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JUN 26 1978

LICENSEE: Yankee Atomic Electric Company (YAEC)

FACILITY: Yankee-Rowe

SUMMARY OF JUNE 20, 1978 MEETING CONCERNING MINERAL INSULATED CABLE
END SEALS

On June 20, 1978, we met with representatives of YAEC to discuss environmental qualification of end seals of mineral insulated (MI) cable, routed through containment electrical penetrations at Yankee-Rowe.

A list of attendees is attached.

As background, during recent (June 3, 1978) environmental testing of a sample electrical penetration at the Franklin Institute Research Laboratory performed for the Haddam Neck Plant, the cable conductors failed to hold the applied voltage as a result of conductor to conductor shorts. The failures were attributed to moisture entering the epoxy in the end seal of the MI electrical cable. A modified end seal for the MI cable using heat shrink sleeves was successfully demonstrated to prevent moisture from entering the cable end seal. This modification was made to the end seals of the MI cables connected to safety related equipment inside the Haddam Neck containment. The modification was implemented during a plant shutdown on June 16, 1978.

Because of our concern about similar MI cable end seal problems at Yankee-Rowe, YAEC was required to evaluate the effects of potential MI cable failures on safe plant operation and to propose corrective action if found to be necessary. Based on its initial evaluation, YAEC proposed on June 19, 1978 (confirmed by letter of same date) shutting down Yankee-Rowe on June 24, 1978, to modify the end seals of MI cable connected to safety related equipment inside the Yankee-Rowe containment. This would involve the same modification recently completed at Haddam Neck. We asked the licensee to meet with us on June 20, 1978, to provide more details on this proposed course of action.

During the meeting, YAEC presented the results of a more detailed review completed after its June 19, 1978 proposal. There are over 100 MI cables routed through electrical penetrations at Yankee-Rowe that have cable and seals similar to the one that failed during the recent environmental qualification test at the Franklin Laboratory. Only three of these cables (each with three conductors) are connected to

safety related equipment inside containment, namely, to the three recirculation fans of the post-LOCA hydrogen control system. YAEC stated that these fans may be needed about 120 days following a major LOCA event. Potential failure of any of the other MI cables would not impair the ability to bring Yankee-Rowe to a cold shutdown condition or to mitigate the consequences of any accident. Nevertheless, YAEC committed to modify the end seals of the MI cables connected to the three recirculation fans in the same manner as recently modified at Haddam Neck. The modifications will be implemented in accordance with the provisions in 10 CFR Part 50, Section 50.59 within one week from the date of the meeting. YAEC stated that for long-term environmental qualification of the modified MI cable end seals they will reference the tests to be performed soon on a similar modified end seal for Haddam Neck. YAEC also stated that they will promptly send us a letter confirming the commitments made during the meeting.

We indicated that the proposed course of action is acceptable.

Original signed by

Alfred Burger, Project Manager
Operating Reactors Branch #2
Division of Operating Reactors

Enclosure:

List of Attendees

cc w/enclosure:

Yankee Atomic Electric Company
ATTN: Mr. Robert H. Groce
Licensing Engineer
20 Turnpike Road
Westboro, Massachusetts 01581

OFFICE ➤	DOR:ORB #2	DOR:ORB #2				
SURNAME ➤	ABurger:ab	DLZiemann				
DATE ➤	6/28/78	6/28/78				

LIST OF ATTENDEES
MEETING WITH YANKEE ATOMIC ELECTRIC COMPANY

JUNE 20, 1978

Yankee Atomic Electric Company

R. Groce
G. Tsouderos
F. Baxter
J. Thayer

NRC

A. Burger
J. Burdoin
D. McDonald
D. Davis
V. Thomas
W. Russell
H. Schierling
D. Ziemann

MEETING SUMMARY DISTRIBUTION

Docket

NRC PDR

Local PDR

ORB #2 Reading

NRR Reading

E. G. Case

V. Stello

D. Eisenhut

B. Grimes

D. Davis

P. Check

G. 'ainas

A. Schwencer

R. Reid

T. Ippolito

G. Knighton

EB

Project Manager - A. Burger

OELD

OI&E (3)

H. Smith

NRC Participants

R. Fraley, ACRS (16)

T. B. Abernathy

J. R. Buchanan