



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

January 12, 1996

MEMORANDUM TO:

James M. Taylor
Executive Director for Operations

William T. Russell, Director
Office of Nuclear Reactor Regulation

FROM:

Thomas T. Martin
Regional Administrator
Region I

SUBJECT:

SALEM RESTART EQUIPMENT ISSUES

The purpose of this memorandum is to communicate the equipment issues we are tracking and intend to independently inspect at the Salem Units 1 and 2 nuclear power plants. I have appended a copy of these key issues for your review (Attachment 1).

As you know, the licensee shutdown both Salem units, and I issued a Confirmatory Action Letter (CAL) on June 9, 1995, to address continued performance deficiencies, poor materiel condition, and weak management oversight. A Salem Assessment Panel (SAP) was chartered and has been tasked with monitoring restart activities in accordance with NRC Manual Chapter 0350.

In response to a request from the June 1995 Senior Management Meeting, I tasked the regional and resident staff with identifying equipment deficiencies that had a significant effect on Salem performance. During their review, my staff considered: (1) the findings of all 1994 and 1995 inspection reports; (2) all 1994 and 1995 escalated and non-escalated violations; (3) all 1994 and 1995 Inspection Followup System open items; (4) all 1994 and 1995 LERs; (5) the two most recent SALPs; and (6) licensee work history, equipment performance, and trend indicators. Through their review of the above sources of data and other sources, they identified the equipment issues listed in Attachment 1. The SAP performed an independent review of these equipment issues and confirmed that the licensee's Restart Action Plan list encompasses the items on the NRC list.

On December 11, PSE&G presented their restart plan to key members of the regional and headquarters staff. During the development of their plan, PSE&G determined that eight systems have caused 45 of the 54 forced outages since 1988. A listing of these systems is included with this memorandum (Attachment 2). In addition, affected NRC personnel met with the public at the Salem Community College in Carneys Point, New Jersey to solicit their input. These interactions, as well as equipment and other performance insights, will be used by the SAP to develop the final NRC Salem Restart Inspection Plan.

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Distribution w/Attachments:

W. Kane, DRA
R. Cooper, DRP
L. Nicholson, DRP
S. Barber, DRP
J. Stolz, NRR
L. Olshan, NRR
C. Marschall, DRP
W. Dean, OEDO
J. Zimmerman, NRR
M. Oprendeck, DRP (RA Action Item 95-234)

ATTACHMENT 2

SYSTEM & EQUIPMENT RELIABILITY

Eight Systems Caused 45 of the 54 Forced Outages Since 1988

- Feed & Condensate
- Chemical & Volume Control
- Circulating Water
- Diesel Generator
- Main Steam
- Reactor Coolant
- Reactor Control & Protection
- Service Water

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ATTACHMENT 1

SALEM RESTART EQUIPMENT ISSUES

TECHNICAL ISSUE	Resp. Org	Reference	Status
1. Cont. Spray Dsch Vlv (CS-2) Operability. Calculations indicate actual d/p may be greater than design d/p.	DRS	URI 92-01-04	Open
2. Reliability of Control Air System. Requires operator action to start backup compressor.	DRP	IR 94-19, 24 & 35	Open
3. CW Screen Motor Reliability. No automatic motor operation, vulnerable to grass intrusion	DRP	IR 95-10	Open
4. Digital feedwater installation to correct feedwater control reliability.	DRS	IR 94-13	Open
5. Moisture in EDG air start system causes reliability problem with check valves.	DRP	IR 94-19	Open
6. EDG output breakers fail to close when switch taken to close.	DRS	IR 95-10	Open
7. EDG has minimal load margin.	DRS	URI 93-82-04.	Open
8. EDSFI Followup Issues	DRS	IR 93-082.	Open
9. Cracked exhaust steam piping could indicate weak erosion/control program.	DRS	No Reference	Open
10. Feedwater nozzle bypass flow introduced error in calorimetric and power level.	DRS	URI 94-024-04	Open
11. EDG 1A load fluctuations.	DRS	URI 94-018-02	Open
12. Review adequacy of fuse control program.	DRS	IR 95-10	Open
13. Review gas turbine batteries degrading with loss of one source of offsite power. Turbine referenced in TS basis to support SW outages.	DRS	IR 95-13	Open
14. Hagan module replacement project.	DRS	IR 94-80, 95-02.	Open

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15. Procedure contains non-conservative 125V battery acceptance criteria.	DRS	URI 94-18-01	Open
16. NRC & QA identified numerous IST program deficiencies.	DRS	URI 94-21-01, 02 & 03	Open
17. Main condenser steam dumps malfunction, requires closing MSIVs on trip and prevents use of main condensor.	DRP	URI 94-08-01	Open
18. Poor reliability of PDP charging pumps.	DRP	No Reference	Open
19. Poor process for configuration control of pipe supports.	DRP	URI 95-06-01	Open
20. POPS ability to mitigate overpressure events.	DRS	Vio 94-032-05	Open
21. Wiring separation & redundancy concerns with RG 1.97 instruments & cable separation	DRS	URI 89-13-07 & 90-81-13	Open
22. PORV (1PR1) seat leakage, requiring block valve closure.	DRP	IR 94-35	Open
23. Undersized PORV accumulators	DRS	IR 95-13	Open
24. Gate valves identified susceptible to press lock & thermal binding.	DRS	URI 93-026-01	Open
25. Pressurizer Spray Problems/Use of Aux Spray	DRP	IR 95-13	Open
26. Radiation monitor problems	DRS	IR 94-24	Open
27. Rx coolant pump oil collection system deficiencies.	DRS	IR 94-33 & 94-35	Open
28. Understand causes and corrective actions for failures of Rx coolant pump seals.	DRP	IR 94-32 & 95-02	Open
29. Rx Head Vent Valve Stoke Times	DRP	VIO 95-02	Open
30. RHR Min-flow Valve (RH29) Failures on unit 2.	DRP	VIO 95-10	Open
31. RHR Dsch Valve (21RH10) Banging Noise	DRP	IR 95-10	Open
32. Review program for control & inspecting resilient fire barrier seals.	DRS	No Reference	Open

Attachment 1

<u>TECHNICAL ISSUE</u>		<u>Resp. Org</u>	<u>Reference</u>	<u>Status</u>
33.	Control rods stepping with no temperature error signal.	DRS	IR 94-19	Open
34.	Numerous SI pump deficiencies.	DRP	IR 95-13	Open
35.	Verify adequate protection for SI Pump runnout.	DRS	IR 95-13.	Open
36.	SI relief valves performance history of leaking and lifting.	DRP	IR 94-13, 31 & 95-01	Open
37.	Review corrective action for service water pipe erosion.	DRS	IR 95-07	Open
38.	Spurious high steam flow signals causing SI.	DRS	EA #94-112-010103	Open
39.	Review corrective actions to resolve numerous switchyard failures.	DRS	IR 94-31	Open
40.	Verify adequate correction for overhead annunciator failures.	DRS	IR 95-17	Open
41.	Verify adequate corrective action to ensure steam generator tube integrity.	DRS	IR 95-17	Open