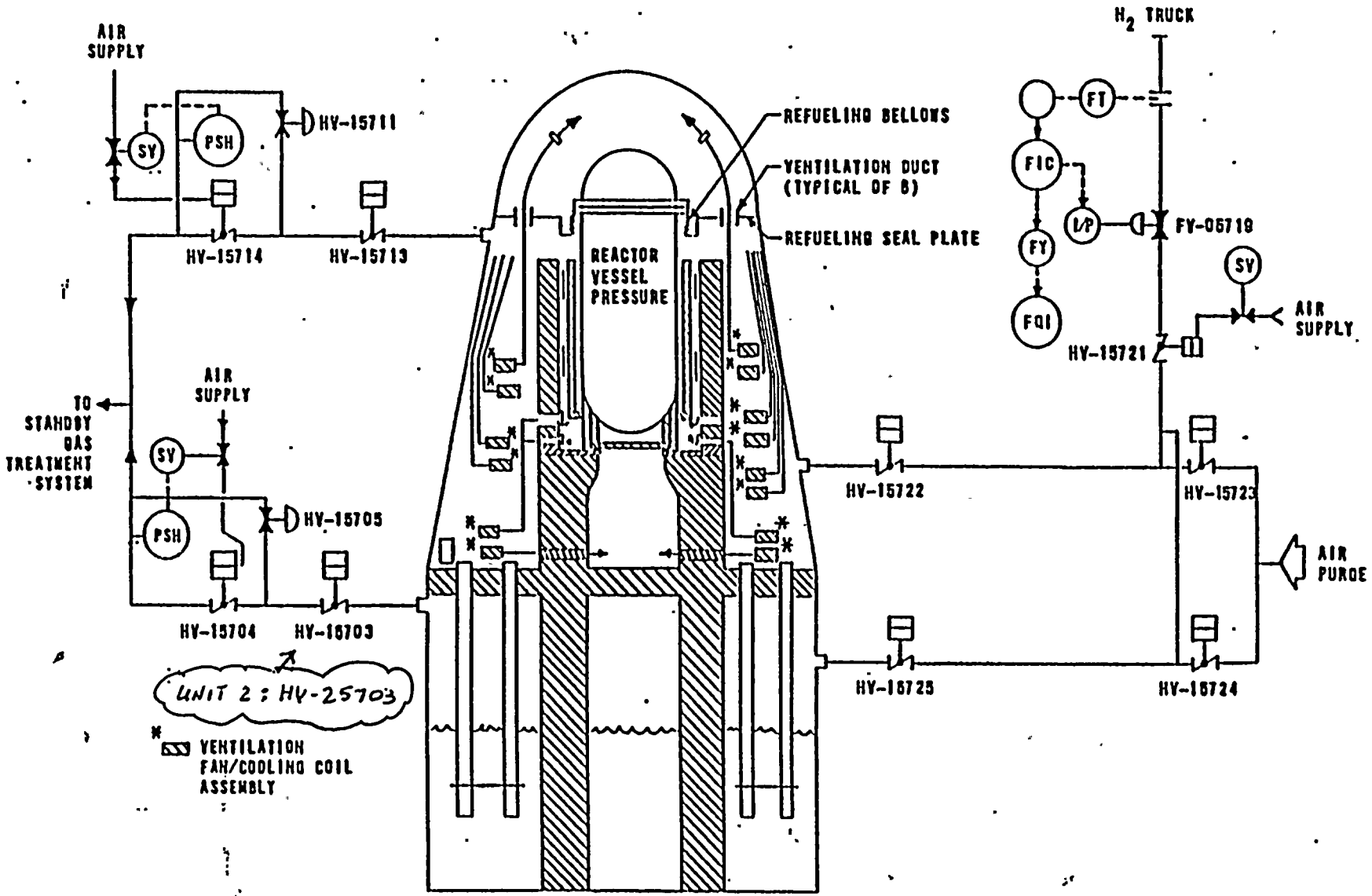

FIGURE 1

SIMPLIFIED DIAGRAM

CONTAINMENT PURGE, COOLING, AND VENTILATION