

# YANKEE ATOMIC ELECTRIC COMPANY



20 TURNPIKE ROAD, WESTBORO, MASSACHUSETTS 01581  
TELEPHONE 617 366-9011

August 7, 1972

Regulatory

File Cy.

United States Atomic Energy Commission  
Washington, D. C. 20545

Attention: Directorate of Licensing

Reference: License No. DPR-3 (Docket No. 50-29)

Dear Sirs:

During the control rod drop time surveillance test on July 29, 1972, Yankee Atomic Electric Company experienced difficulty with control rod No. 19. The control rod failed to fall completely into the core when scrambled from the fully withdrawn position; it dropped from 90 inches to approximately 23 inches. With the aid of the pull down coil, the control rod was driven in from 23 to 15 inches; the scram breakers were opened and No. 19 successfully fell into the core. Subsequently, the control rod was withdrawn to 90 inches and successfully dropped into the core with a measured drop time of 2.51 seconds.

During this surveillance, control rod No. 18 (the control rod that previously experienced difficulty) dropped into the core with a measured drop time of 2.35 seconds which is below the 2.4 second limit. The plant was returned to service following a safety review by the plant and Westboro Management; this review consisted of the following:

1. The plant is presently operating in a mode to provide protection for the plant during any accident condition resulting from the failure of two maximum worth control rods to scram. During the surveillance program the plant hasn't experienced difficulty with two rods either scrambling or dropping in less than 2.5 seconds simultaneously.
2. The difficulties that have been experienced involved two group D control rods; surveillance testing and previous history indicate that these problems do not exist with other control rods. Protection has been afforded for failure to scram for two maximum worth rods, a total of 3.0%  $\Delta K/K$ . The worth of the entire group D (8 rods) is approximately 4.0%  $\Delta K/K$ . Therefore, the afforded protection is very conservative.
3. Control rod No. 18 during the surveillance testing has been dropped successfully 14 of the last 14 times and during each



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test the drop time has shown improvement. The measured drop time is now below the 2.40 second limit.

On July 31, 1972 the Directorate of Licensing and Region I of the Directorate of Regulatory Operations was informed of the aforementioned occurrence and actions.

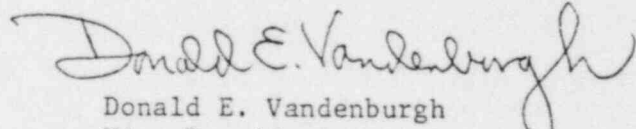
As a result of the above discussions and a complete review of the entire situation, Yankee offers the following:

1. A tabulation of control rod drop times for all control rods measured during the Core X startup and surveillance program.
2. A scheduled outage shall commence no later than October 31, 1972 for the installation of replacement control rods.
3. Until control rods are replaced Yankee shall:
  - a. Increase the frequency of the control rod surveillance program from every fourth weekend to every third weekend.
  - b. Supply the Commission with the results of all surveillance drop time results.

We trust you will find the above information and program satisfactory; however, should you desire additional information feel free to contact us.

Very truly yours,

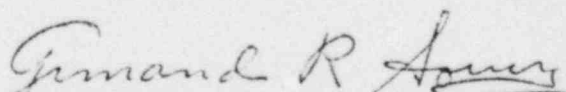
YANKEE ATOMIC ELECTRIC COMPANY

  
Donald E. Vandenburg  
Vice President

GCA/amw  
Enclosure

COMMONWEALTH OF MASSACHUSETTS) ) ss.  
COUNTY OF WORCESTER )

Then personally appeared before me, Donald E. Vandenburg, who, being duly sworn did state that he is a Vice President of Yankee Atomic Electric Company, that he is duly authorized to execute and file the foregoing request in the name and on the behalf of Yankee Atomic Electric Company, and that the statements therein are true to the best of his knowledge and belief.

  
Armand R. Soucy Notary Public  
My Commission Expires September 9, 1977

CONTROL ROD DROP DATA

Received by: 8-7-72

No.	Start of Life			5/25/72	5/27/72	6/9/72	6/10/72	6/10/72	7/1/72	7/29/72
	I	II	III							
1	1.80	1.79	1.77	1.72	1.82	1.80	1.85		1.82	1.83
2	1.54	1.58	1.56	1.54	1.61	1.58	1.62		1.60	1.60
3	1.49	1.47	1.48	1.44	1.51	1.52	1.57		1.54	1.55
4	1.59	1.58	1.55	1.54	1.60	1.59	1.65		1.61	1.62
5	1.62	1.63	1.59	1.64	1.62	1.62	1.65		1.62	1.61
6	1.62	1.64	1.62	1.62	1.64	1.62	1.63		1.62	1.62
7	1.66	1.65	1.64	1.64	1.65	1.64	1.67		1.64	1.65
8	1.94	1.97	1.84	1.94	1.95	1.91	1.96		1.89	1.86
9	1.77	1.81	1.78	1.79	1.81	1.86	1.88		1.89	1.98
10	1.62	1.64	1.65	1.64	1.68	1.66	1.66		1.62	1.66
11	1.62	1.73	1.74	1.71	1.74	1.71	1.76		1.72	1.69
12	1.64	1.65	1.63	1.69	1.68	1.64	1.68		1.67	1.62
13	1.99	1.91	1.97	1.88	1.90	1.90	1.90		1.87	1.90
14	1.84	1.80	1.81	1.77	1.78	1.76	1.79		1.78	1.77
15	1.94	2.00	2.02	1.87	1.92	1.90	1.96		1.89	1.93
16	1.94	1.94	1.94	1.90	1.92	1.91	1.92		1.95	1.95
17	1.66	1.68	1.63	1.63	1.68	1.65	1.65	1.67	1.62	1.66
18				2.62	3.01	2.56	2.65	2.72	2.47	2.35
19	1.90	1.81	1.78	1.84	1.89	1.96	2.23	2.25	2.02	
20	1.84	1.80	1.75	1.75	1.79	1.73	1.76	1.76	1.76	1.78
21	1.66	1.68	1.65	1.64	1.65	1.58	1.68	1.66	1.55	1.61
22	2.09	2.07	2.03	2.04	2.06	2.04	2.05	2.04	1.97	2.02
23	1.99	1.90	1.84	1.79	1.82	1.71	1.77	1.78	1.74	1.76
24	2.30	2.18	2.22	2.10	2.12	1.98	2.01	2.15	2.11	2.14
AVG of 23	1.79	1.78	1.76	1.74	1.77	1.75	1.80	↑	1.76	1.79

2.51

↑  
2nd drop of  
Group D

Additional  
Drop Times

#18	2.82	#18	2.50	#18	2.45
	2.81		2.45		
	2.98		2.39		

AEC DISTRIBUTION FOR PART 50 DOCKET MATERIAL  
(TEMPORARY FORM)

CONTROL NO: 4398

FILE

FROM: Yankee Atomic Elec. Co. Westboro, Mass. 01581 Donald E. Vandenburg	DATE OF DOC: 8-7-72	DATE REC'D 8-10-72	LTR X	MEMO	RPT	OTHER
TO: DRL	ORIG 3 signed	CC 37	OTHER	SENT AEC PDR ✓ SENT LOCAL PDR		
CLASS: <b>PROP INFO</b>	INPUT	NO CYS REC'D 40	DOCKET NO: 50-29			

DESCRIPTION: Ltr notarized 8-7-72 rpt problem on 7-29-72 when Control Rod #19 failed to fall completely into the core when scrambled fm the fully withdrawn position; it dropped fm 90 inches to approximately 23 inches w/attachmt entitled Core X Control Rod Drop Data.....

ENCLOSURES:

**DO NOT REMOVE  
ACKNOWLEDGED**

PLANT NAMES: YAEC

FOR ACTION/INFORMATION DL 8-11-72

BUTLER(L) W/ Copies	KNIEL(L) W/ Copies	VASSALLO(L) W/ Copies	ZIEMANN(L) W/ Copies	KNIGHTON(ENVIRO) W/ Copies
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✓OGC, ROOM P-506A	✓SCHROEDER	GRIMES	SMILEY	BROWN
✓MUNIZING/STAFF	✓MACCARY	GAMMILL	NUSSBAUMER	A/T IND
✓CASE	LANGE	KASTNER	LIC ASST.	BRITMAN
GIAMBUSSO	PAWLICKI	BALLARD	SERVICE	SALTZMAN
✓BOYD-L(BWR)	SHAO	FINE	MASON	PLANS
DEYOUNG-L(FWR)	✓KNUTH	ENVIRO	WILSON	MCDONALD
✓SKOVHOLT-L	✓STELLO	MULLER	KARI	DUBE
P. COLLINS	✓MOORE	DICKER	SMITH	C. MILES
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✓FILE & REGION (2)	✓TEDESCO	YOUNGBLOOD	DIGGS	
✓MORRIS	✓LONG	PROJECT LEADER	TIETS	
✓STENLE	✓LAINAS			
	BENAROYA			

EXTERNAL DISTRIBUTION

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✓1-DTIE(LAUGHLIN)	ANL/ORNL/PNL	1-DR. LEVINE
✓1-NSIC(BUCHANAN)	1-R. CARROLL-OC, GT-B327	BROOKHAVEN NAT. LAB
1-ASLB-YORE/SAYRE	1-R. CATLIN, A-170-GT	1-BOLAND, IDAHO FALLS,
WOODWARD/H. ST.	1-CONSULANT'S	IDAHO(50-331 Only)
✓16-CYS ACRS HOLDING	NEWMARK/BLUME/AGABIAN	1-RD..MULLER..F-309CT

**POOR ORIGINAL**