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UNITED STATES
ATOMIC ENERGY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS
REGION I
631 PARK AVENUE
KING OF PRUSSIA, PENNSYLVANIA 19406

JAN 17 1974

Jersey Central Power & Light Company
Attention: Mr. I. R. Finfrock, Jr.
Vice President - Generation
Madison Avenue at Punch Bowl Road
Morristown, New Jersey 07960

Docket Nos. 50-219
50-363

Gentlemen:

A letter to the Directorate of Licensing, from the Vermont Yankee Nuclear Power Corporation, dated December 27, 1973, was recently placed in the Public Document Room. The subject matter discussed in that letter is felt to have possible applicability to your plant and, accordingly, I have enclosed a copy for your information.

Sincerely,

Eldon J. Brunner, Chief
Reactor Operations Branch

Enclosure:
1. Copy of letter from the Vermont Yankee Nuclear Power Corporation, dated December 27, 1973 (AO-73-34)

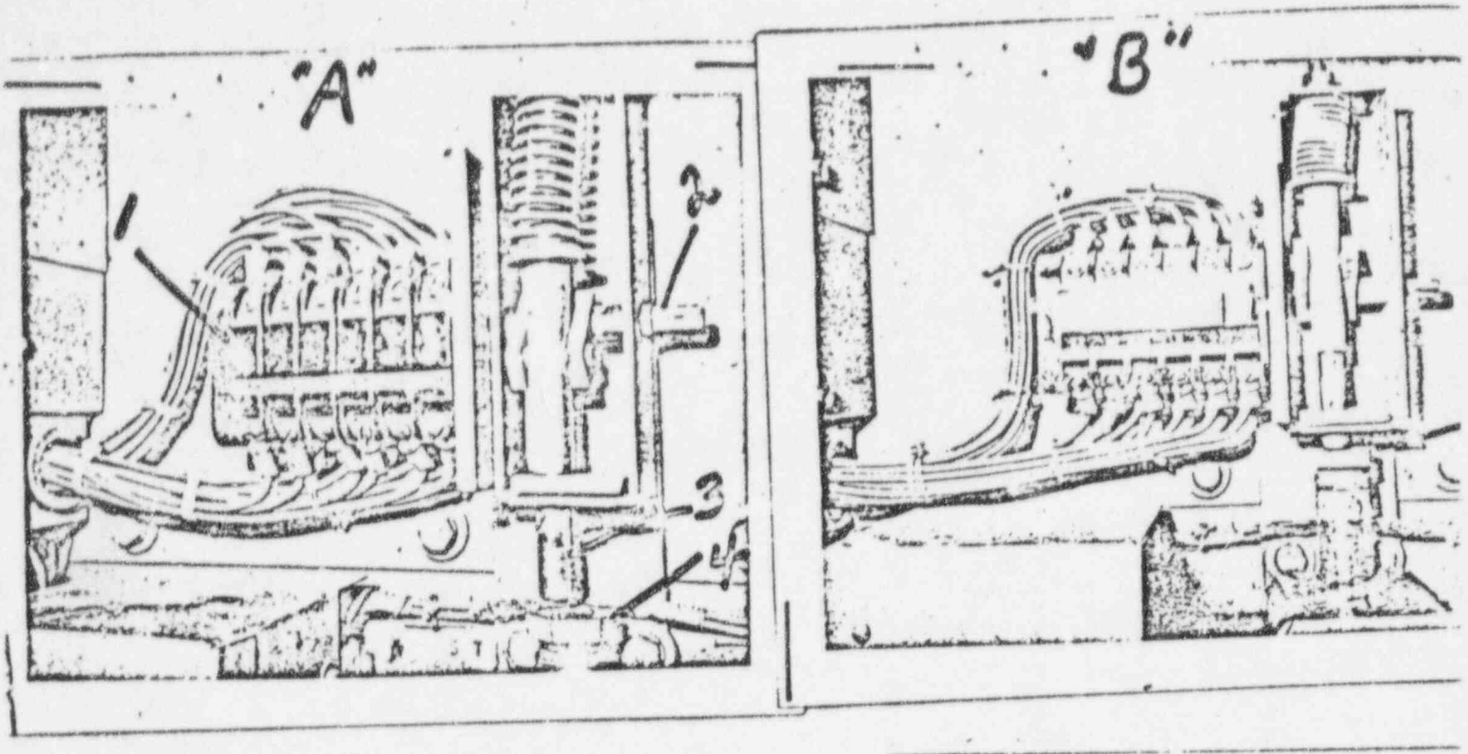
cc: Mr. J. T. Carroll, Plant Superintendent

bcc: RO Files
DR Central File
PDR
Local PDR
NSIC
DTIE
State of New Jersey
Reg Reg Rdg Rm

B/668

OFFICE ▶	CRESS:I					
SURNAME ▶	EJB Brunner/kmf	O'Reilly				
DATE ▶	1/15					

Form AEC-318 (Rev. 9-53) AECM 0240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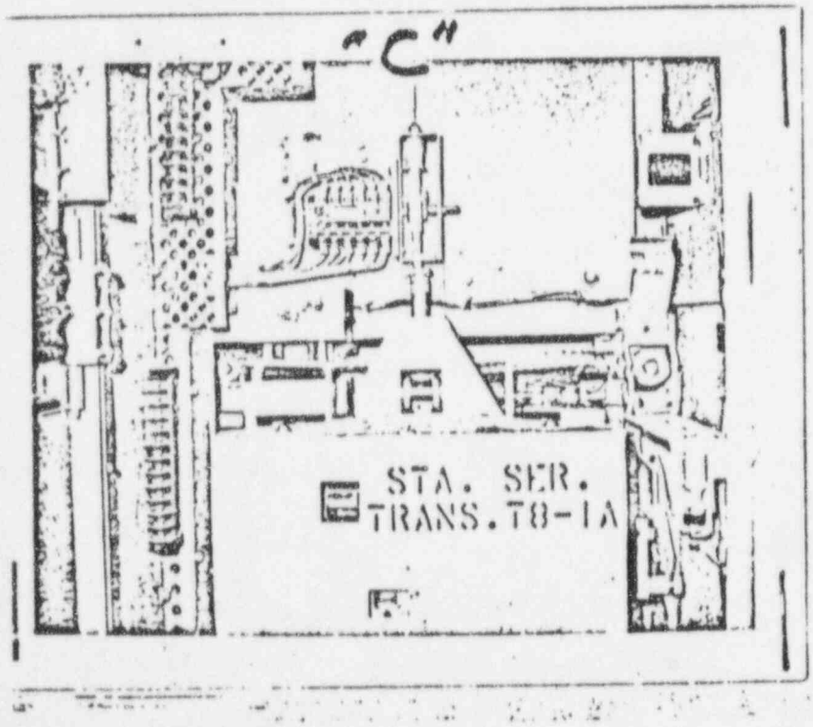
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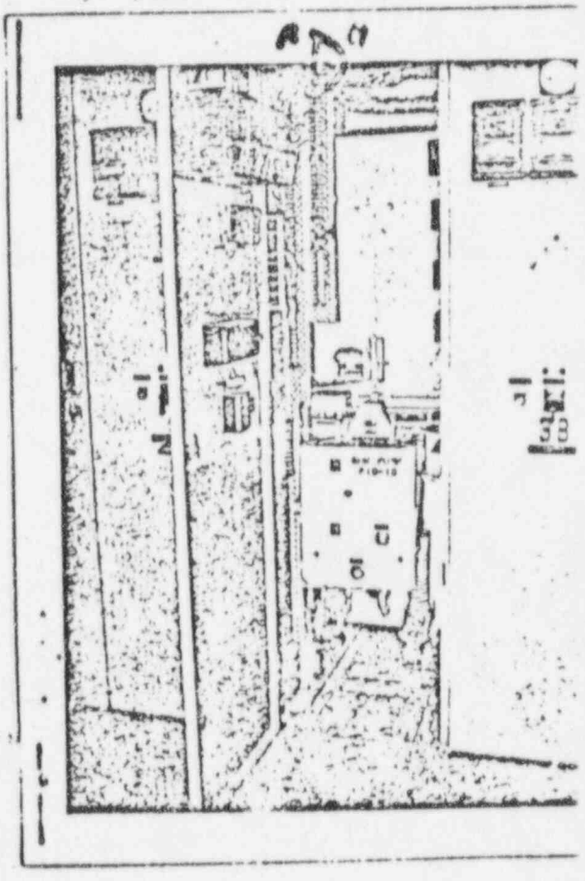
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PICTURE INDEX

A. Breaker in open position

1. Stationary auxiliary switch
2. Switch operating shaft
3. Switch operating linkage
4. Breaker operating plunger

B. Breaker in closed position

1. Breaker operating plunger

C. Typical breaker in compartment

1. Breaker closed

D. Typical breaker in compartment

1. Breaker opened

VERMONT YANKEE NUCLEAR POWER CORPORATION

SEVENTY SEVEN GROVE STREET

RUTLAND, VERMONT 05701

VYV-3109

REPLY TO:
P. O. BOX 157
VERNON, VERMONT 05354

December 27, 1973

Director
Directorate of Licensing
United States Atomic Energy Commission
Washington, D.C. 20545

REFERENCE: Operating License DPR-28
Docket No. 50-271
Abnormal Occurrence No. AO-73-34

Gentlemen:

As defined by Technical Specifications for the Vermont Yankee Nuclear Power Station, Section 6.7.B.1, we are reporting the following Abnormal Occurrence as AO-73-34.

On December 17, 1973, while investigating a reported problem involving the "A" Station Service Water Pump 4 KV breaker, an electrician noted the fact that the breaker stationary auxiliary switch assembly rear mounting tie bolt had loosened and was disengaged from its mounting plate. This bolt serves to assist in maintaining proper switch contact alignment. The loosening and subsequent backing out of the tie bolt caused some misalignment of the switch auxiliary contacts which would have rendered those contacts inoperable had the breaker operated. This failure is not considered to be an abnormal occurrence, but is merely referenced to detail appropriate background information.

As a result of this incident, an investigation of all forty-seven (47) 4 KV breakers was initiated. This investigation, which was completed on December 19, 1973, indicated that all 4 KV breakers exhibited varying degrees of bolt loosening. Due to the fact that some breakers are associated with safety related systems, it was determined that this condition was in violation of Technical Specifications, Section 1.A.4 in that it could have resulted in one or more engineering safety feature failures which could have caused or threaten to cause that feature or component to be incapable of performing its intended function as defined in the Technical Specifications.

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Tightening of all loose switch tie bolts was initiated immediately upon discovery and completed by 1000 hours on December 19, 1973. The reactor was operating at approximately 68% power at the time of this incident.

Of a total of forty-seven (47) switchgear units (General Electric Metal-Clad, Type M26) at Vermont Yankee, forty-three (43) contain 1200 amp., General Electric Magne-Blast circuit breakers, style AM-4, 16-250-8HB, and the remaining four (4) units contain 3000 amp., Magne-Blast circuit breakers, style AM-4, 16-350-1H. All switchgear units are equipped with stationary auxiliary switches which are referenced in General Electric Company Instruction and Renewal Parts Manual GEH-1802R, Metal-Clad Switchgear, Figure 45A.

The Plant Operations Review Committee (PORC) concluded that a possible cause of bolt loosening could be attributed to improper bolt tightening during factory assembly. This possibility is supported by the fact that the switch must be pre-wired prior to being mounted to the front mounting plate. At this time, the rear mounting tie bolt is somewhat difficult to see and could possibly be overlooked when performing a final quality check. An additional possible cause could be due to breaker operation. During breaker closure, the switch is operated by the breaker operating plunger through mechanical linkage. When the breaker is tripped, the switch is again operated in the reverse direction by a spring which has been held under tension by the breaker operating plunger. The operation of the switch in either direction is, of course, rapid and pronounced and might possibly contribute to a problem of this nature.

PORC determined that as a result of this incident, all 4 KV switchgear stationary auxiliary switches should be inspected in three months (which would be coincidental with approximately three breaker operations). If a similar condition is found to be developing at that time, the committee will undertake whatever further corrective action is required to assure resolution of the problem. In addition, a complete inspection of all breaker associated devices should be conducted during each plant refueling outage.

Very truly yours,

VERMONT YANKEE NUCLEAR POWER CORPORATION

B.W. Riley

B.W. Riley
Plant Superintendent

WFC/kbd