

DCS

Docket No. 50-309

NOV 23 1990

Maine Yankee Atomic Power Company
ATTN: Mr. Charles D. Frizzle
President
83 Edison Drive
Augusta, Maine 04336

Gentlemen:

Subject: Inspection 50-309/90-10

This refers to your letter dated August 23, 1990, in response to our letter dated July 19, 1990.

Thank you for informing us of the corrective and preventive actions documented in your letter. These actions were reviewed during a recent inspection and found acceptable. That review is documented in NRC Inspection Report 50-309/90-19.

Your cooperation with us is appreciated.

Sincerely,

Jon R. Johnson, Chief
Projects Branch No. 3
Division of Reactor Projects

cc:

- J. Randazza, Assistant Chairman of the Board
- J. H. Garrity, Executive Assistant to the President
- E. T. Boulette, Vice President, Operations
- P. L. Anderson, Project Manager
- J. D. Firth, Vice President, Public and Governmental Affairs
- G. D. Whittier, Manager, Nuclear Engineering and Licensing
- R. W. Blackmore, Plant Manager
- J. A. Pitsner, Attorney (Ropes and Gray) (w/cy of Licensee's Reply Letter)
- Peter Brann, Assistant Attorney General (w/cy of Licensee's Reply Letter)
- J. Vanags, Maine State Planning Office (w/cy of Licensee's Reply Letter)
- Maine Yankee Hearing Service List (w/cy of Licensee's Reply Letter)
- Public Document Room (PDR) (w/cy of Licensee's Reply Letter)
- Local Public Document Room (LPDR) (w/cy of Licensee's Reply Letter)
- Nuclear Safety Information Center (NSIC) (w/cy of Licensee's Reply Letter)
- NRC Resident Inspector (w/cy of Licensee's Reply Letter)
- State of Maine, SLO Designee (w/cy of Licensee's Reply Letter)

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REPLY 50-309/90-10 - 0001.0.0
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Q PNU

Handwritten signature/initials

NOV 23 1990

Maine Yankee Atomic Power Company 2

bcc w/cy of Licensee's Reply Letter:
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J. Johnson, DRP
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J. Caldwell, EDO
E. Trottier, LPM, NRR

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Marschall/meo
11/7/90

RI:DRP

11/8/90
McCabe 11-13-90

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Johnson
11/14

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REPLY 50-309/90-10 - 0002.0.0
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Maine Yankee

RELIABLE ELECTRICITY FOR MAINE SINCE 1972

EDISON DRIVE • AUGUSTA, MAINE 04336 • (207) 622-4868

August 23, 1990
MN-90-81 SEN-90-241

Region I
UNITED STATES NUCLEAR REGULATORY COMMISSION
475 Allendale Road
King of Prussia, Pennsylvania 19406

Attention: Mr. Thomas T. Martin, Regional Administrator

References: (a) License No. DPR-36 (Docket No. 50-309)
 (b) USNRC Letter to Maine Yankee dated July 19, 1990
 Inspection Report No. 50-309/90-10

Subject: Response to Notice of Violation -
 Inspection Report No. 50-309/90-10, Reactor Coolant System Inventory

Gentlemen:

This letter responds to the Notice of Violation contained in Reference (b). In the attachment to this letter, we have restated the violation and provided our response. We have also addressed our actions to prevent recurrence of similar personnel and procedural errors.

Should you have any questions on this matter, please contact us.

Very truly yours,

SENichols

S. E. Nichols
Licensing Section Head

SEN:SJJ

Attachment: Response to Notice of Violation

c: Mr. Eric J. Leeds
 Mr. Charles S. Marschall
 Document Control Desk

SEN90241.LTR

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ATTACHMENT

NOTICE OF VIOLATION

10 CFR 50, Appendix B, Criterion V specifies that activities affecting quality should be prescribed by and accomplished in accordance with instructions, procedures, or drawings which include appropriate criteria for determining that important activities have been satisfactorily accomplished.

Contrary to the above, on June 4, 1990, an important activity affecting quality, reactor coolant system fill and vent, was not satisfactorily accomplished when plant operators inadvertently drained the pressurizer and reduced inventory in the reactor coolant system, thereby reducing the margin to interruption of Residual Heat Removal System operation.

MAINE YANKEE RESPONSE

The root cause of the event was an instrumentation malfunction which provided misleading pressurizer level indication to the operators. This malfunction resulted from inadequate procedure guidance to backfill pressurizer pressure instruments. As several pressurizer pressure instruments tap into the reference lines of the affected pressurizer level transmitters, voids in the pressurizer pressure instrument lines necessarily affected the pressurizer level indication as system pressure was increased (i.e., pressure collapsed the voids, water from the reference leg filled the voids, loss of mass from the reference legs reduced static head on the differential pressure level transmitter).

A contributor to this event was procedural weaknesses which allowed the evolution to continue. The procedure governing the evolution in progress, 1-9-1, REACTOR COOLANT SYSTEM FILL AND VENT, contained no clear requirement for agreement between indicators and no clear guidance for actions to be taken in the event of indication anomalies.

1. Immediate corrective steps which have been taken and the results achieved:

Immediate action in response to the event was to stabilize the RCS by increasing water inventory and venting. A root cause evaluation was initiated. While this evaluation was in progress, and as documented in Reference (b), the next Operations Day Orders included a section re-emphasizing basic philosophies regarding believing and acting upon instrumentation readings, stopping evolutions when unexpected conditions arise, importance of accurate communication, maintenance of a questioning attitude, teamwork, and taking the time to do it right. Additionally, the shift turnover process was strengthened for the balance of the outage.

We have completed a formal evaluation of this event. Based on this evaluation, we have completed the following:

- A task force was established to determine the cause of the simultaneous failure of the two level channels, and if other vital transmitters may be subject to similar common cause situations. Improper venting (backfilling) of connected pressurizer pressure instruments was determined to be the cause, and actions were taken to ensure these instruments were adequately backfilled prior to being required. The failure of other vital instruments due to a similar cause is not considered likely due to their different design.
- Procedure 1-9-1, REACTOR COOLANT SYSTEM FILL AND VENT, was extensively rewritten to incorporate the recommendations from our internal evaluation:
 - o Guidance for stopping any evolutions which could effect pressurizer level if any anomalies in pressurizer level indication exist.
 - o Criteria for ensuring pressurizer level instruments are in agreement.
 - o Requirements for backfilling and verifying the operability of all pressurizer level instruments just prior to commencing the procedure.
 - o Criteria for minimum number of operable pressurizer level transmitters.
 - o Realistic pressurizer level control band for the initial RCS pressurization for venting reactor coolant pump seals.
 - o Guidance for methods to reduce RCS inventory under all anticipated conditions.
 - o Guidance to control rate of RCS pressurization using nitrogen within the capability of the coolant make up system.

The collective result of these actions was that the RCS was subsequently successfully filled and vented without incident.

2. Corrective steps which have been or will be taken to avoid further violations:

The following additional recommendations of the task force discussed in 1, above, are also planned to be implemented.

- Revise Instrument and Controls procedures, associated with pressurizer level and pressure transmitter calibrations and preventive maintenance, to expand precautions and incorporate steps to backfill all affected sensing lines upon completion of calibration. This procedure revision is scheduled for completion prior to our next scheduled refueling outage.

- Review additional applicable procedures for other vital differential pressure instrumentation to ensure requirements for adequate backfill following calibration is included. This review and resulting procedure changes are scheduled for completion prior to our next scheduled refueling outage.

Procedure 1-26-4, RESPONSIBILITIES AND AUTHORITIES OF OPERATING PERSONNEL, is being reviewed to ensure that it is consistent and adequately emphasizes key aspects of current operating philosophy relative to believing and acting upon instrumentation readings and stopping evolutions when unexpected conditions arise. This review and necessary procedure changes will be in effect by October 31, 1990.

The Manager, Operations Department is scheduled to meet with each of the six operating crews during the first block of the Licensed Operator Requalification Course (LORC) to review aspects of this event relative to what operating personnel could have done to prevent it and to re-emphasize current department philosophy relative to plant operations as stated in the department's "Operating Philosophy Guidelines for Plant Shift Superintendents and Shift Operating Supervisors".

These actions are intended to prevent recurrence of similar personnel and procedural errors.

3. Date when full compliance was achieved:

Full compliance was achieved on June 4, 1990, when the evolution resulting in the violation was stopped and the RCS placed in a stable condition.