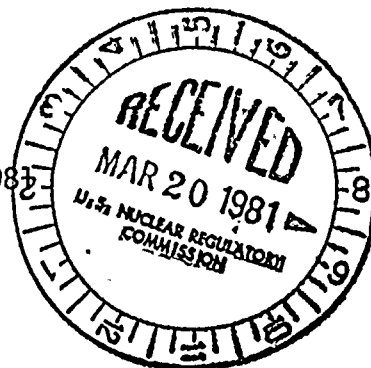


Central File

INDIANA & MICHIGAN ELECTRIC COMPANY

P. O. BOX 18
BOWLING GREEN STATION
NEW YORK, N. Y. 10004

February 3, 1981
AEP:NRC:0356D



Donald C. Cook Nuclear Plant Unit Nos. 1 and 2
Docket Nos. 50-315 and 50-316
License Nos. DPR-58 and DPR-74
IE Bulletin 79-01B/Environmental Qualification of Class 1E Equipment

Mr. James G. Keppler, Regional Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Dear Mr. Keppler:

This letter has three purposes. The first purpose is to fulfill the commitment we made in Reference 6 in response to References 4 and 5 in the area of TMI Action Plan equipment. Attachment 1 to this letter contains a summary table describing the equipment qualification status of all TMI-related equipment. As the qualification information for this equipment becomes available we will submit it to you as supplementary responses to IE Bulletin 79-01B.

The second purpose of this letter is to revise our second set of responses to IE Bulletin 79-01B which was contained in Reference 1 and amended by References 2 and 6. In this regard, the equipment qualification charts contained in Attachment 2 to this letter should be inserted in Attachment 5 of Reference 1. These few pages might have been inadvertently omitted from Reference 1 during the reproduction process and are being sent to you to insure the completeness of your copy of the subject documentation.

The third purpose of this letter is to further respond to the requirements for "cold shutdown" equipment contained in References 4 and 5, as clarified in Reference 7. You will note that in Reference 6 we responded to these requirements while at the same time taking exception to the manner and approach of Reference 3.

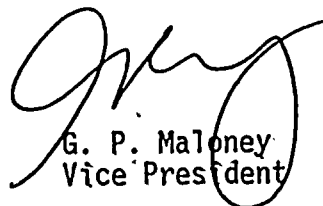
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Our position still remains that the inclusion of equipment necessary to achieve cold shutdown, even as described in Reference 7, represents a major change to the licensing basis of the Cook Plant and accomplishing such changes through Orders, Supplements to Bulletins and letters detracts from the stability of the regulatory process. Nevertheless, in order to demonstrate our commitment to the issue of environmental qualification we have re-reviewed our initial response effort, focusing on the equipment needed to proceed from safe (hot) shutdown (present Cook licensing basis) to cold shutdown following a LOCA or High Energy Line Break. It is the conclusion of our plant operating staff and AEPSC engineering personnel that except for the few pieces of equipment discussed in Attachment 3 to this letter, all equipment needed to achieve cold shutdown and potentially exposed to an adverse environment, has already been included in our IE Bulletin 79-01B response effort (References 1, 2 and 6). Therefore, aside from Attachment 3 to this letter, no additional information in this area needs to be submitted.

Very truly yours,



G. P. Maloney
Vice President

cc: (w/attachments)
N. C. Moseley - NRC
D. V. Shaller - Bridgman
NRC Resident Inspector at Cook Plant - Bridgman
F. Jablonski - NRC Region III

cc: (w/o attachments)
R. C. Callen
G. Charnoff
John E. Dolan
R. W. Jurgensen

REFERENCES

1. Letter AEP:NRC:0356A, R. S. Hunter to J. G. Keppler, dated May 7, 1980. .
2. Letter AEP:NRC:0356B, R. S. Hunter to J. G. Keppler, dated June 5, 1980.
3. Order for Modification of License attached to S. Varga's letter to J. E. Dolan dated August 29, 1980 and revised in D. G. Eisenhut's letter to J. E. Dolan dated September 19, 1980.
4. Supplement No. 2 to IE Bulletin 79-01B dated September 30, 1980. .
5. Supplement No. 3 to IE Bulletin 79-01B dated October 24, 1980.
6. Letter AEP:NRC:0356C, G. P. Maloney to J. G. Keppler dated October 31, 1980.
7. Clarification letter from D. G. Eisenhut to All Operating Plants and License Applicants dated January 19, 1981. .

ATTACHMENT 1
TO
AEP:NRC:0356D

TMI Lessons Learned Items

The equipment and/or systems itemized in this Attachment are being designed and installed in a manner consistent with our correspondence in response to your requests arising from the TMI-2 Lessons Learned effort. The equipment and/or systems have been specified for the anticipated service conditions of the plant where the environment could be influenced by an accident or its consequences. However the documentation such as qualification reports, for most items, is not presently available. When such documentation is available the appropriate "qualification chart" will be issued as supplements to our earlier submittals.

NUREG-0737 ITEM NO.	NUREG-0578 ITEM NO.	SYSTEM/EQUIPMENT NAME	PLANT ID	EQ REQUIRED	NUREG REFERENCE, AEP:NRC COMMITMENT LETTER, OR EQ CHART OF AEP:NRC:00356A
II.B.1	2.1.9	RCS Vents	NSO-21 to 24, NSO-61 to 64	YES	AEP:NRC:00253 & 253D AEP:NRC:00334 & 334B AEP:NRC:00398
II.B.3	2.1.8A	Post Accident Sampling	To Be Established	NO	NUREG-0660 Clarification 3.C
II.D.3	2.1.3.a	Valve Position Indication	QR 107 Limit Switches on NRV-151,152,153	YES	NUREG-0737, Clarification 3 EQ Chart LS-1 for Limit Switches
II.E.1.2	2.1.7.b	AFW Flow Indication	FFI-210,220,230, 240	YES	NUREG-0737, II.E.1.2 Part 2, b AEP:NRC:00253 EQ Charts I4 (Unit 2) & I5 (Unit 1)
II.E.4.2.3	New Requirement	Additional CT Isolation Signals	TO BE ESTABLISHED		
II.F.1.1	2.1.8.b	Noble Gas Monitor	To Be Established	NO	NUREG-0737, Table II.F.1-1
II.F.1.2	2.1.8.c	Iodine Monitor	NA	NO	NUREG-0737, Table II.F.1-2
II.F.1.3	2.1.8.b	Post Accident CT High Range Monitor	VRA-1001, 1002, 2001,2002	YES	NUREG-0737, Table II.F.1-3
		Upper CT Area Monitor	VRS-1101, 1201, 2101, 2201	YES	AEP:NRC:00295B
II.F.1.4	ACRS Item	CT Pressure	PPP-300 to 303 PPA-310 to 313	YES NO	EQ Charts I29 & I30 NUREG-0737, Attachment 4 (II.F.1.)
II.F.1.5	ACRS Item	CT Water Level	NLA-310 NLI-311, 320, 321	YES	NUREG-0737, Attachment 5 (II.F.1)
II.F.2.1	2.1.3.b.b	Subcooling Meter (pressure & temperature inputs)	NTR-110 to 140, 210 to 240 NPS-121, 122	YES	EQ Chart I28 (NTR's) EQ Charts I23 (Unit 1) & I24 (Unit 2) (NPS's)

<u>NUREG-0737</u> <u>ITEM NO.</u>	<u>NUREG-0578</u> <u>ITEM NO.</u>	<u>SYSTEM/EQUIPMENT</u> <u>NAME</u>	<u>PLANT ID</u>	<u>EQ</u> <u>REQUIRED</u>	<u>NUREG REFERENCE, AEP:NRC</u> <u>COMMITMENT LETTER, OR</u> <u>EQ CHART OF AEP:NRC:00356A</u>
II.F.2.3	2.1.3.b.c	Level Instrumentation	NLI-110 to 130 111 to 131	YES	NUREG-0737, Clarification 1, II.F.2
II.G.1	2.1.1.b & 2.1.1.c	Power Supplies to PZR Relief Valves, Block Valves, and Level	NRV-151 to 153 NMO-151 to 153 NLP-151 to 153	YES	NUREG-0578 Clarification letter EQ Charts S11-1 (NRV's), V9-1 (NMO's), and I18 (Unit 2). & I19 (Unit 1) (NLP's)
II.K.3.1	NA	Auto PORV Isolation	NMO-151 to 153	YES	EQ Chart V9-1
II.K.3.5	NA	Auto Trip of Reactor Coolant Pumps	NA	To Be Established	
II.K.3.12	New Requirement	Anticipated Trip on Turbine Trip	P-7	NO	NUREG-0611, Recommendation 3.2.4a
III.D.3.4	Additional Requirement	Control Room Habitability		To Be Established	

ATTACHMENT 2
TO
AEP:NRC:0356D.

Additions to Attachment 5 to AEP:NRC:0356A

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPEC.	QUAL.	SPEC.	QUAL.		
SYSTEM: <i>VARIOUS</i>	Operating Time	$\frac{1}{2}$ hr.	See Note 1 on Cable Termination	Table 7.5-2	22	Simul.	
PLANT ID NO: <i>NA</i>	Temperature (°F)	FIG 022.9-1,-2	330	FSAR APP Q	22	Simul.	
COMPONENT: <i>CONTROL CABLE TERMINATION</i>	Pressure (PSIA)	FIG 1 FIG 2	104.7	AEW 6D04	22	Simul.	
MANUFACTURER: <i>NA</i>	Relative Humidity (%)	100	100		22	Simul.	
MODEL NUMBER: <i>CABLE TERMINATION AT VALVES</i>	Chemical Spray	2000 ppm B	2600 ppm B	T.S. 314.5 314.5.6	22	Simul.	
FUNCTION:	Radiation (10 ⁶ rads)	2.2	See Note A	WCAP 7410-L Vol. 1	NTE A	Engineering Review	
ACCURACY: SPEC: <i>NA</i> DEMON: <i>NA</i>	Aging (years)		180°C/100 hrs Yes		22	Simul.	
SERVICE: <i>VARIOUS</i>	Submergence		FLOOD UP TUBES				
LOCATION: <i>IN CONTAINMENT</i>							
FLOOD LEVEL ELEV: <i>614'</i> ABOVE FLOOD LEVEL: <i>No</i>							

*Documentation References:

22. Limitorque Corp Test Report #600198

Notes:

- A) Valve will perform its function in the first 15 sec. (Tech Spec Table 306-1), corresponding to a calculated LOCA dose of only 0.02×10^6 rads, (WCAP 7410-L Fig. 5), not significantly more than its normal environment accumulated dose.

from Ref. 22. Qualified by Linitorque Corp. Test Laboratory
Project #600193. November 1968

2
9
Type of Test: simultaneous, steam
chemical spray
separate seismic test

Type Profile:

328°F, 90 psig for 1 hr
312°F, 70 psig for 2 hrs
287°F, 40 psig for 2 hrs
271°F, 20 psig for 19 hrs
250°F, 15 psig for 6 days

Chemical Spray:

1.5% boric acid buffered with Na OH to a PH of 7.67.

Seismic Test 8/20/79

Horizontal Force, 5.3 G at 35 Hz
Vertical force 5.3 G at 35 Hz
No resonance freq from 5 to 35 Hz

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPEC.	QUAL.	SPEC.	QUAL.		
SYSTEM: VARIOUS	Operating Time	1/2 hr.	see Note 1 on Cable Test record	Table 2.5-2	24	Seq.	1
PLANT ID NO: N/A	Temperature (°F)	FIG 13.13-1 (upper column)	250	FSAR APP N	24	Seq.	
COMPONENT: CONTROL CABLE TERMINATION	Pressure (PSIA)	FIG 1 FIG 2	39.7	AEW 6504	24	Seq.	
MANUFACTURER: N/A	Relative Humidity (%)	100	100		24	Seq.	
MODEL NUMBER: CABLE TERMINATION AT VALVES	Chemical Spray	see Note A	NA	see Note B	NA	NA	
FUNCTION:	Radiation (10 ⁶ rads)	2.2	20	WCAP 7410-L VOL 1	24	Seq.	
ACCURACY: SPEC: NA DEMON: NA	Aging (years)		165°F/200 hr. Yes		24	Seq.	
SERVICE: VARIOUS	Submergence	NA	NA	NA	NA	NA	
LOCATION: In Containment							
FLOOD LEVEL ELEV: 614' ABOVE FLOOD LEVEL: yes							

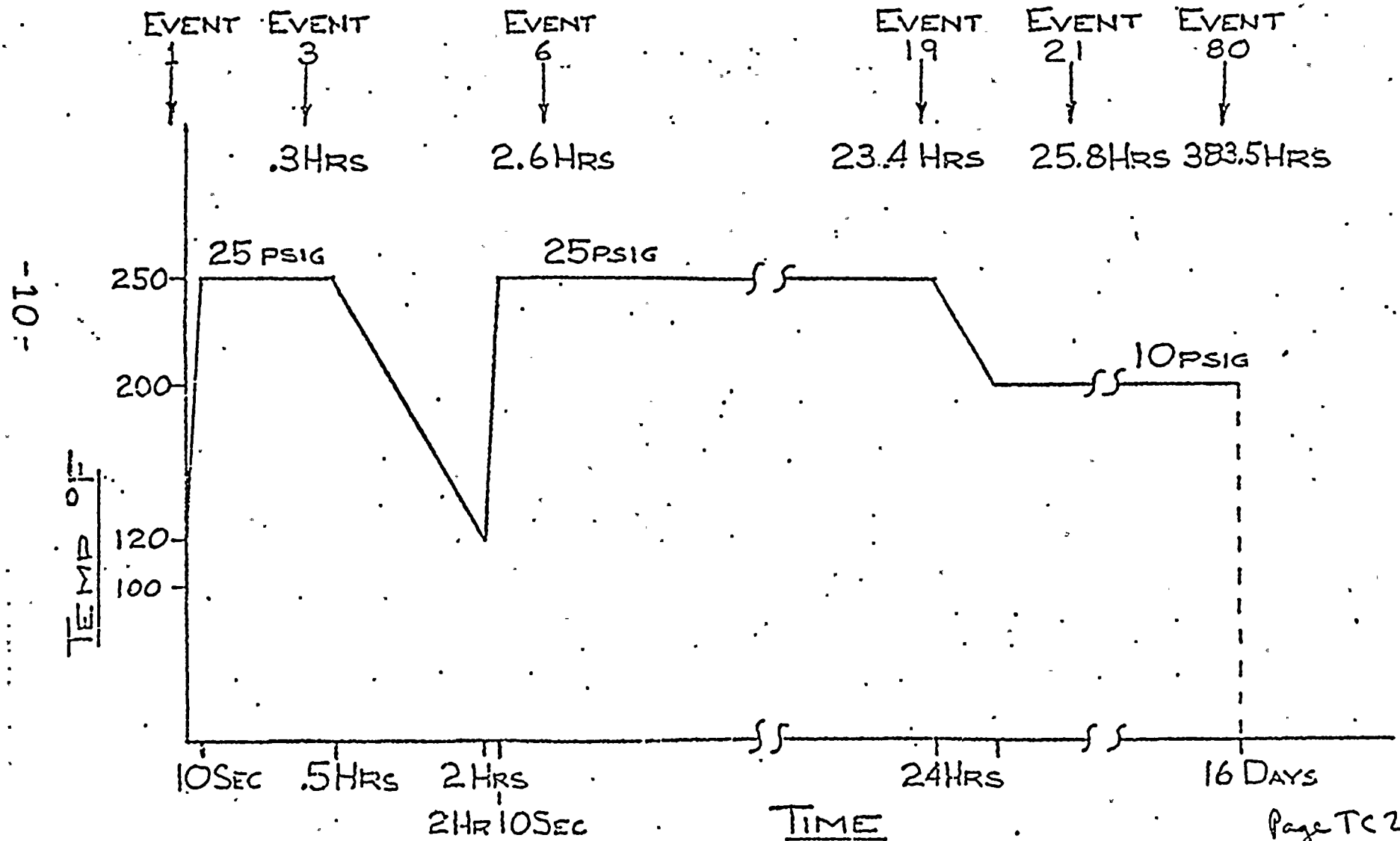
*Documentation References:

24. Limiting Test Report #600461

Notes:

- A) VALVE location is not subjected to direct caustic spray impingement.
- B) mechanical installation drawings 1.5427

TEMPERATURE PROFILE



EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPEC.	Q JAL.	SPEC.	QUAL.		
SYSTEM: <i>VARIOUS</i>	Operating Time	<i>1 DAY</i>	<i>See Note 1 on Cable Term.</i>	<i>See Note 1 on Cable Term.</i>	<i>23</i>	<i>Sep.</i>	
PLANT ID NO: <i>N/A</i>	Temperature (°F)	<i>FIG 022.9-1-2</i>	<i>340</i>	<i>FSAR APP 9</i>	<i>23</i>	<i>SEP.</i>	
COMPONENT: <i>CONTROL CABLE TERMINATION</i>	Pressure (PSIA)	<i>FIG 2 FIG 1</i>	<i>119.7</i>	<i>AEW 6504</i>	<i>23</i>	<i>SEP.</i>	
MANUFACTURER: <i>N/A</i>	Relative Humidity (%)	<i>100</i>	<i>100</i>		<i>23</i>	<i>SEP.</i>	
MODEL NUMBER: <i>CABLE TERMINATION AT VALVES</i>	Chemical Spray	<i>2000 ppmB</i>	<i>2600 ppmB</i>	<i>T.S. 3/4.5 3/4.5.6</i>	<i>22</i>	<i>SIMUL.</i>	
FUNCTION:	Radiation (10 ⁶ rads)	<i>26</i>	<i>204</i>	<i>WCAP 7410-L VOLI</i>	<i>23</i>	<i>SEP.</i>	
ACCURACY: SPEC: <i>NA</i> DEMON: <i>NA</i>	Aging (years)		<i>180°C, 100% yr. Yes</i>		<i>23</i>	<i>Sep.</i>	
SERVICE: <i>VARIOUS</i>	Submergence		<i>FLOODUP Tubes</i>				
LOCATION: <i>IN CONTAINMENT</i>							
FLOOD LEVEL ELEV: <i>614'</i> ABOVE FLOOD LEVEL: <i>NO</i>							

*Documentation References:

22. Limitorgue Corp Test Report #600198
23. Limitorgue Corp Test Report #600376 A

Notes: Letters from J. Tillinghast (AEP) to K. Knier (NRC) dated 4-14-75 and 9-29-75.

from Ref. 23

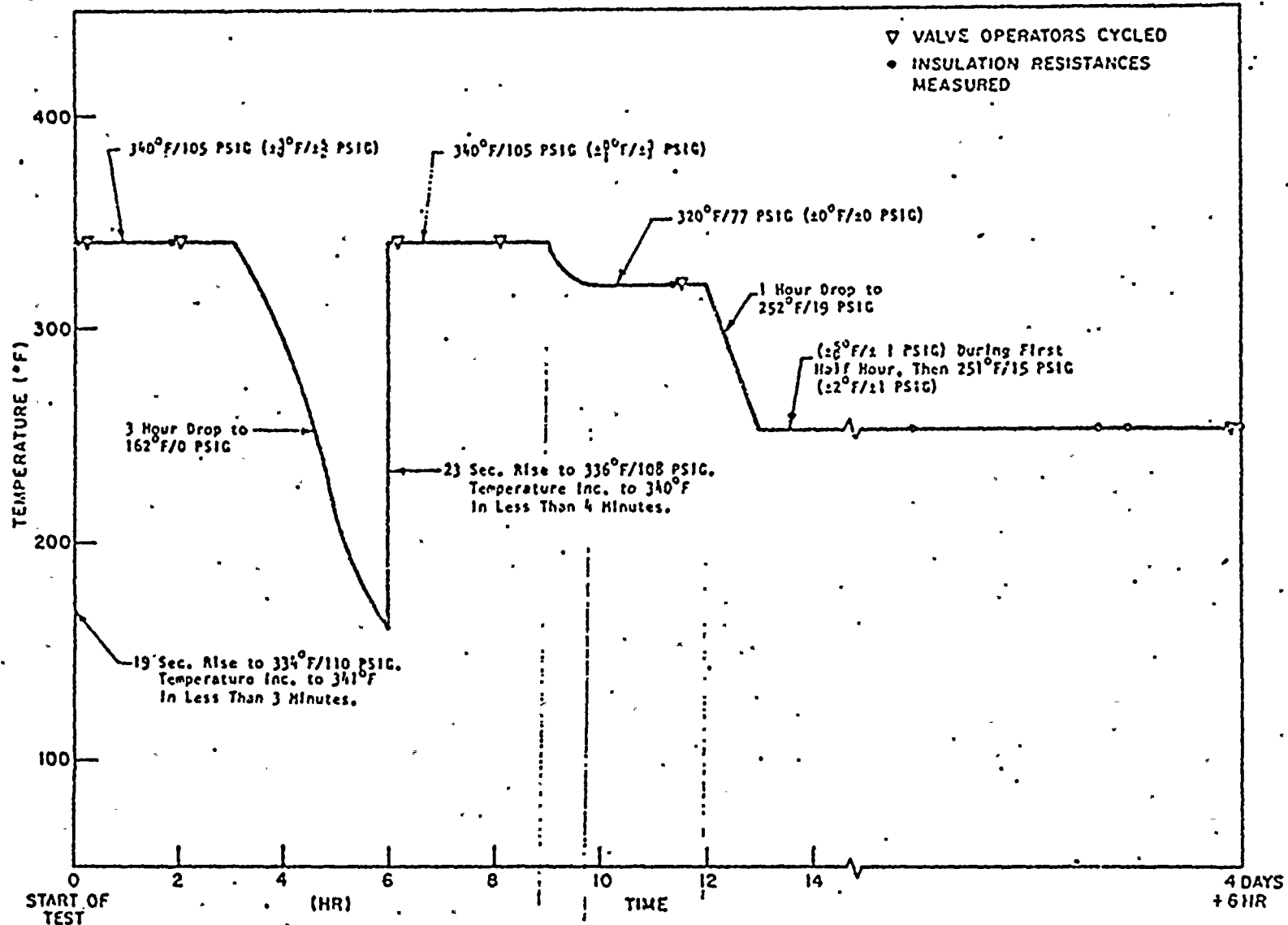


Figure 3. Actual Steam Exposure Profile

F-C3441

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPEC.	QUAL.	SPEC.	QUAL.		
SYSTEM: <i>VARIOUS</i>	Operating Time	<i>1 DAY</i>	<i>See Note 1 on (W&E) Tubes</i>	<i>See Note 1 on (W&E) Tubes</i>	<i>16</i>	<i>Seq.</i>	
PLANT ID NO: <i>N/A</i>	Temperature (°F)	<i>FIG 13.13-1</i>	<i>315</i>	<i>FSAR APP Q</i>	<i>16</i>	<i>SEQ.</i>	
COMPONENT: <i>CONTROL CABLE TERMINATION</i>	Pressure (PSIA)	<i>FIG 2 FIG 1</i>	<i>84.7</i>	<i>ASND 6504</i>	<i>16</i>	<i>SEQ.</i>	
MANUFACTURER: <i>N/A</i>	Relative Humidity (%)	<i>100</i>	<i>100</i>		<i>16</i>	<i>SEQ.</i>	
MODEL NUMBER: <i>CABLE TERMINATION AT VALVES</i>	Chemical Spray	<i>2000 ppmB</i>	<i>IEEE 382 1972</i>	<i>T.S. 314.5 314.5.6</i>			
FUNCTION:	Radiation (10 ⁶ rads)	<i>26</i>	<i>204</i>	<i>WCAP 7410-L VOL 1</i>	<i>16</i>	<i>SEQ.</i>	
ACCURACY: SPEC: <i>N/A</i> DEMON: <i>N/A</i>	Aging (years)		<i>130°C, 1000 hr Yes</i>		<i>16</i>		
SERVICE: <i>VARIOUS</i>	Submergence		<i>FLOODUP Tubes</i>				
LOCATION: <i>In Containment</i>							
FLOOD LEVEL ELEV: <i>614'</i> ABOVE FLOOD LEVEL: <i>No</i>							

*Documentation References:

*16. Limitorgue Corp Test Report #600456*Notes: *Letters of J. Tullington (AEP) to K. Knirk (NRC) of 4-14-75 and 9-29-75.*

from Ref. 16

Specified Accident Profile

Temperature
of

Take Insulation
readings and operate
Valve Control

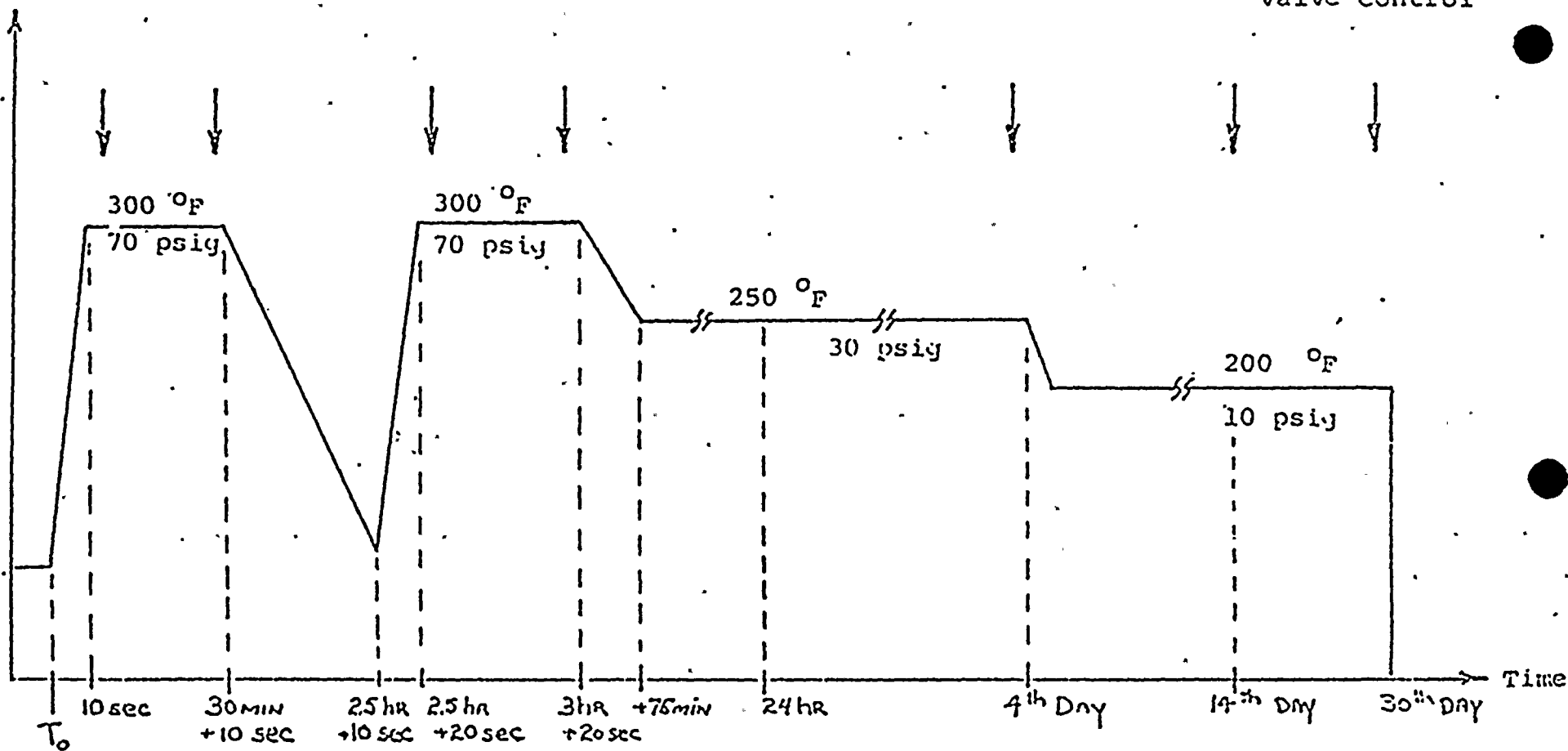
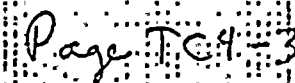


Figure 5



SHEET TC-5 INTENTIONALLY OMITTED

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPEC.	QLAL.	SPEC.	QUAL.		
SYSTEM: VARIOUS	Operating Time	1 year	See Note 1 on Cable Term.	Table 2.5-2	13	Seq.	
PLANT ID NO: N/A	Temperature (°F)	Fig 022.9-1,2	340	FSAR APP Q	13	Seq.	
COMPONENT: CONTROL CABLE TERMINATION	Pressure (PSIA)	FIG 2 FIG 1	118	AEW 6504	13	Seq.	
MANUFACTURER: N/A	Relative Humidity (%)	100	100		13	Seq.	
MODEL NUMBER: SOLID KAPTON SPliced TO STRANDED KAPTON	Chemical Spray	Not Req'd	2500 PPM B	T.S. 3/4.5 3/4.5.6	13	Seq.	
FUNCTION:	Radiation (10 ⁶ rads)	60	60	Rel. to A.L.W. 72.9	13	Seq.	
ACCURACY: SPEC: N/A DEMON: N/A	Aging (years)						
SERVICE: VARIOUS	Submergence		FLOODING Tubes				
LOCATION: In Containment							
FLOOD LEVEL ELEV: 614							
ABOVE FLOOD LEVEL: NO							

*Documentation References:

Notes:

13. Westinghouse-CANADA Test Report CWAPD-332

ATTACHMENT 3 .
TO
AEP:NRC:0356D

Equipment Needed To Achieve Cold Shutdown

The licensing basis of the Cook Plant is that equipment necessary for the mitigation of large LOCA and HELB design basis accidents, should be environmentally qualified to bring and maintain the Unit in safe (hot) shutdown. In accordance with the initial guidance given with IEB 79-01B, this licensing basis defined AEP's original response review scope. The response effort has been re-reviewed in light of the recent Supplements to IEB 79-01B. Except for the two items discussed below, equipment exposed to a potentially adverse environment needed to achieve cold shutdown after occurrence of the DBA's mentioned above, has already been in the Cook Plant IEB 79-01B response effort.

1. N-31 and 32: These are source range neutron detectors. Since they do not generate any automatic protective function nor are they considered as DBA mitigating equipment in the plant safety analysis, they were not included in our previous submittals. They provide a confirmatory indication to the operator of the core's subcriticality. No qualification data is available for these items at this time.
2. WPI-705, 706, 707, 708: These are pressure indicators in the Essential Service Water System. They provide confirmatory information to the operator as to the operational status of this system. No qualification data is presently available for these indicators.

No corrective action is required for these items since the loss of either function does not preclude the achievement of cold shutdown following a large LOCA or a HELB.

