



GULF STATES UTILITIES COMPANY

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AREA CODE 409 838 6631

December 14, 1984

RBG-19706

File Nos. G9.5, G9.20.8

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Denton:

River Bend Station - Unit 1
Docket No. 50-458

Enclosed for your review is a summarization of River Bend Station (RBS) system component evaluation work (SCEW) sheets submitted to your office on October 19, 1984. The RBS summary SCEW sheets were developed by component type to assist the Nuclear Regulatory Commission's Equipment Qualification Branch (EQB) in its review of Balance of Plant (BOP) and Nuclear Steam Supply System (NSSS) electrical equipment located in a harsh environment.

The abbreviations Test-Ident, Test-Sim, Exp + An, An + Data are used in denoting the qualification method applied at RBS. The definitions for the qualification methods correspond to 10CFR50.49(f)1, 2, 3 and 4, respectively.

Confirmation of an audit date will be discussed following your initial review of the attached summary SCEW sheets.

Sincerely,

Eddie R. Grant
for J. E. Booker
Manager-Engineering
Nuclear Fuels & Licensing
River Bend Nuclear Group

RJK
JEB/RJK/je

Attachment

cc: Mr. Steve Bengston (TSB No. 5)
Attn: Mr. Quinn Decker
(208) 526-9170
EG&G Idaho, Inc.
P.O. Box 1625
1250 Sawtelle St.
Idaho Falls, Idaho 83415

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Encl To:

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LPOR
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E. Weinman
EQB

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

BOP EQUIPMENT LIST AND CROSS-REFERENCE

DESCRIPTION	MANUFACTURER	SUMMARY REFERENCE NUMBER
Cable, Special Instrument	Brand-Rex	241246-1
Cable, 300 Volt Coax and Twinax	Rockbestos	241242-2
Cable, 300 Volt Instrument Cable	Rockbestos	241242-1
Cable, 300 Volt Instrument Cable	Rockbestos	241242-3
Cable, 5 KV Power Cable	Anaconda	241232-1
Cable, 600 Cable Control	Okonite	241240-1
Cable, 600 Volt Power	Okonite	241234-1
Compressor Motor	Reliance	221512-1
Control Relay Board	EM	242444-1
Electrical Penetration	Conax	219711-1
Electrical Penetration	Conax	241211-1
Electrical Penetration	Conax	241211-2
Electrical Penetration	Conax	241211-3
Electronics for Flow Detecting Elements	Fluid Components	247433-2
Electro-Hydraulic Actuators	Borg Warner	247497-1
Fan Motor - Hydrogen Mixing	Westinghouse	215400-1
Fan Motor - Ventilation and Filter	Westinghouse	215400-2
Flow Switch	Cemco	225220-2
Flow Switch	Cemco	225220-6
Heater	Nutherm	225220-1
Heater	Nutherm	225220-5
Hydrogen Analyzer-Local Cabinet	Comsip, Inc.	247421-2
Hydrogen Analyzer-Remote Cabinet	Comsip, Inc.	247421-1
Hydrogen Igniter Assembly	Power Sys. Div.	211161-1
H2 Recombiner Power Supply	Westinghouse	224520-1
Limit Switch (EA-180)	Namco	215480-1
Limit Switch (EA-180)	Namco	228218-1
Limit Switch (EA-180)	Namco	228218-2
Limit Switch (EA-180)	Namco	247491-4
Limit Switch (EA-180)	Namco	247491-5
Limit Switch (EA-180)	Namco	247491-6
Limit Switch (EA-740-50100)	Namco	228241-1
Limit Switch (EA-740-50100)	Namco	228241-2
Motor Control Center 120 VAC	Gould	242562-2
Motor Control Center 480 VAC	Gould	242562-1
MOV-AC/B Insulated Motor, Outside Cont.	Limitorque	228212-2
MOV-AC/RH Insulated Motor, Inside Cont.	Limitorque	228212-1
MOV-AC/RH Insulated Motor, Outside Cont.	Limitorque	228212-4
MOV-DC/RH Insulated Motor, Outside Cont.	Limitorque	228212-3

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

BOP EQUIPMENT LIST AND CROSS-REFERENCE

DESCRIPTION	MANUFACTURER	SUMMARY REFERENCE NUMBER
Position Transmitter	TEC	247529-3
Position Transmitter Rack	TEC	247529-1
Primary Position Element	ENDEVCO	247529-2
Pump Motor	Reliance	223311-1
Pump Motor	Westinghouse	237160-1
Radioactivity Element, Area Monitor	GA Tech	247250-7
Radioactivity Element, High Range Rad Monitor	GA Tech	247250-6
Radioactivity Element, Liquid Monitor	GA Tech	247250-5
Radioactivity Element, P(I)G Monitor	GA Tech	247250-4
Radioactivity Element, P(I)G Monitor	GA Tech	247250-8
Radioactivity Element, Wide Range Gas Monitor	GA Tech	247250-1
Radioactivity Element, Wide Range Gas Monitor	GA Tech	247250-2
Radioactivity Element, Wide Range Gas Monitor	GA Tech	247250-3
Radioactivity Indicator	GA Tech	247250-9
Recombiner Unit	Westinghouse	224520-2
RTD (122-3046-04)	Pyco	211161-2
RTD (122-3046-12) Inside Containment	Pyco	247461-2
RTD (122-3046-12) Inside Drywell	Pyco	247461-1
RTD (122-4030-04)	Pyco	247461-3
Solenoid Valve	Asco	228218-3
Solenoid Valve	Asco	228218-4
Solenoid Valve with Position Switch	TRCP	219711-2
Solenoid Valve (HV-206-832-6F)	Asco	228241-3
Solenoid Valve (HV-206-832-6F)	Asco	228241-4
Solenoid Valve (NP8320)	Asco	247491-1
Solenoid Valve (NP8320)	Asco	247491-2
Solenoid Valve (NP8320)	Asco	247491-3
Solenoid Valve (NP8321)	Asco	215480-2
Solenoid Valve (77K) Fuel Bldg	Target Rock	247501-3
Solenoid Valve (77K) Inside Containment	Target Rock	247501-1
Solenoid Valve (77K) Outside Containment	Target Rock	247501-2
Standby 120V Distribution Panel	Square D	242421-1
Temperature Switch	Fenwal	225220-3
Temperature Switch	Fenwal	225220-4
Temperature Switch	Fenwal	225220-7
Temperature Switch	Fenwal	225220-8
Terminal Boards for Instrument Racks	Mercury/Buchanan	247411-2
Terminal Cabinet Splice	Raychem	242491-2
Terminal Cabinet Splice	Raychem	242491-3
Terminal Cabinet, Terminal Board	GE	242491-1

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

BOP EQUIPMENT LIST AND CROSS-REFERENCE

DESCRIPTION	MANUFACTURER	SUMMARY REFERENCE NUMBER
Terminal Racks - Wire Racks	Mercury/Eaton	247411-1
Thermal Flow Detecting Elements	Fluid Components	247433-1
Thermocouple Extension Wire KC-486	Rockbestos	241243-1
Thermocouple Extension Wire KC-486	Rockbestos	241243-2
Transformer for 480V Load Center	Southern Transformer	242533-2
Transmitters-Pressure, Level, Flow and Diff.	Rosemount	247481-1
Unit Cooler Motor	Westinghouse	215252-1
Unit Cooler Motor	Westinghouse	215252-2
15KVA Wall Mounted Dry Type Transformer	Southern Transformer	242132-1
480V Load Center	Powell Electric	242533-1
5 KV Switchgear	Brown Boveri Ele.	242521-1
5 KV Switchgear	Brown Boveri Ele.	242521-2

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 211161-1
REV 1
DATE 11-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION						MARGIN	REMARKS
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD		
				SPECIFIED	QUALIFIED		DEMO	
EQUIP NO.: SEE SHEET 2	OP.TIME:	7 DAYS	>7 DAYS	3	2	AN+DATA	YES	NOTE-3
SYSTEM: SEE SHEET 2	TEMP (F):							
	NORMAL	140	140	1	2,5	AN+DATA	NA	
	ABNORMAL	140	340	1	2	AN+DATA	NA	NOTE-1,2
TYPE: (DESCRIPTION)	ACCIDENT	330	340	1	2	TEST-IDENT	YES	
HYDROGEN IGNITER ASSEMBLY	PRESS (PSIG)							
	NORMAL	0.5	-0.5 TO 2.0	1	2	TEST-IDENT	NA	
	ABNORMAL	2.3	-14 TO 70	1	2	AN+DATA	NA	NOTE-1,2
MANUFACTURER: POWER SYSTEMS	ACCIDENT	-8 TO 25	-14 TO 70	1	2	TEST-IDENT	YES	
DIVISION	IRH (%)							
MODEL: SEE SHEET 2	NORMAL	50	90	1	2	TEST-IDENT	NA	
	ABNORMAL	100	100	1	2	AN+DATA	NA	NOTE-1,2
SAFETY FUNCTION: - - -	ACCIDENT	100	100	1	2	TEST-IDENT	NA	
MAINTAIN ACCEPTABLE HYDROGEN	RADIATION:							
LEVELS IN CONTAINMENT AND	NORM GAMMA						NA	
DRYWELL.	ACC GAMMA	5E7 TID	5E7	1,4	2	TEST-IDENT	YES	NOTE-4
OP. CODE: SEE SHEET 2	NORM BETA	5E4		1			NA	
	ACC BETA	5.3E8	1.1E9	1	2	TEST-IDENT	YES	
	NEUTRON						NA	
	SPRAY	7 SEC	7 DAYS	6	2	TEST-IDENT	YES	
ACCURACY - -	SUBMERGENCE	7 SEC	30 SEC	6	2	TEST-IDENT	YES	
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE: SEE NOTE-5								
SPRAY/FROTH: SEE NOTE-5								
	DOCUMENT REFERENCE:							
	1. CALCULATION NO. 12210-EQS-61, REV.0							
	2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6211.161-997-019B							
	3. POST-ACCIDENT OPERABILITY PERIOD: SEE PAOP DOCUMENT NO. 245.600, REV.0							
	4. CALCULATION NO. 12210-EQS-40, REV.0							
DOCUMENTATION ACCEPTABILITY:	5. CALCULATION NO. 12210-EQS-41, REV.0							
ACCEPTABLE TO NUREG 0588,CAT I	6. FSAR APPENDIX 6A, FIGURE 6A-10.2							
MAINT/SURVEILL - - -								
REFERENCE: 2								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 2,4								

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 211161-1
REV. C
SHEET NO. 2A
DATE 11-30-84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME OC
SRN 211161-1				
SPEC 211.161				
HCS HYDROGEN RECOMBINER				
1HCS*IGN01A	NONE/UNIQUE	CT-1	40 YEARS	7 DAYS A
1HCS*IGN01B	NONE/UNIQUE	CT-1	40 YEARS	7 DAYS A
1HCS*IGN02A	NONE/UNIQUE	CT-1	40 YEARS	7 DAYS A
1HCS*IGN02B	NONE/UNIQUE	CT-1	40 YEARS	7 DAYS A
1HCS*IGN03A	NONE/UNIQUE	CT-1	40 YEARS	7 DAYS A
1HCS*IGN03B	NONE/UNIQUE	CT-1	40 YEARS	7 DAYS A
1HCS*IGN04A	NONE/UNIQUE	CT-1	40 YEARS	7 DAYS A
1HCS*IGN04B	NONE/UNIQUE	CT-1	40 YEARS	7 DAYS A
1HCS*IGN05A	NONE/UNIQUE	CT-1	40 YEARS	7 DAYS A
1HCS*IGN05B	NONE/UNIQUE	CT-1	40 YEARS	7 DAYS A
1HCS*IGN06A	NONE/UNIQUE	CT-1	40 YEARS	7 DAYS A
1HCS*IGN06B	NONE/UNIQUE	CT-1	40 YEARS	7 DAYS A

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 211161-1
KEY, 0
SHEET NO. 2B
DATE 11-30-84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME CC
SRN 211161-1				
SPEC 211.161				
HCS HYDROGEN RECOMBINER				
1HCS*IGN07A	NONE/UNIQUE	CT-1	40 YEARS	7 DAYS A
1HCS*IGN07B	NONE/UNIQUE	CT-1	40 YEARS	7 DAYS A
1HCS*IGN08A	NONE/UNIQUE	CT-1	40 YEARS	7 DAYS A
1HCS*IGN08B	NONE/UNIQUE	CT-1	40 YEARS	7 DAYS A
1HCS*IGN09A	NONE/UNIQUE	CT-1	40 YEARS	7 DAYS A
1HCS*IGN09B	NONE/UNIQUE	CT-1	40 YEARS	7 DAYS A
1HCS*IGN10A	NONE/UNIQUE	CT-1	40 YEARS	7 DAYS A
1HCS*IGN10B	NONE/UNIQUE	CT-1	40 YEARS	7 DAYS A
1HCS*IGN11A	NONE/UNIQUE	CT-G	40 YEARS	7 DAYS A
1HCS*IGN11B	NONE/UNIQUE	CT-G	40 YEARS	7 DAYS A
1HCS*IGN12A	NONE/UNIQUE	CT-G	40 YEARS	7 DAYS A
1HCS*IGN12B	NONE/UNIQUE	CT-G	40 YEARS	7 DAYS A

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 211161-1
REV. C
SHEET NO. 2C
DATE 11-30-84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME OC
SRN 211161-1				
SPEC 211.161				
HCS HYDROGEN RECOMBINER				
1HCS*IGN13A	NONE/UNIQUE	CT-G	40 YEARS	7 DAYS A
1HCS*IGN13B	NONE/UNIQUE	CT-G	40 YEARS	7 DAYS A
1HCS*IGN14A	NONE/UNIQUE	CT-G	40 YEARS	7 DAYS A
1HCS*IGN14B	NONE/UNIQUE	CT-G	40 YEARS	7 DAYS A
1HCS*IGN15A	NONE/UNIQUE	CT-5A	40 YEARS	7 DAYS A
1HCS*IGN15B	NONE/UNIQUE	CT-5A	40 YEARS	7 DAYS A
1HCS*IGN16A	NONE/UNIQUE	CT-5A	40 YEARS	7 DAYS A
1HCS*IGN16B	NONE/UNIQUE	CT-5A	40 YEARS	7 DAYS A
1HCS*IGN17A	NONE/UNIQUE	CT-5	13.4 YEARS	7 DAYS A
1HCS*IGN17B	NONE/UNIQUE	CT-5	13.4 YEARS	7 DAYS A
1HCS*IGN18A	NONE/UNIQUE	CT-11	10 YEARS	7 DAYS A
1HCS*IGN18B	NONE/UNIQUE	CT-11	10 YEARS	7 DAYS A

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 211161-1
REV. 0
SHEET NO. 2D
DATE 11-30-84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME OC
SRN 211161-1				
SPEC 211.161				
HCS HYDROGEN RECOMBINER				
1HCS*IGN19A	NONE/UNIQUE	CT-11	10 YEARS	7 DAYS A
1HCS*IGN19B	NONE/UNIQUE	CT-11	10 YEARS	7 DAYS A
1HCS*IGN20A	NONE/UNIQUE	CT-5A	40 YEARS	7 DAYS A
1HCS*IGN20B	NONE/UNIQUE	CT-5A	40 YEARS	7 DAYS A
1HCS*IGN21A	NONE/UNIQUE	CT-5A	40 YEARS	7 DAYS A
1HCS*IGN21B	NONE/UNIQUE	CT-5A	40 YEARS	7 DAYS A
1HCS*IGN22A	NONE/UNIQUE	CT-4	40 YEARS	7 DAYS A
1HCS*IGN22B	NONE/UNIQUE	CT-4	40 YEARS	7 DAYS A
1HCS*IGN23A	NONE/UNIQUE	CT-4	40 YEARS	7 DAYS A
1HCS*IGN23B	NONE/UNIQUE	CT-4	40 YEARS	7 DAYS A
1HCS*IGN24A	NONE/UNIQUE	CT-4	40 YEARS	7 DAYS A
1HCS*IGN24B	NONE/UNIQUE	CT-6	40 YEARS	7 DAYS A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 211161-1
REV. 0
SHEET NO. 2E
DATE 11-30-84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBURG	QUAL. LIFE	OPTIME OC
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SRN 211161-1

SPEC 211.161

HCS HYDROGEN RECOMBINER

1HCS*IGN25A	NONE/UNIQUE	CT-5A	40 YEARS	7 DAYS A
1HCS*IGN25B	NONE/UNIQUE	CT-5A	40 YEARS	7 DAYS A
1HCS*IGN26A	NONE/UNIQUE	CT-5	13.4 YEARS	7 DAYS A
1HCS*IGN26B	NONE/UNIQUE	CT-5	13.4 YEARS	7 DAYS A
1HCS*IGN27A	NONE/UNIQUE	CT-5A	40 YEARS	7 DAYS A
1HCS*IGN27B	NONE/UNIQUE	CT-5A	40 YEARS	7 DAYS A
1HCS*IGN28A	NONE/UNIQUE	DN-1	10.6 YEARS	7 DAYS A
1HCS*IGN28B	NONE/UNIQUE	DN-1	10.6 YEARS	7 DAYS A
1HCS*IGN29A	NONE/UNIQUE	DN-1	10.6 YEARS	7 DAYS A
1HCS*IGN29B	NONE/UNIQUE	DN-1	10.6 YEARS	7 DAYS A
1HCS*IGN30A	NONE/UNIQUE	DN-1	10.6 YEARS	7 DAYS A
1HCS*IGN30B	NONE/UNIQUE	DN-1	10.6 YEARS	7 DAYS A

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 211161-1
REV. 0
SHEET NO. 2F
DATE 11-30-84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBORG	QUAL LIFE	OPTIME CC
SRN 211161-1				
SPEC 211.161				
HCS HYDROGEN RECOMBINER				
1HCS*IGN31A	NONE/UNIQUE	CT-9	40 YEARS	7 DAYS A
1HCS*IGN31B	NONE/UNIQUE	CT-9	40 YEARS	7 DAYS A
1HCS*IGN32A	NONE/UNIQUE	CT-G	40 YEARS	7 DAYS A
1HCS*IGN32B	NONE/UNIQUE	CT-G	40 YEARS	7 DAYS A
1HCS*IGN33A	NONE/UNIQUE	CT-G	40 YEARS	7 DAYS A
1HCS*IGN33B	NONE/UNIQUE	CT-G	40 YEARS	7 DAYS A
1HCS*IGN34A	NONE/UNIQUE	CT-G	40 YEARS	7 DAYS A
1HCS*IGN34B	NONE/UNIQUE	CT-G	40 YEARS	7 DAYS A
1HCS*IGN35A	NONE/UNIQUE	CT-G	40 YEARS	7 DAYS A
1HCS*IGN35B	NONE/UNIQUE	CT-G	40 YEARS	7 DAYS A
1HCS*IGN36A	NONE/UNIQUE	CT-G	40 YEARS	7 DAYS A
1HCS*IGN36B	NONE/UNIQUE	CT-G	40 YEARS	7 DAYS A

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 211161-1
REV. 0
SHEET NO. 29
DATE 11-30-84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUCHRG	QUAL. LIFE	CPTL L OC
SRN 211161-1				
SPEC 211.161				
HCS HYDROGEN RECOMBINER				
1HCS*IGN37A	NONE/UNIQUE	CT-G	40 YEARS	7 DAYS A
1HCS*IGN37B	NONE/UNIQUE	CT-G	40 YEARS	7 DAYS A
1HCS*IGN38A	NONE/UNIQUE	CT-G	40 YEARS	7 DAYS A
1HCS*IGN38B	NONE/UNIQUE	CT-3	40 YEARS	7 DAYS A
1HCS*IGN39A	NONE/UNIQUE	CT-G	40 YEARS	7 DAYS A
1HCS*IGN39B	NONE/UNIQUE	CT-G	40 YEARS	7 DAYS A
1HCS*IGN40A	NONE/UNIQUE	DH-1	10.6 YEARS	7 DAYS A
1HCS*IGN40B	NONE/UNIQUE	DH-1	10.6 YEARS	7 DAYS A
1HCS*IGN41A	NONE/UNIQUE	DH-1	10.6 YEARS	7 DAYS A
1HCS*IGN41B	NONE/UNIQUE	DH-1	10.6 YEARS	7 DAYS A
1HCS*IGN42A	NONE/UNIQUE	DH-1	10.6 YEARS	7 DAYS A
1HCS*IGN42B	NONE/UNIQUE	DH-1	10.6 YEARS	7 DAYS A

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 211161-1
REV. 0
SHEET NO. 2H
DATE 11-30-84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBJRG	QUAL. LIFE	OPTIME OC
SRN 211161-1				
SPEC 211.161				
HCS HYDROGEN RECOMBINER				
IHCS*IGN43A	NONE/UNIQUE	CT-2 YES	40 YEARS	7 DAYS A
IHCS*IGN43B	NONE-UNIQUE	CT-2 YES	40 YEARS	7 DAYS A
IHCS*IGN44A	NONE/UNIQUE	CT-2 YES	40 YEARS	7 DAYS A
IHCS*IGN44B	NONE/UNIQUE	CT-2 YES	40 YEARS	7 DAYS A
IHCS*IGN45A	NONE/UNIQUE	CT-2 YES	40 YEARS	7 DAYS A
IHCS*IGN45B	NONE/UNIQUE	CT-2 YES	40 YEARS	7 DAYS A
IHCS*IGN46A	NONE/UNIQUE	CT-2 YES	40 YEARS	7 DAYS A
IHCS*IGN46B	NONE/UNIQUE	CT-2 YES	40 YEARS	7 DAYS A
IHCS*IGN47A	NONE/UNIQUE	CT-2 YES	40 YEARS	7 DAYS A
IHCS*IGN47B	NONE/UNIQUE	CT-2 YES	40 YEARS	7 DAYS A
IHCS*IGN48A	NONE/UNIQUE	CT-2 YES	40 YEARS	7 DAYS A
IHCS*IGN48B	NONE/UNIQUE	CT-2 YES	40 YEARS	7 DAYS A

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 211161-1
REV. 0
SHEET NO. 21
DATE 11-30-84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIMS OC
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SRN 211161-1

SPEC 211.161

HCS HYDROGEN RECOMBINER

1HCS*IGN49A	NONE/UNIQUE	DH-1	10.6 YEARS	7 DAYS A
1HCS*IGN49B	NONE/UNIQUE	DH-1	10.6 YEARS	7 DAYS A
1HCS*IGN50A	NONE/UNIQUE	DH-1	10.6 YEARS	7 DAYS A
1HCS*IGN50B	NONE/UNIQUE	DH-1	10.6 YEARS	7 DAYS A
1HCS*IGN51A	NONE/UNIQUE	DH-1	10.6 YEARS	7 DAYS A
1HCS*IGN51B	NONE/UNIQUE	DH-1	10.6 YEARS	7 DAYS A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 211161-1

REV 1

SHEET NO. 3

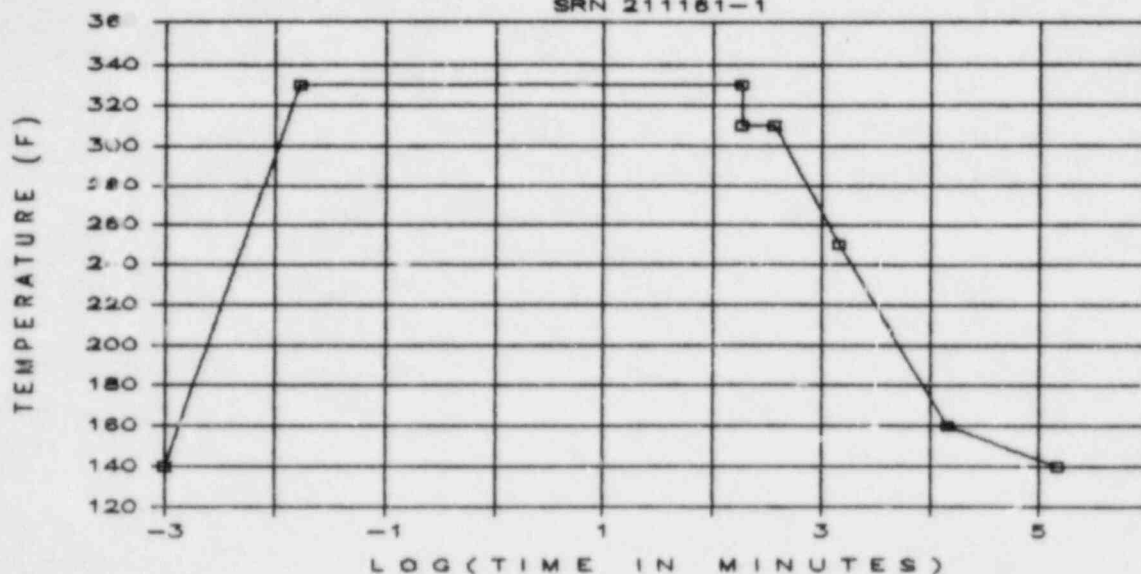
DATE 11/28/84

NOTES

-
1. Abnormal conditions apply only to the hydrogen igniters which are located outside the drywell in the containment. For those items located in the drywell, the abnormal conditions are NA.
 2. Accident condition envelops abnormal condition. Hydrogen igniters are not required to operate under abnormal conditions. Time at abnormal conditions will have a negligible effect on qualified life.
 3. Test includes 6-percent margin. See Reference 2 for qualification of additional margin using Arrhenius methodology.
 4. Specific value based on 10.6-year qualified life and includes margin on accident conditions.
 5. Equipment in containment below 109 ft is subject to submergence, and between 109 ft and 120 ft is subject to spray/froth as a result of pool swell. Equipment subjected to these conditions are identified on Sheet 2. See Reference 6.

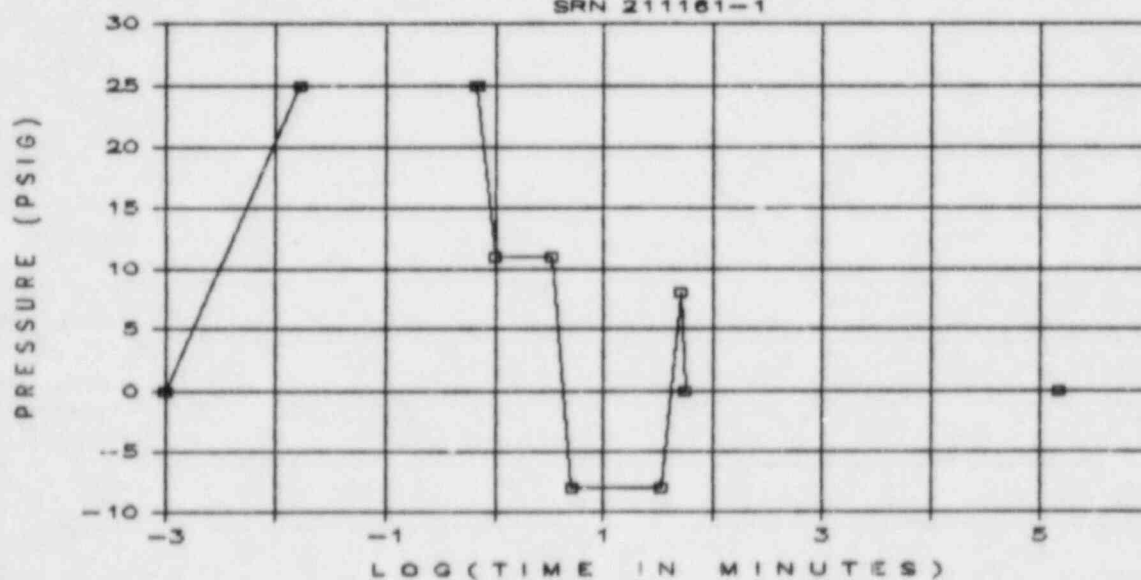
SPECIFIED ACCIDENT PROFILES

SRN 211161-1



SPECIFIED ACCIDENT PROFILES

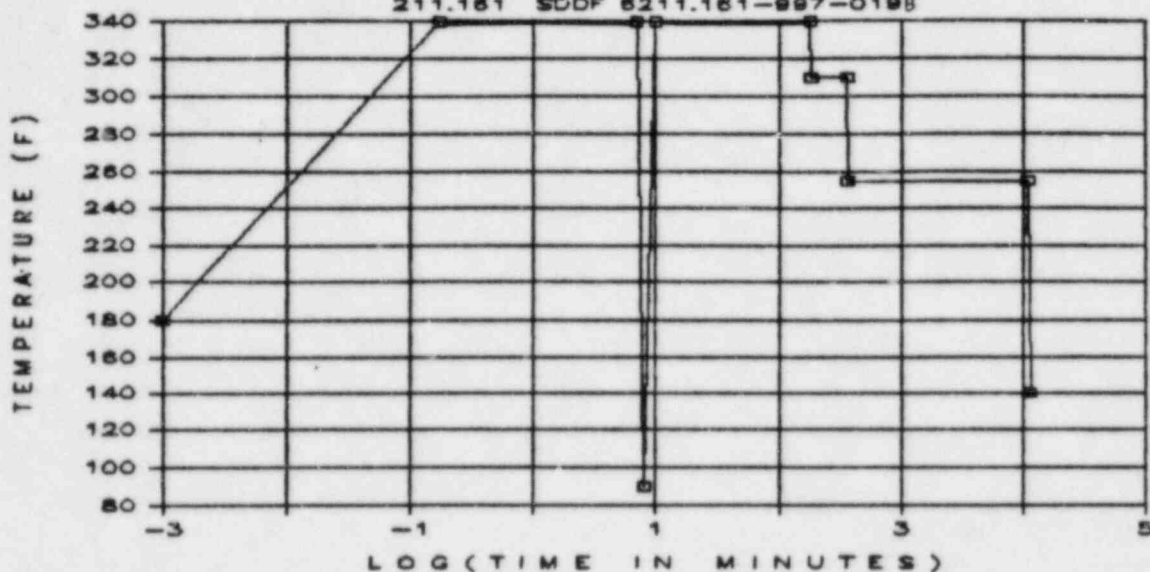
SRN 211161-1



TEMPERATURE										
TIME	0	1sec	3hrs	3hrs	6hrs	1day	10days	100days		
LOG (MINUTES)	-3.00	-1.78	2.26	2.26	2.56	3.16	4.16	5.16		
TEMP(F)	140	330	330	310	310	250	160	140		
TIME(MIN)	0.001	0.0167	180	180	360	1440	14400	144000		
PRESSURE										
TIME	0	1sec	40secs	60sec	200sec	300sec	2000sec	3000sec	10000sec	100days
LOG(MINUTES)	-3.00	-1.78	-0.18	0.00	0.52	0.70	1.52	1.70	1.74	5.16
PRES(PSIG)	0	25	25	11	11	-8	-8	8	0	0
TIME(MIN)	0.001	0.0167	0.667	1	3.3	5	33	50	55	144000

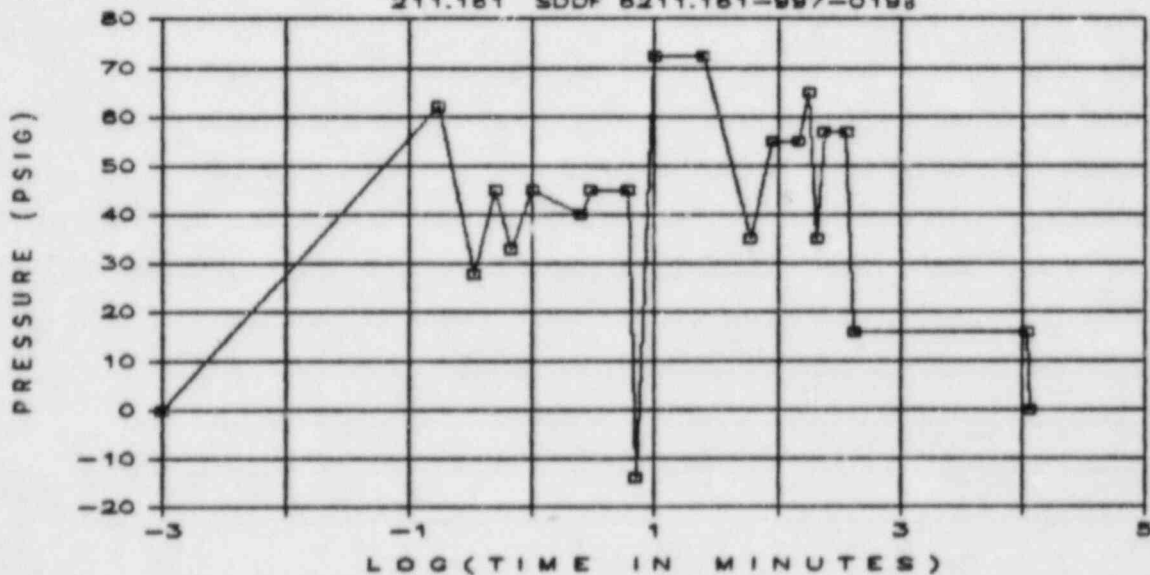
TEST PROFILE

211.161 SDDF 6211.161-997-0198



TEST PROFILE

211.161 SDDF 6211.161-997-0198



TEST PROFILE SPEC 211.161 SDDF 6211.161-997-0198

TEMPERATURE

TIME	0	10sec	7min	8min	10min	3hrs	3hrs	6hrs	6hrs	7.6day	8days
LOG(MINUTES)	-3.00	-0.77	0.85	0.90	1.00	2.26	2.27	2.56	2.57	4.04	4.06
TEMP(F)	180	340	340	90	340	340	310	310	255	255	140
TIME(MIN)	0.001	0.17	7	8	10	180	185	360	370	10944	11520

PRESSURE

TIME	0	10sec	20sec	30sec	40sec	1min	2.5min	3min	6min	7min	10min	25min	1hr	1.5hr	2.5hr	3hr	3.5hr	4hr	6hr	7hr	7.6da	8da
LOG(MINUTES)	-3.00	-0.77	-0.48	-0.30	-0.17	0.00	0.40	0.48	0.78	0.85	1.00	1.40	1.78	1.95	2.19	2.26	2.32	2.38	2.56	2.62	4.04	4.06
PRES(PSIG)	0	62	28	45	33	45	40	45	45	-14	72.5	72.5	35	55	55	65	35	57	57	16	16	1
TIME(MIN)	0.001	0.17	0.33	0.5	0.67	1	2.5	3	6	7	10	25	60	90	150	180	210	240	360	420	10944	11520

RBS ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 211161-2
REV 1
SHEET NO. 2
DATE 11/27/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBHRG	QUAL. LIFE	OPTIME OC

SRN 211161-2				
LDS LEAK DETECTION SYSTEM				
1LDS*RTD2C	122-3046-04	AB-114-7	40 YR	1 HR A
1LDS*RTD2D	122-3046-04	AB-114-7	40 YR	1 HR A
1LDS*RTD3A	122-3046-04	TB-123-2	40 YR	1 HR A
1LDS*RTD3B	122-3046-04	TB-123-2	40 YR	1 HR A
1LDS*RTD3C	122-3046-04	TB-123-2	40 YR	1 HR A
1LDS*RTD3D	122-3046-04	TB-123-2	40 YR	1 HR A
1LDS*RTD4A	122-3046-04	TB-095-2	40 YR	1 HR A
1LDS*RTD4B	122-3046-04	TB-095-2	40 YR	1 HR A
1LDS*RTD4C	122-3046-04	TB-095-2	40 YR	1 HR A
1LDS*RTD4D	122-3046-04	TB-095-2	40 YR	1 HR A
1LDS*RTD1A	122-3046-04	AB-095-10	40 YR	1 HR A
1LDS*RTD1B	122-3046-04	AB-095-10	40 YR	1 HR A
1LDS*RTD1C	122-3046-04	AB-095-10	40 YR	1 HR A
1LDS*RTD1D	122-3046-04	AB-095-10	40 YR	1 HR A
1LDS*RTD2A	122-3046-04	AB-114-7	40 YR	1 HR A
1LDS*RTD2B	122-3046-04	AB-114-7	40 YR	1 HR A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 211161-2

REV 0

SHEET NO. 3

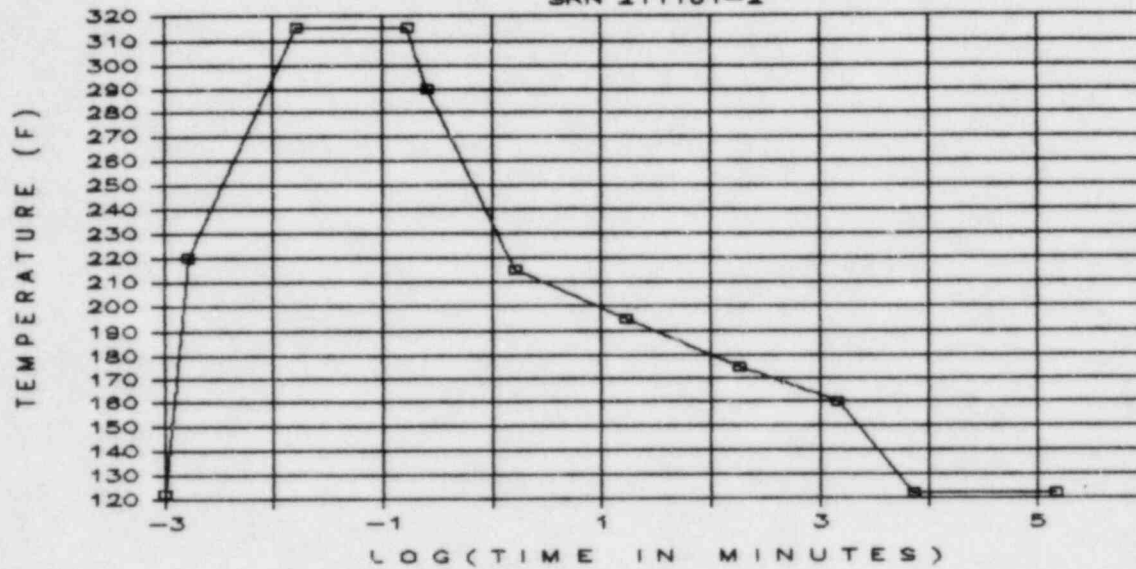
DATE 11/26/84

NOTES

-
1. For complete environmental conditions, see the documents referenced.
 2. Terminal head gasket must be replaced with a new gasket whenever head cover is removed in order to maintain qualification.
 3. Factory certification testing of RTDs has demonstrated accuracy of $<\pm 1.0^{\circ}\text{F}$. The qualification type testing has shown an accuracy of $\pm 3.4^{\circ}\text{F}$. A review of the setpoint calculation is in progress to determine whether $\pm 3.4^{\circ}\text{F}$ is an acceptable accuracy.
 4. PYCO Test Report No. 16346-82N is the basis for qualification of these devices. (See Reference 2.)

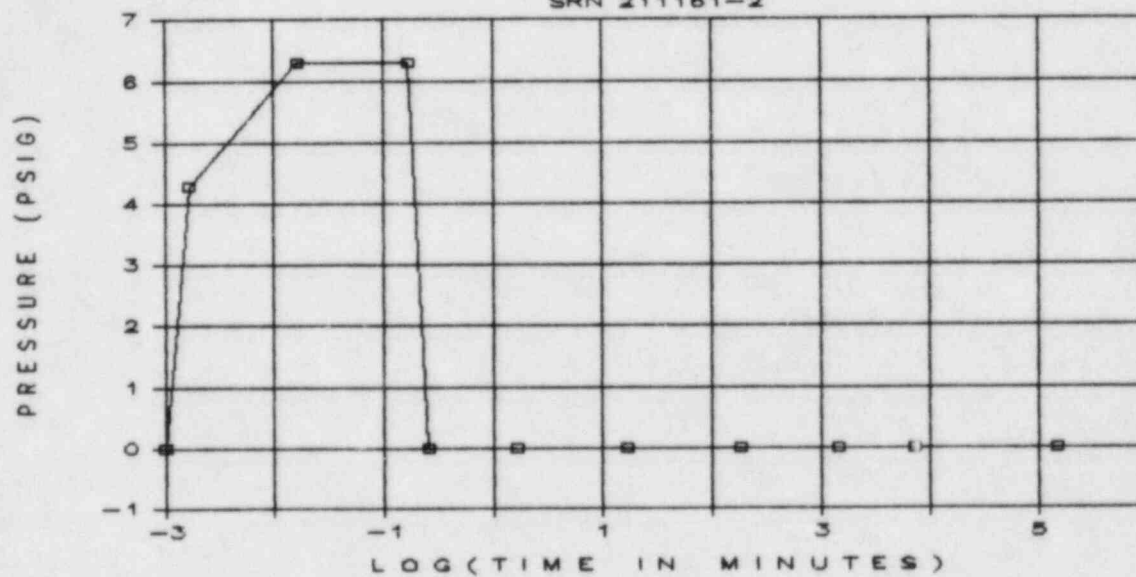
SPECIFIED ACCIDENT PROFILES

SRN 211161-2



SPECIFIED ACCIDENT PROFILES

SRN 211161-2



TEMPERATURE

TIME	0	0.1sec	1sec	10sec	15sec	100sec	1000sec	3hrs	1day	5days	100days
LOG (MINUTES)	-3.00	-2.78	-1.78	-0.78	-0.60	0.22	1.22	2.26	3.16	3.86	5.16
TEMP(F)	122	220	315	315	290	215	195	175	160	122	122
TIME(MIN)	0.001	0.00167	0.0167	0.167	0.25	1.65	16.7	180	1440	7200	144000

PRESSURE

TIME	0	0.1sec	1sec	10sec	15sec	100sec	1000sec	3hrs	1day	5days	100days
LOG(MINUTES)	-3.00	-2.78	-1.78	-0.78	-0.60	0.22	1.22	2.26	3.16	3.86	5.16
PRES(PSIG)	0	4.3	6.3	6.3	0	0	0	0	0	0	0
TIME(MIN)	0.001	0.00167	0.0167	0.167	0.25	1.65	16.7	180	1440	7200	144000

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 215252-1
REV 1
DATE 12-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	REMARKS
					SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2		OP. TIME:	100 DAYS	>100 DAYS	3	2,4	AN+DATA	YES	NOTE-3
SYSTEM: SEE SHEET 2		TEMP (F):							NOTE-1
		NORMAL	90	140	1	2,5	AN+DATA	NA	NOTE-5
		ABNORMAL	140	140	1	2,5	AN+DATA	NA	NOTE-5
TYPE: (DESCRIPTION)		ACCIDENT	165	212	1	2	TEST-SIM	YES	
UNIT COOLER MOTOR		PRESS (PSIG)							NOTE-1
		NORMAL	-1.0" H2O	-3.0	1	2	AN+DATA	NA	NOTE-2
		ABNORMAL	2.3	3.45	1	2	TEST-SIM	NA	
MANUFACTURER: WESTINGHOUSE		ACCIDENT	9	15.0	1	2	AN+DATA	YES	NOTE-2
		IRH (%)							NOTE-1
		NORMAL	50	100	1	2	TEST-SIM	NA	
		ABNORMAL	100	100	1	2	TEST-SIM	NA	
SAFETY FUNCTION: - - -		ACCIDENT	100	100	1	2	TEST-SIM	NA	
REDUCE PRESSURE, PROVIDE		RADIATION:							NOTE-1
COOLING, AND DEHUMIDIFY		NORM GAMMA							
CONTAINMENT ATMOSPHERE		ACC GAMMA	1.89E7 T1D	1.13E8	6	2	TEST-SIM	YES	NOTE-4
OP. CODE: SEE SHEET 2		NORM BETA							
		ACC BETA							
		NEUTRON							
ACCURACY - -		SPRAY	NA	NA	NA	NA	NA	NA	
SPEC: NA		SUBMERGENCE	NA	NA	NA	NA	NA	NA	
DEMO: NA									
ZONE NO.: SEE SHEET 2		DOCUMENT REFERENCE:							
SUBMERGENCE:		1. SPECIFICATION 215.252 REV.2, ADD.2							
SPRAY/FROTH:		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
		SDDF # 6215.252-057-001F							
EQUIPMENT NOT SUBJECTED TO		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
SUBMERGENCE OR SPRAY/FROTH		PAOP DOCUMENT NO. 245.600, REV.0							
		4. CALCULATION NO. 12210-EQS-20							
DOCUMENTATION ACCEPTABILITY:		5. CALCULATION NO. 12210-EQS-26							
ACCEPTABLE TO NUREG 0588,CAT I		6. CALCULATION NO. 12210-EQS-62							
MAINT/SURVEILL - - -									
REFERENCE: 2									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE: 2,5									

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN: 215252-1
REV: 0
SHEET NO 1
DATE: 11-30-84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME CC
SRN 215252-1				
SPEC 215.252				
HVR VENTILATION - REACTOR PLANT				
1HVR*UC1A	445TCZ	CT-G	40 YRS	1000 A
1HVR*UC1B	445TCZ	CT-G	40 YRS	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 215252-1

REV 0

SHEET NO. 3

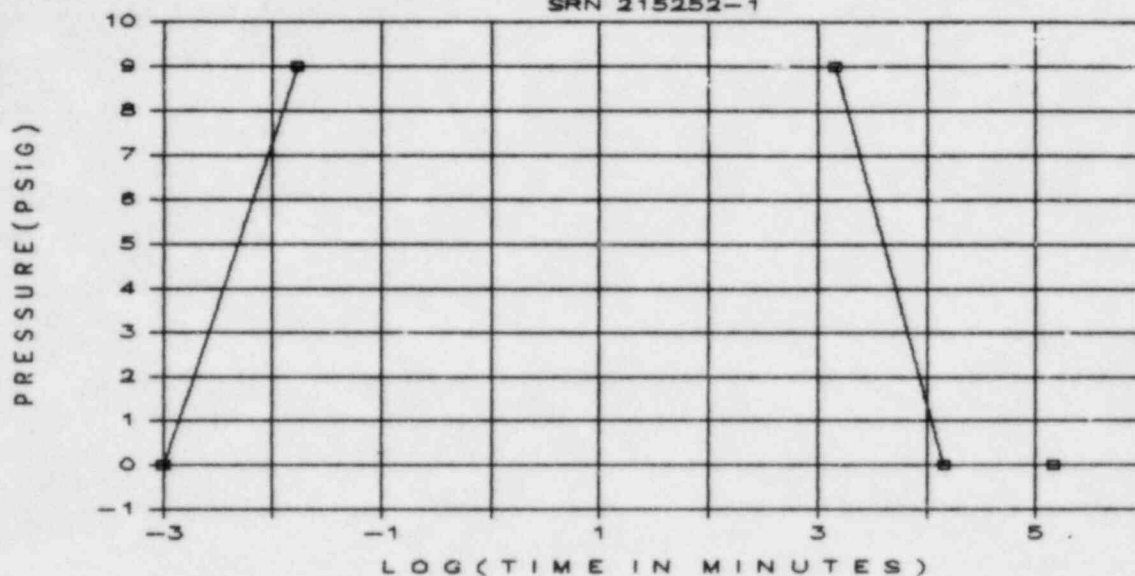
DATE 11/30/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. In accordance with Reference 2, Appendix J, -3.0 and +15.0 psig ambient pressure does not affect the motor.
 3. Operability extended from 30 days tested value to 100 days plus margin by Arrhenius calculation. See Reference 4.
 4. The motorettes and bearing grease were irradiated to 2E8 rads without deleterious effects.
 5. For qualified life of 40 years at 140°F, see Reference 5.

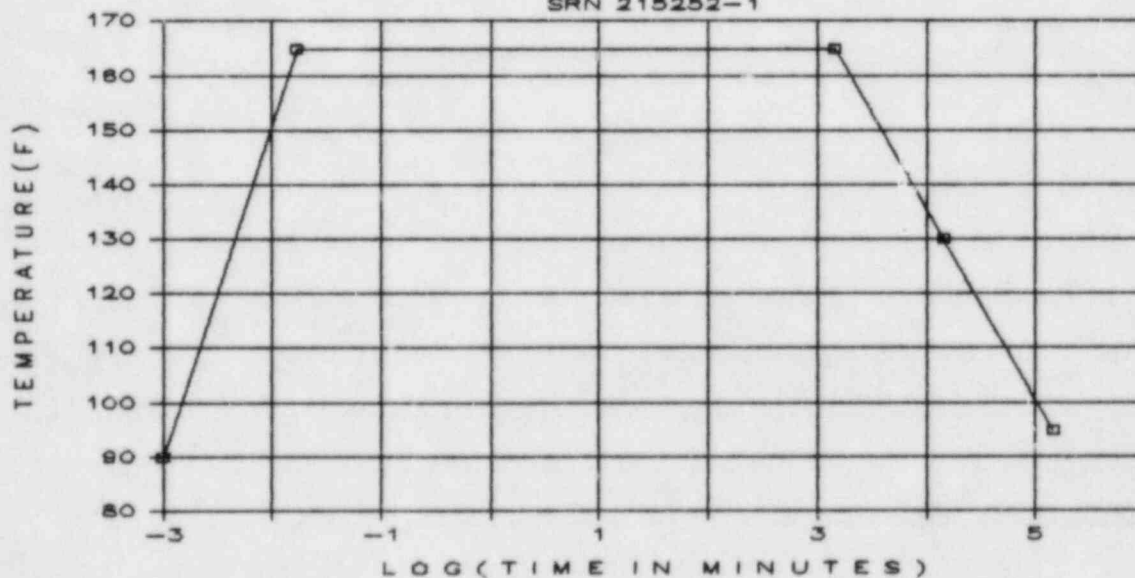
SPECIFIED ACCIDENT PROFILE

SRN 215252-1



SPECIFIED ACCIDENT PROFILE

SRN 215252-1



TEMPERATURE

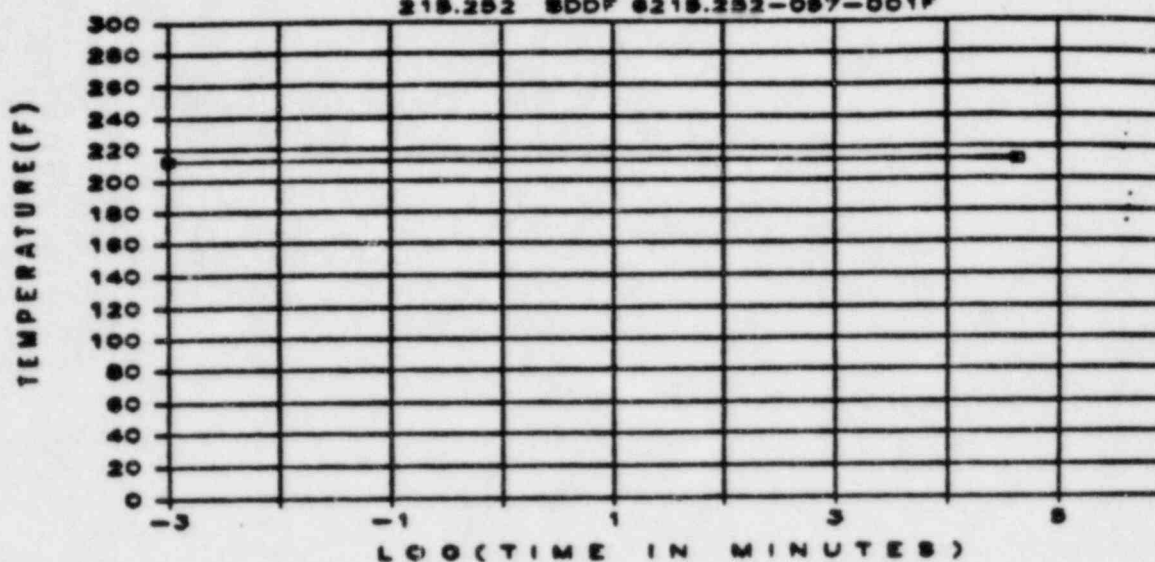
TIME	0sec	6sec	1day	10days	100days
LOG (MINUTES)	-3.00	-1.77	3.16	4.16	5.16
TEMP (F)	90	165	165	130	95
TIME (MIN)	0.001	0.017	1440	14400	144000

PRESSURE

TIME	0sec	6sec	1day	10days	100days
LOG (MINUTES)	-3.00	-1.77	3.16	4.16	5.16
PRES (PSIG)	0	9	9	0	0
TIME (MIN)	0.001	0.017	1440	14400	144000

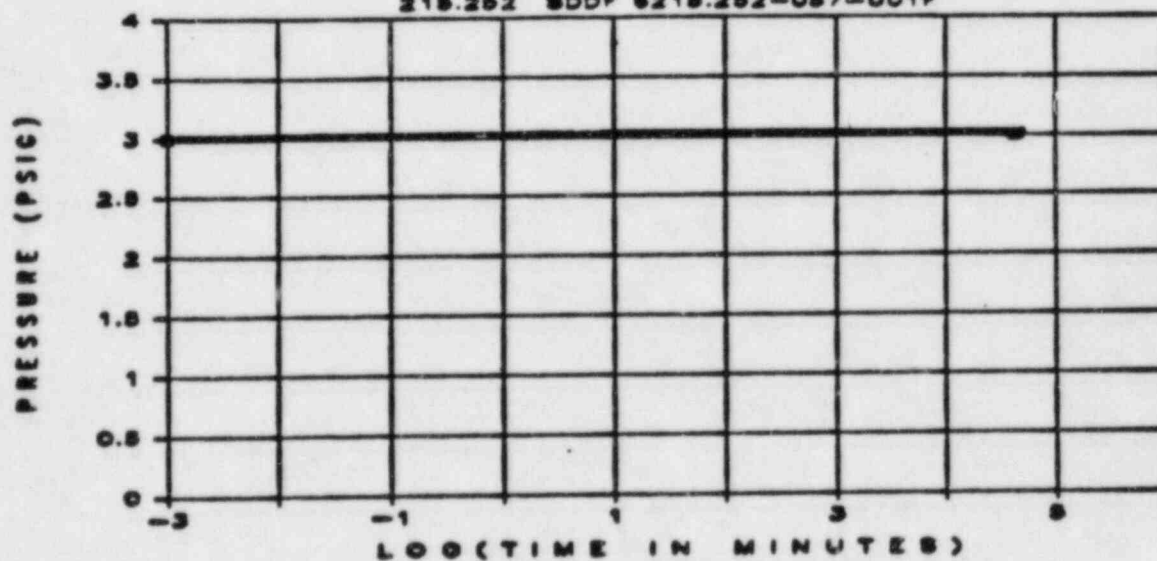
TEST PROFILE

215.252 SDDF 6215.252-057-001F



TEST PROFILE

215.252 SDDF 6215.252-057-001F



TEST PROFILE DATA FOR 215.252 SDDF 6215.252-057-001F

TIME	0	30 days
LOG(MINUTES)	-3.00	4.64
TEMP(F)	212	212
PRES(PSIG)	3	3

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 215252_2
REV 1
DATE 12-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN: DEMO	REMARKS
				SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2	OP. TIME:	100 DAYS	>100 DAYS	3	2, 4	AN+DATA	YES	NOTE-3
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE-1
	NORMAL	122	140	1	2, 5	AN+DATA	NA	NOTE-5
	ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)	ACCIDENT	260	310	1	2	TEST-SIM	YES	NOTE-6
UNIT COOLER MOTOR	PRESS (PSIG)							NOTE-1
	NORMAL	-0.10" H ₂ O	-3.0	1	2	AN+DATA	NA	NOTE-2
	ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: WESTINGHOUSE	ACCIDENT	2.8	3.45	1	2	TEST-SIM	YES	
	RH (%)							NOTE-1
	NORMAL	90	100	1	2	TEST-SIM	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -	ACCIDENT	100	100	1	2	TEST-SIM	NA	
PROVIDE COOLING IN REACTOR	RADIATION:							NOTE-1
CONTAINMENT OR AUXILIARY	NORM GAMMA	3.3E7		1			NA	
BUILDING	ACC GAMMA	1.1E7	1.13E8	1	2	TEST-SIM	YES	NOTE-4
OP. CODE: SEE SHEET 2	NORM BETA	0		1				
	ACC BETA	500		1				
	NEUTRON	0		1				
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:	DOCUMENT REFERENCE:							
SPRAY/FROTH:	1. SPECIFICATION 215.252 REV.2, ADD.2							
	2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
	SDDF # 6215.252-057-001F							
EQUIPMENT NOT SUBJECTED TO	3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
SUBMERGENCE OR SPRAY/FROTH	PAOP DOCUMENT NO. 245.600, REV.0							
	4. CALCULATION NO. 12210-EQS-20							
	5. CALCULATION NO. 12210-EQS-26							
DOCUMENTATION ACCEPTABILITY:								
ACCEPTABLE TO NUREG 0589,CAT I								
MAINT/SURVEILL - - -								
REFERENCE: 2								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 2, 5								

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 215252-2
REV 8
SHEET NO. 2
DATE 11 30 84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUCHRG	QUAL. LIFE	OPTIME OC
SRN 215252-2				
SPEC 215.252				
HVR VENTILATION - REACTOR PLANT				
1HVR*UC10	324TCZ	AB-114-3	40 YEARS	1000 A
1HVR*UC11A	324TCZ	AB-141-1	40 YEARS	1000 A
1HVR*UC11B	324TCZ	AB-141-2	40 YEARS	1000 A
1HVR*UC2	213TCZ N/R FOR SAFETY FUNCTION	AB-095-4	40 YEARS	N/R C
1HVR*UC3	215TCZ	AB-095-8	40 YEARS	1000 A
1HVR*UC4	215TCZ	AB-095-7	40 YEARS	1000 A
1HVR*UC5	326TCZ	AB-114-5	40 YEARS	1000 A
1HVR*UC6	326TCZ	AB-114-8	40 YEARS	1000 A
1HVR*UC7	256TCZ	AB-114-1	40 YEARS	1000 A
1HVR*UC8	256TCZ	AB-114-5	40 YEARS	1 HR A
1HVR*UC9	324TCZ	AB-114-8	40 YEARS	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 215252-2

REV 0

SHEET NO. 3

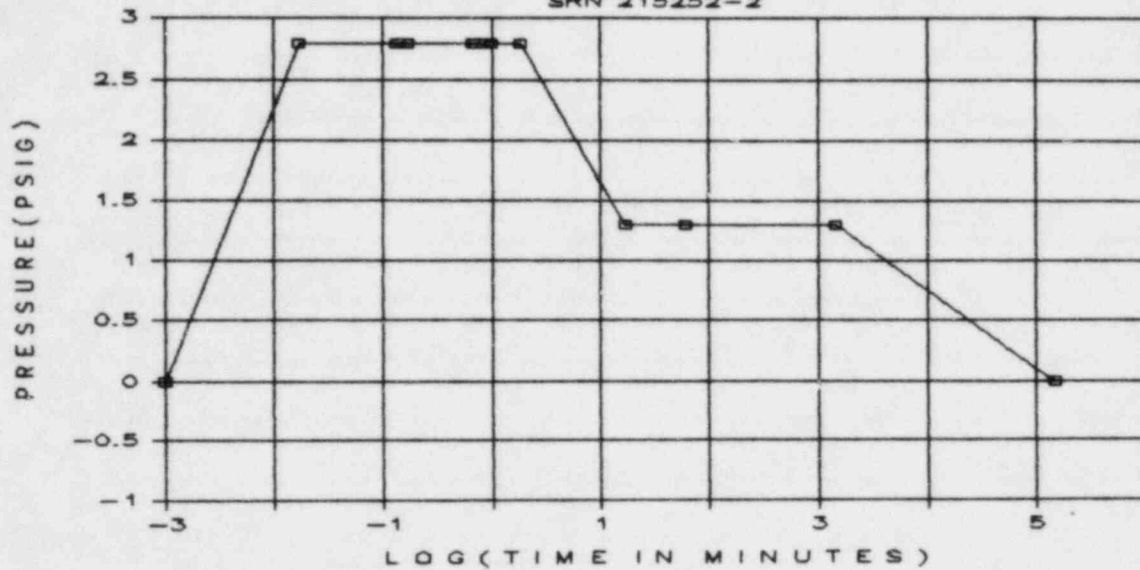
DATE 11/30/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. In accordance with Reference 2, Appendix J, -3.0 and +15.0 psig ambient pressure does not affect the motor.
 3. Operability period extended from 30 days tested value to 100 days plus margin by Arrhenius calculation. See Reference 4.
 4. The motorettes and bearing grease were irradiated to 2E8 rads without deleterious effects.
 5. For qualified life of 40 years at 140°F, see Reference 5.
 6. Due to a test equipment anomaly, the accident test temperature increased to a maximum of 310°F for a 10-hour period with no harmful effects to the motor. Maximum specified temperature falls to below 200°F within 1000 seconds.

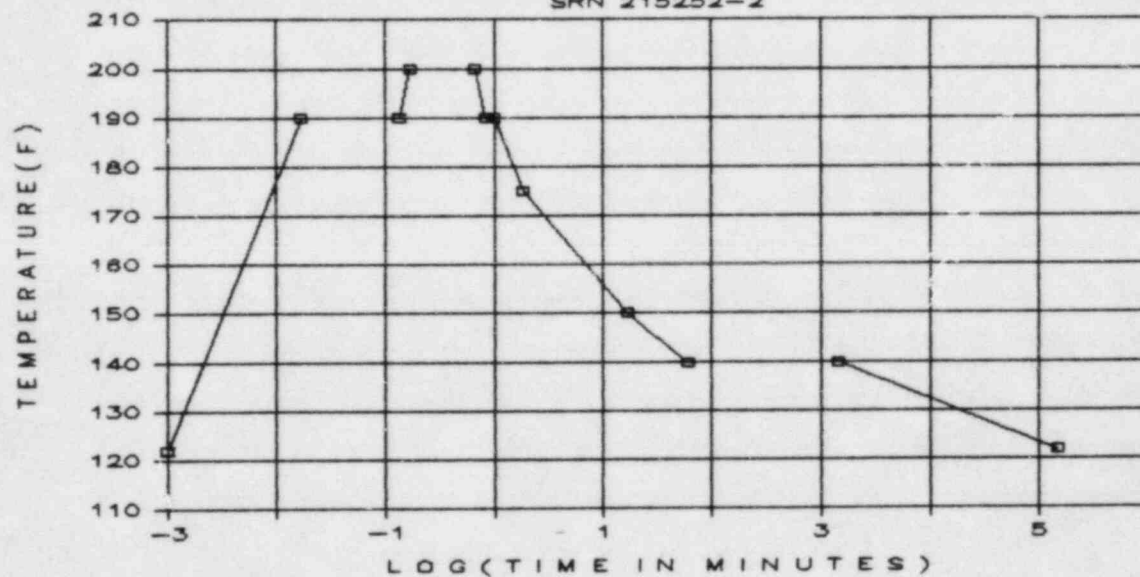
SPECIFIED ACCIDENT PROFILE

SRN 215252-2



SPECIFIED ACCIDENT PROFILE

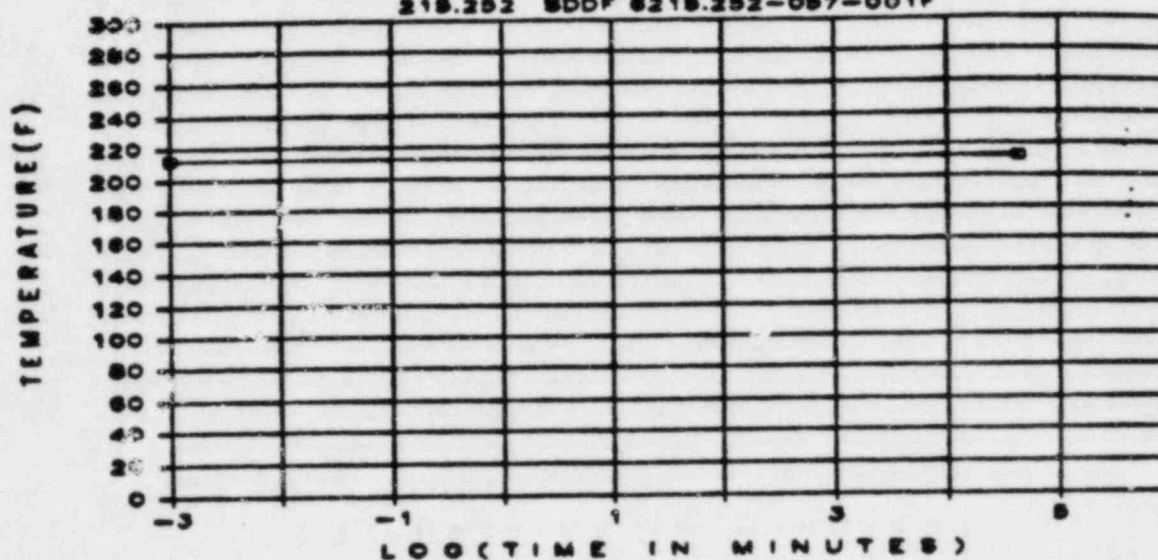
SRN 215252-2



TEMPERATURE											
TIME	0sec	1sec	8sec	10sec	40sec	50sec	60sec	110sec	1000sec	1hr	1day 100days
LOG (MINUTES)	-3.00	-1.77	-0.89	-0.78	-0.18	-0.08	0.00	0.26	1.22	1.78	3.16 5.16
TEMP (F)	122	190	190	200	200	190	190	175	150	140	140 122
TIME (MIN)	0.001	0.017	0.13	0.167	0.66	0.83	1	1.83333	16.6666	60	1440 144000
PRESSURE											
TIME	0sec	1sec	8sec	10sec	40sec	50sec	60sec	110sec	1000sec	1hr	1day 100days
LOG (MINUTES)	-3.00	-1.77	-0.89	-0.78	-0.18	-0.08	0.00	0.26	1.22	1.78	3.16 5.16
PRES (PSIG)	0	2.8	2.8	2.8	2.8	2.8	2.8	2.8	1.3	1.3	1.3 0
TIME (MIN)	0.001	0.017	0.13	0.167	0.66	0.83	1	1.83333	16.6666	60	1440 144000

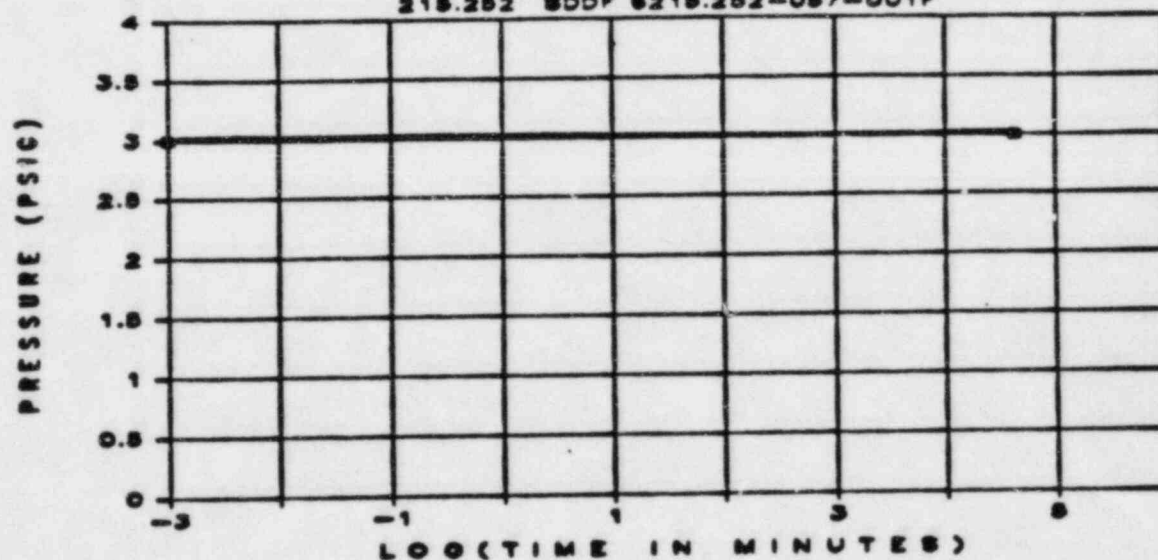
TEST PROFILE

215.252 SDDF 6215.252-057-001F



TEST PROFILE

215.252 SDDF 6215.252-057-001F



TEST PROFILE DATA FOR 215.252 SDDF 6215.252-057-001F

TIME	0	30 days
LOG(MINUTES)	-3.00	4.64
TEMP(F)	212	212
PRES(PSIG)	3	3

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 215400-1
REV 0
SHEET NO. 2
DATE 11-30-84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBNRG	QUAL. LIFE	OPTIME OC
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SRN 215400-1

SPEC 215.400

CPH CONTAINMENT HYDROGEN MIXING

1CPH*FN1A

TBFC 145T

CT-G

40 YEARS

1000
A

1CPH*FN1B

TBFC 145T

CT-5A

40 YEARS

1000
A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 215400-1

REV 0

SHEET NO. 3

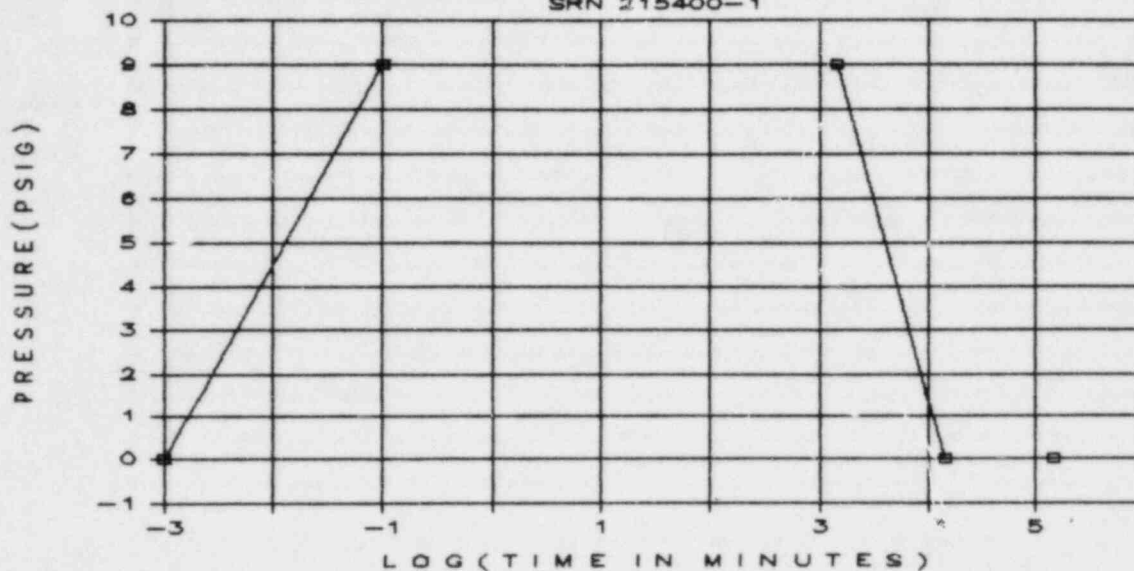
DATE 11/30/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. In accordance with Reference 2, Appendix J, -3.0 and +15.0 psig ambient pressure does not affect the motor.
 3. Operability period is extended from 30 days tested value to 100 days plus margin by Arrhenius calculation. See Reference 4.
 4. The motorettes and bearing grease were irradiated to $2E8$ rads without deleterious effects.
 5. For qualified life of 40 years at $140^{\circ}F$, see Reference 5.

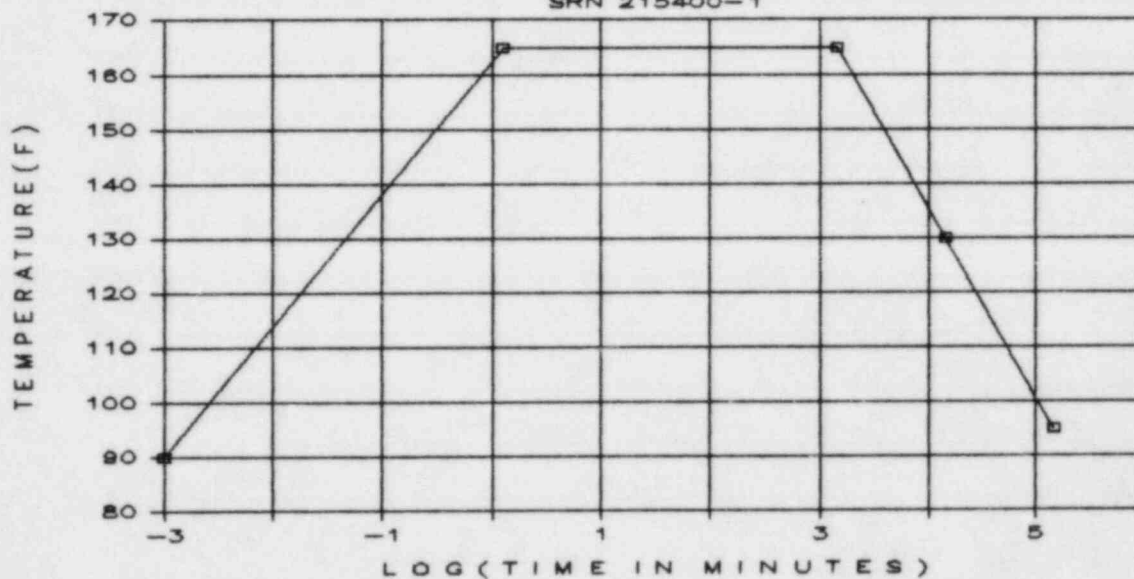
SPECIFIED ACCIDENT PROFILE

SRN 215400-1



SPECIFIED ACCIDENT PROFILE

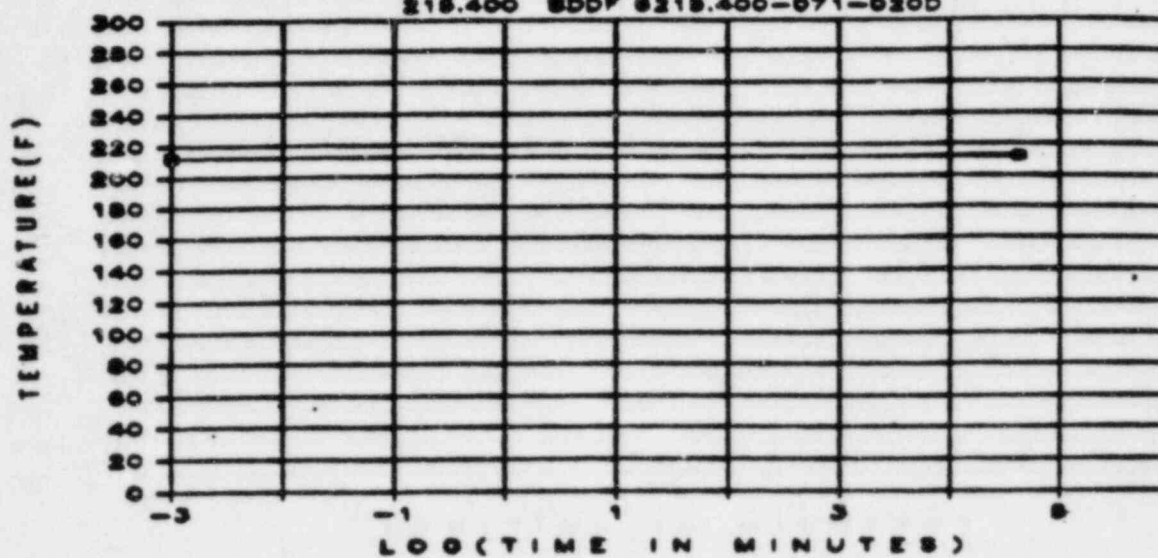
SRN 215400-1



TEMPERATURE -----					
TIME	0sec	6sec	1day	10days	100days
LOG(MINUTES)	-3.00	0.10	3.16	4.16	5.16
TEMP(F)	90	165	165	130	95
TIME(MIN)	0.001	0.1	1440	14400	144000
PRESSURE -----					
TIME	0sec	6sec	1day	10days	100days
LOG(MINUTES)	-3.00	-1.00	3.16	4.16	5.16
PRES(PSIG)	0	9	9	0	0
TIME(MIN)	0.001	0.1	1440	14400	144000

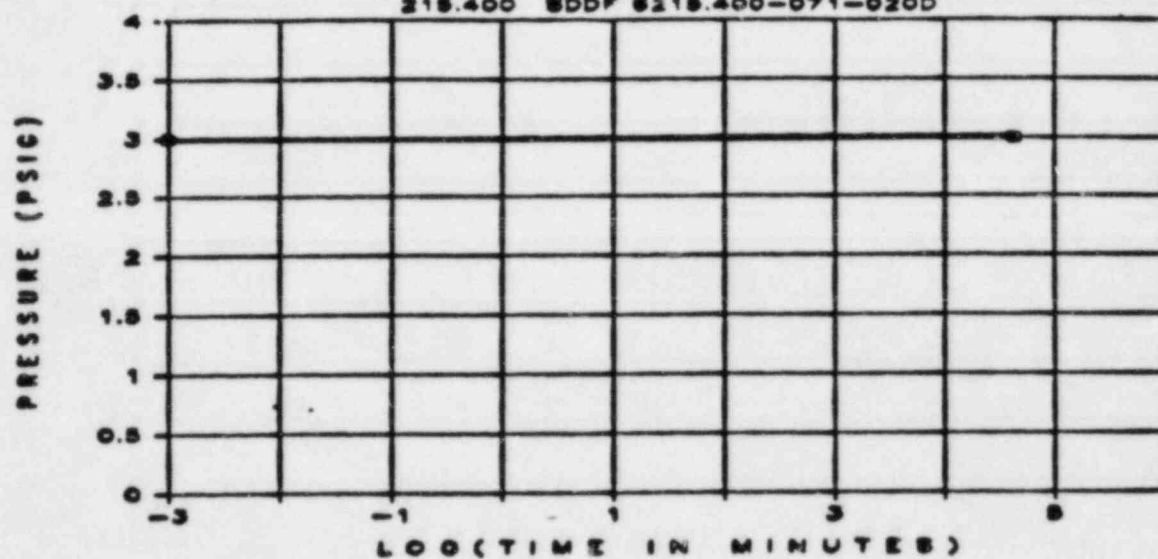
TEST PROFILE

215.400 SDDF 6215.400-071-020D



TEST PROFILE

215.400 SDDF 6215.400-071-020D



TEST PROFILE DATA FOR 215.400 SDDF 6215.400-071-020D

TIME	0	30 days
LOG(MINUTES)	-3.00	4.64
TEMP(F)	212	212
PRES(PSIG)	3	3

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 215400-2
REV 1
DATE 11-Dec-84
SHEET 1

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

EQUIPMENT DESCRIPTION	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	REMARKS
				SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2	OP.TIME:	100 DAYS	>100 DAYS	3	2,4	AN+DATA	YES	NOTE-3
SYSTEM: SEE SHEET 2	TEMP (F):	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	NOTE-1
	NORMAL	122	140	1	2,5	AN+DATA	NA	NOTE-5
	ABNORMAL	124	140	1	2,5	AN+DATA	NA	NOTE-5
TYPE: (DESCRIPTION)	ACCIDENT	124	212	1	2	TEST-SIM	YES	
VENTILATION AND FILTER FANS	PRESS(PSIG)	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	NOTE-1
	NORMAL	-.25" H2O	-3.0	1	2	AN+DATA	NA	NOTE-2
	ABNORMAL	-.62" H2O	-3.0	1	2	AN+DATA	NA	NOTE-2
MANUFACTURER: WESTINGHOUSE	ACCIDENT	-.62" H2O	3.45	1	2	TEST-SIM	YES	
	RH (%)	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	NOTE-1
MODEL: SEE SHEET 2	NORMAL	90	100	1	2	TEST-SIM	NA	
	ABNORMAL	45	100	1	2	TEST-SIM	NA	
SAFETY FUNCTION: - - -	ACCIDENT	90	100	1	2	TEST-SIM	NA	
DRAW AIR THROUGH CLEANING	RADIATION:	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	NOTE-1
FILTERS, REMOVE HEAT, OR	NORM GAMMA	700					NA	
THOROUGHLY MIX LEAKAGE OF GAS	ACC GAMMA	4.4E7	1.13E8	1	2	TEST-SIM	YES	NOTE-4
OP. CODE: SEE SHEET 2	NORM BETA	0					NA	
	ACC BETA	600					NA	
	NEUTRON	0					NA	
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:	DOCUMENT REFERENCE:							
SPRAY/FROTH:	1. SPECIFICATION 215.400,REV.0, ADD.8							
	2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
EQUIPMENT NOT SUBJECTED TO	SDDF # 6215.400-071-020D							
SUBMERGENCE OR SPRAY/FROTH	3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
	PAOP DOCUMENT NO. 245.600, REV.0							
	4. CALCULATION NO. 12210-EQS-20							
DOCUMENTATION ACCEPTABILITY:	5. CALCULATION NO. 12210-EQS-26							
ACCEPTABLE TO NUREG 0588,CAT I								
MAINT/SURVEILL - - -								
REFERENCE: 2								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 2,5								

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 215400-2
REV 0
SHEET NO. 2
DATE 11-29-84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME OC

SRN 215400-2				
SPEC 215.400				
GTS GAS TREATMENT STANDBY				
1GTS*FN1A	ODP 365TZ	AB-141-5	40 YEARS	1000 A
1GTS*FN1B	ODP 365TZ	AB-141-6	40 YEARS	1000 A
1GTS*FN2A	TBFC 143T	AB-141-5	40 YEARS	1000 A
1GTS*FN2B	TBFC 143T	AB-141-6	40 YEARS	1000 A
HVF VENTILATION - FUEL BUILDING				
1HVF*FN3A	ODP 326TZ	FB-148-1	40 YEARS	1000 A
1HVF*FN3B	ODP 326TZ	FB-148-1	40 YEARS	1000 A
1HVF*FN7A	TEFC 143T	FB-148-1	40 YEARS	1000 A
1HVF*FN7B	TEFC	FB-148-1	40 YEARS	1000 A
HVR VENTILATION - REACTOR PLANT				
1HVR*FN11A	TBOP 449TS	AB-170-1	40 YEARS	1000 A
1HVR*FN11B	TBOP 449TS	AB-170-1	40 YEARS	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 215400-2

REV 0

SHEET NO. 3

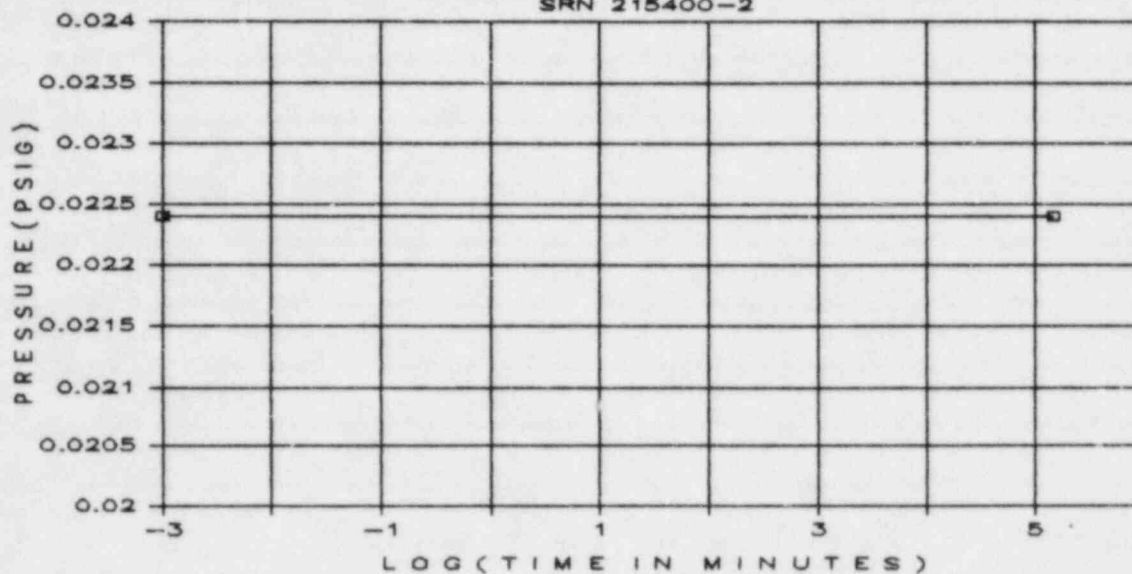
DATE 11/30/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. In accordance with Reference 2, Appendix J, -3.0 and +15.0 psig ambient pressure does not affect the motor.
 3. Operability period is extended from 30 days tested value to 100 days plus margin by Arrhenius calculation. See Reference 4.
 4. The motorettes and bearing grease were irradiated to 2E8 rads without deleterious effects.
 5. For qualified life of 40 years at 140°F, see Reference 5.

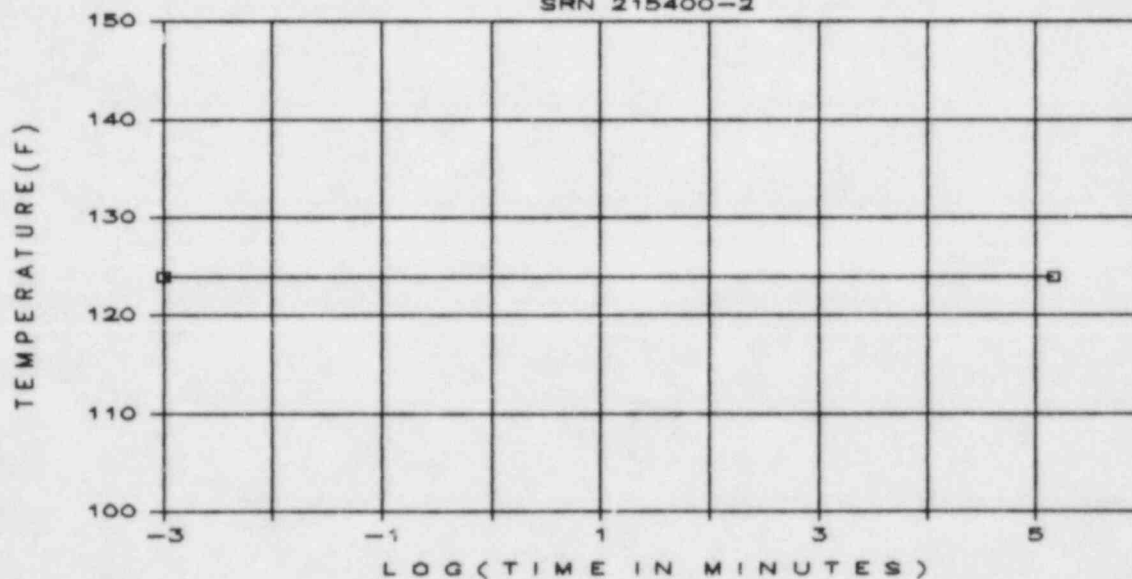
SPECIFIED ACCIDENT PROFILE

SRN 215400-2



SPECIFIED ACCIDENT PROFILE

SRN 215400-2

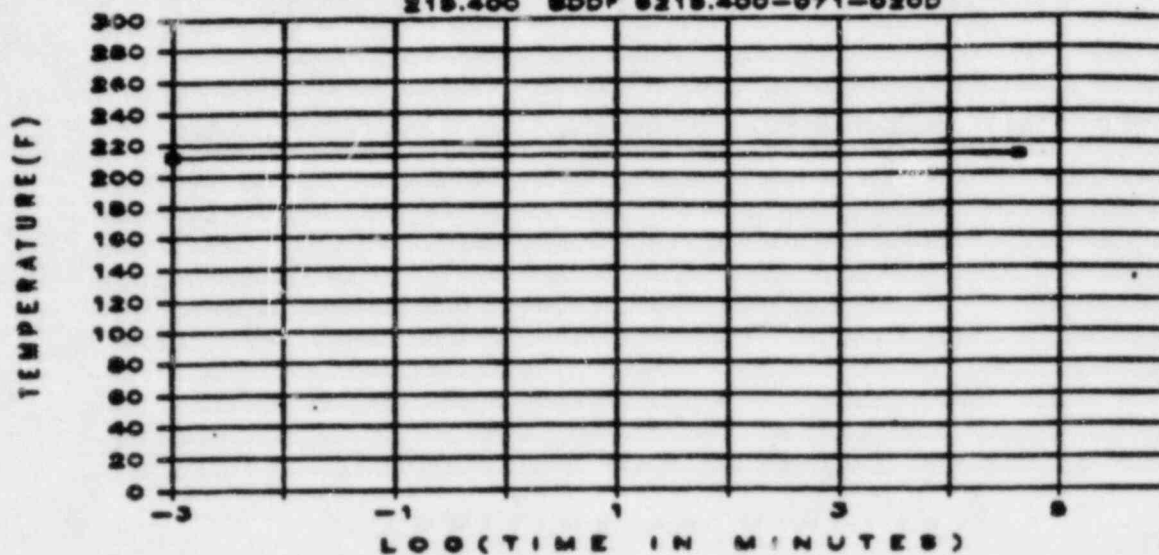


```

TEMPERATURE -----
TIME          0sec 100days
LOG (MINUTES) -3.00  5.16
TEMP(F)       124   124
TIME(MIN)     0.001 144000
PRESSURE -----
TIME          0sec 100days
LOG(MINUTES)  -3.00  5.16
PRES(PSIG)    0.0224 0.0224
TIME(MIN)     0.001 144000
    
```

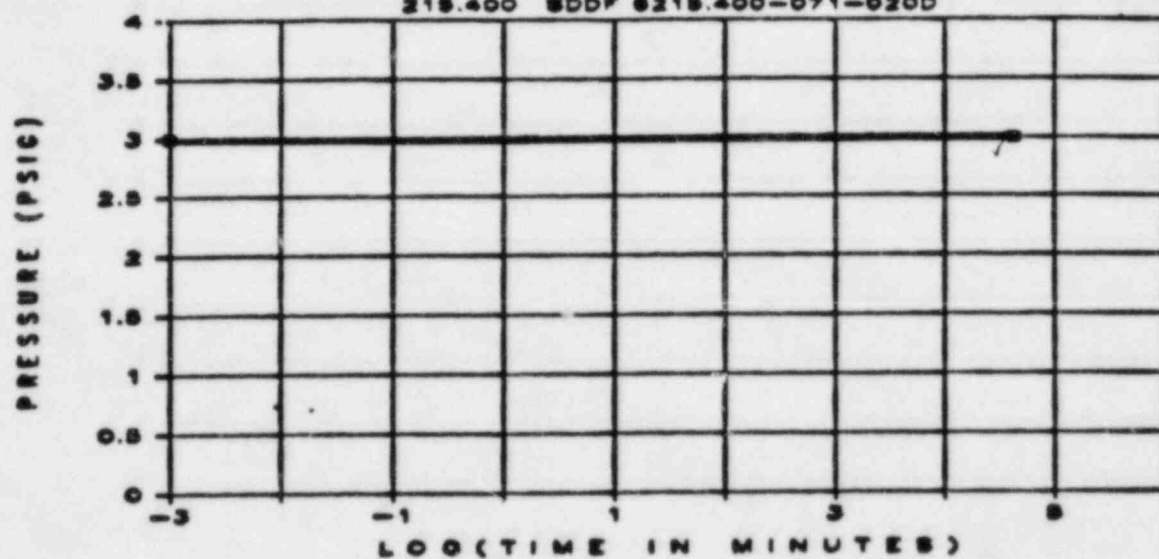
TEST PROFILE

215.400 SDDF 6215.400-071-020D



TEST PROFILE

215.400 SDDF 6215.400-071-020D



TEST PROFILE DATA FOR 215.400 SDDF 6215.400-071-020D

TIME	0	30 days
LOG(MINUTES)	-3.00	4.64
TEMP (F)	212	212
PRES (PSIG)	3	3

RDS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 215480-1
REV 0
DATE 05-Dec-84
SHEET 1

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION							REMARKS
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	
EQUIP NO.: SEE SHEET 2 (NOTE-3)	OP. TIME:	100 DAYS	>100 DAYS	3	2	AN+DATA	YES	
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE-1
	NORMAL	122	194	1	2	TEST-IDENT	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)	ACCIDENT	165	370	1	2	TEST-IDENT	YES	
LIMIT SWITCH FOR	PRESS (PSIG)							NOTE-1
AIR DAMPER	NORMAL	-0.62" H2O	ATMOS	1	2	TEST-IDENT	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: NAMCO	ACCIDENT	8	100	1	2	TEST-IDENT	YES	
	RH (%)							NOTE-1
MODEL: SEE SHEET 2	NORMAL	100	100	1	2	TEST-IDENT	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -	ACCIDENT	100	100	1	2	TEST-IDENT	NA	
INDICATE AIR DAMPER	RADIATION:							NOTE-1
OPERATION	NORM GAMMA	7E2		1			NA	
	ACC GAMMA	4.4E7	2E8	1	2	TEST-IDENT	YES	
OP. CODE: SEE SHEET 2	NORM BETA	0		1			NA	
	ACC BETA	6E2		1			NA	
	NEUTRON	0		1			NA	
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:	DOCUMENT REFERENCE:							
SPRAY/FROTH:	1. SPECIFICATION 215.480 REV.0, ADD.6 / E&DCR P12,908							
	2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
EQUIPMENT NOT SUBJECT TO	SDDF # 6215.480-278-003C							
SUBMERGENCE OR SPRAY/FROTH	3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
	PAOP DOCUMENT NO. 245.600, REV.0							
DOCUMENTATION ACCEPTABILITY:								
ACCEPTABLE TO NUREG 0588, CAT I								
MAINT/SURVEILL - - -								
REFERENCE: 2 (SEE NOTE-2)								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 4								

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 215 480-1

REV 0

SHEET NO 2A

DATE 12/3/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUDIRS	QUAL. LIFE	OPTIME OC
SRN 215480-1				
SPEC 215.480				
GTS GAS TREATMENT STANDBY				
1GTS*AO01A	EA180	AB-141-5	40 YRS	1000 A
1GTS*AO01B	EA180	AB-141-6	40 YRS	1000 A
1GTS*AO021A	EA180	AB-141-5	40 YRS	1000 A
1GTS*AO021B	EA180	AB-141-6	40 YRS	1000 A
1GTS*AO022A	EA180	AB-141-5	40 YRS	1000 A
1GTS*AO022B	EA180	AB-141-6	40 YRS	1000 A
1GTS*AO023A	EA180	AB-141-5	40 YRS	1000 A
1GTS*AO023B	EA180	AB-141-6	40 YRS	1000 A
1GTS*AO03A	EA180	AB-141-5	40 YRS	1000 A
1GTS*AO03B	EA180	AB-141-6	40 YRS	1000 A
1GTS*AO04A	EA180	AB-141-5	40 YRS	1000 A
1GTS*AO04B	EA180	AB-141-6	40 YRS	1000 A

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 215 480-1

REV 0

SHEET NO 2B

DATE 12/3/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME CC
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SRN 215480-1

HVF VENTILATION - FUEL BUILDING

1HVF*A00102	EA180	FB-148-G	40YRS	1 HR A
1HVF*A00104	EA180 REG.G.1.97	FB-148-G	40YRS	1 HR A
1HVF*A00112	EA180	FB-148-G	40YRS	1 HR A
1HVF*A00137	EA180 REG.G.1.97	FB-148-G	40YRS	1 HR A
1HVF*A0020A	EA180	FB-148-1	40YRS	1000 A
1HVF*A0020B	EA180	FB-148-1	40YRS	1000 A
1HVF*A003A	EA180	FB-148-1	40YRS	1000 A
1HVF*A003B	EA180	FB-148-1	40YRS	1000 A
1HVF*A0031A	EA180	FB-148-1	40YRS	1000 A
1HVF*A0031B	EA180	FB-148-1	40YRS	1000 A
1HVF*A0033A	EA180	FB-148-1	40YRS	1000 A
1HVF*A0033B	EA180	FB-148-1	40YRS	1000 A

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 215480-1

REV 0

SHEET NO 26

DATE 12/3/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	CPTIME OC
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SRN 215480-1

HVR VENTILATION - REACTOR PLANT

1HVR*ADD10A	EA180	AB-141-2	40YRS	1 HR A
1HVR*ADD10B	EA180	AB-141-2	40YRS	1 HR A
1HVR*ADD142	EA180 REG.G.1.97	AB-141-6	40YRS	1 HR A
1HVR*ADD143	EA180	AB-141-1	40YRS	1 HR A
1HVR*ADD161	EA180	AB-141-2	40YRS	1 HR A
1HVR*ADD162	EA180	AB-141-2	40YRS	1 HR A
1HVR*ADD164	EA180	AB-141-1	40YRS	1 HR A
1HVR*ADD18A	EA180	AB-141-2	40YRS	1000 A
1HVR*ADD18B	EA180	AB-141-2	40YRS	1000 A
1HVR*ADD214	EA180 REG.G.1.97	AB-141-6	40YRS	1 HR A

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 215 480-1

REV 0

SHEET NO 20

DATE 12/3/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME OC
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SRN 215480-1

HVR VENTILATION - REACTOR PLANT

1HVR*AOD22A	EA180	AB-141-3	40 YRS	100D A
1HVR*AOD22B	EA180	AB-141-3	40 YRS	100D A
1HVR*AOD23A	EA180	AB-141-2	40 YRS	1 HR A
1HVR*AOD23B	EA180	AB-141-2	40 YRS	1 HR A
1HVR*AOD245	EA180	AB-141-2	40 YRS	1 HR A
1HVR*AOD249	EA180	AB-141-2	40 YRS	1 HR A
1HVR*AOD261	EA180 REG.G.1.97	AB-141-6	40 YRS	1 HR A
1HVR*AOD262	EA180 REG.G.1.97	AB-141-6	40 YRS	1 HR A
1HVR*AOD263	EA180 REG.G.1.97	AB-141-5	40 YRS	1 HR A
1HVR*AOD264	EA180 REG.G.1.97	AB-141-5	40 YRS	1 HR A
1HVR*AOD51A	EA180	AB-141-1	40 YRS	100D A
1HVR*AOD51B	EA180	AB-141-2	40 YRS	100D A

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 215 480-1
REV 0
SHEET NO 2E
DATE 12/3/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME OC
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SRN 215480-1

HVR VENTILATION - REACTOR PLANT

1HVR#A0053A

EA160

AB-170-1

100D
A

1HVR#A0053B

EA160

AB-170-1

100D
A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 215480-1

REV 0

SHEET NO. 3

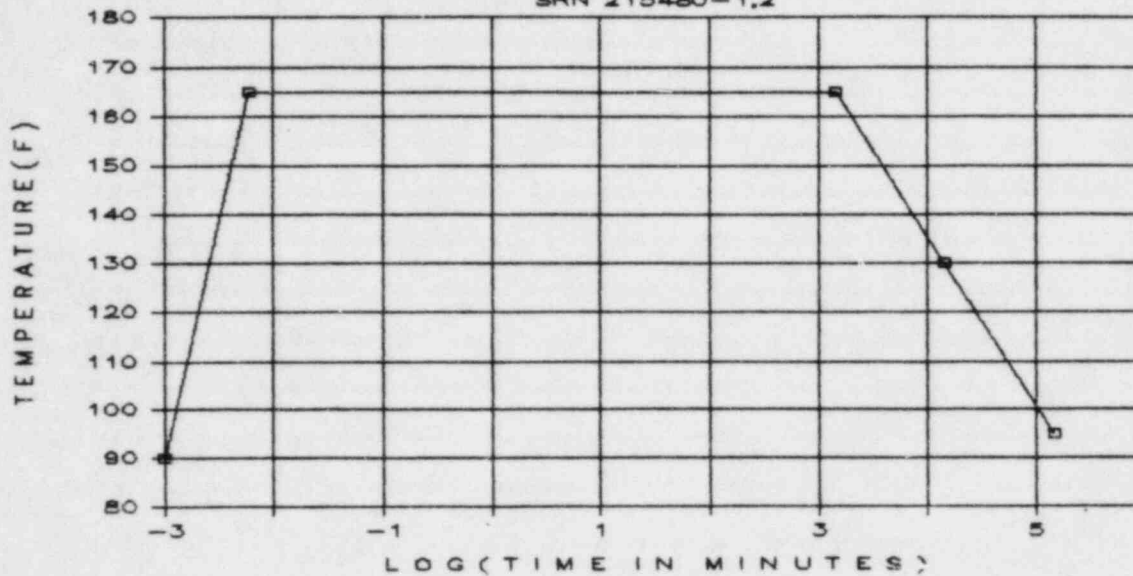
DATE 12/01/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. For qualified life/maintenance requirements, see Reference 2.
 3. There are two qualified limit switches per equipment mark number.

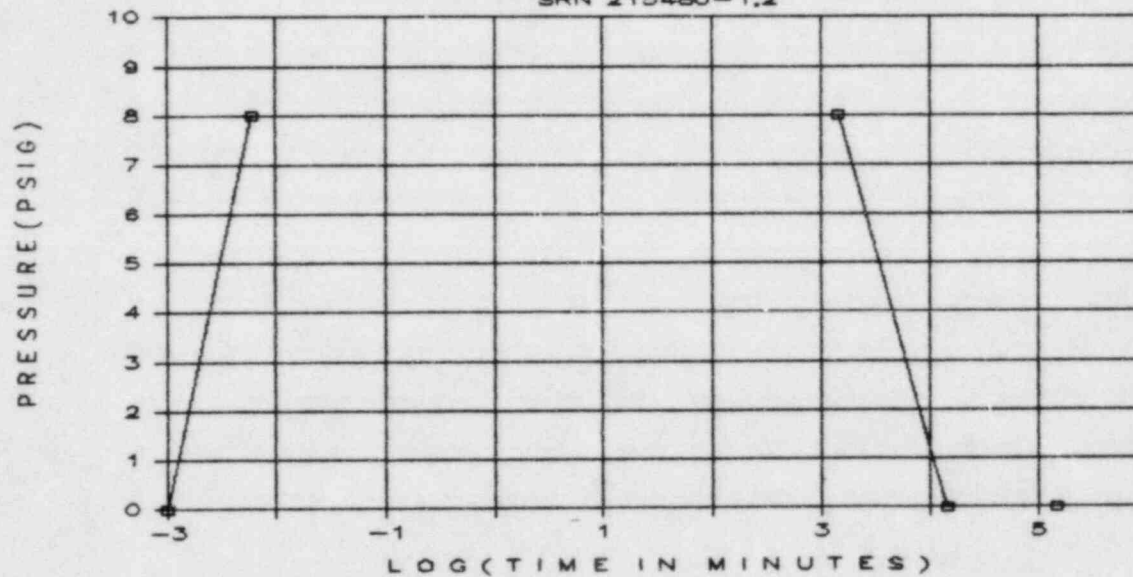
SPECIFIED ACCIDENT PROFILES

SRN 215480-1,2



SPECIFIED ACCIDENT PROFILES

SRN 215480-1,2



SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION:215480

TEMPERATURE

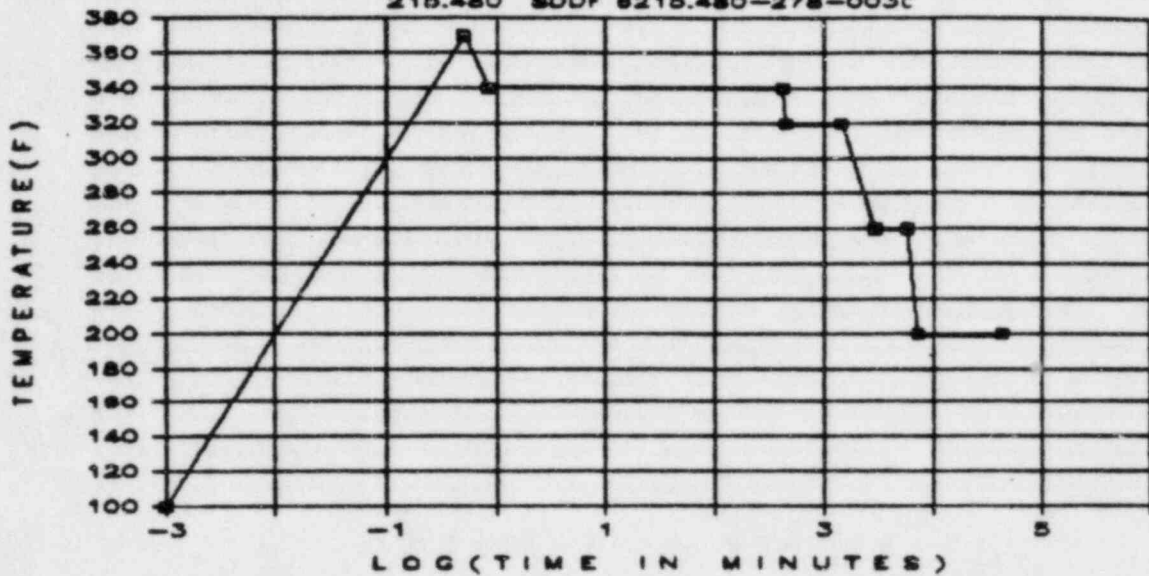
TIME	0	6sec	1day	10days	180days
LOG (MINUTES)	-3.00	-2.22	3.16	4.16	5.16
TEMP (F)	90	165	165	130	95
TIME (MIN)	0.001	0.006	1440	14400	144000

PRESSURE

TIME	0	6sec	1day	10days	180days
LOG (MINUTES)	-3.00	-2.22	3.16	4.16	5.16
PRES (PSIG)	0	8	8	0	0
TIME (MIN)	0.001	0.006	1440	14400	144000

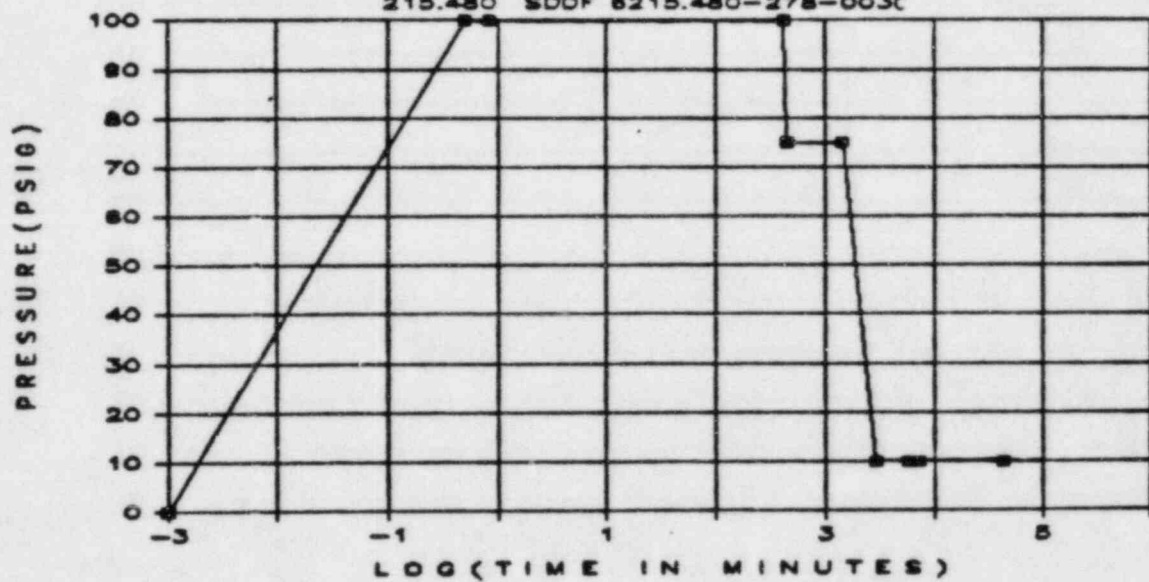
TEST PROFILE

215.480 SDDF 6215.480-278-003C



TEST PROFILE

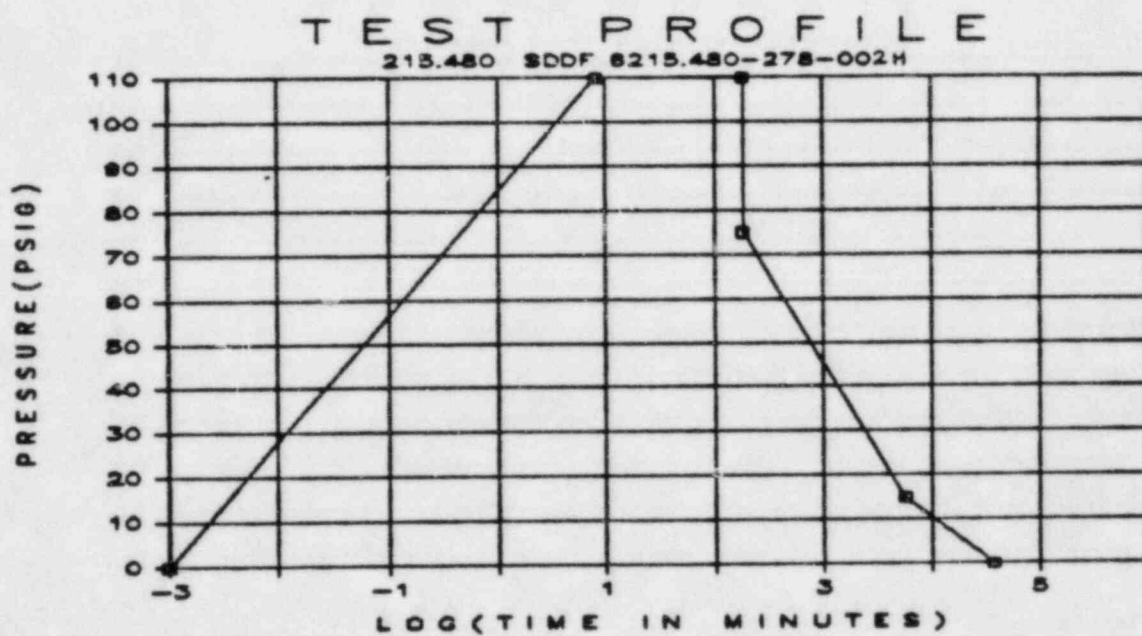
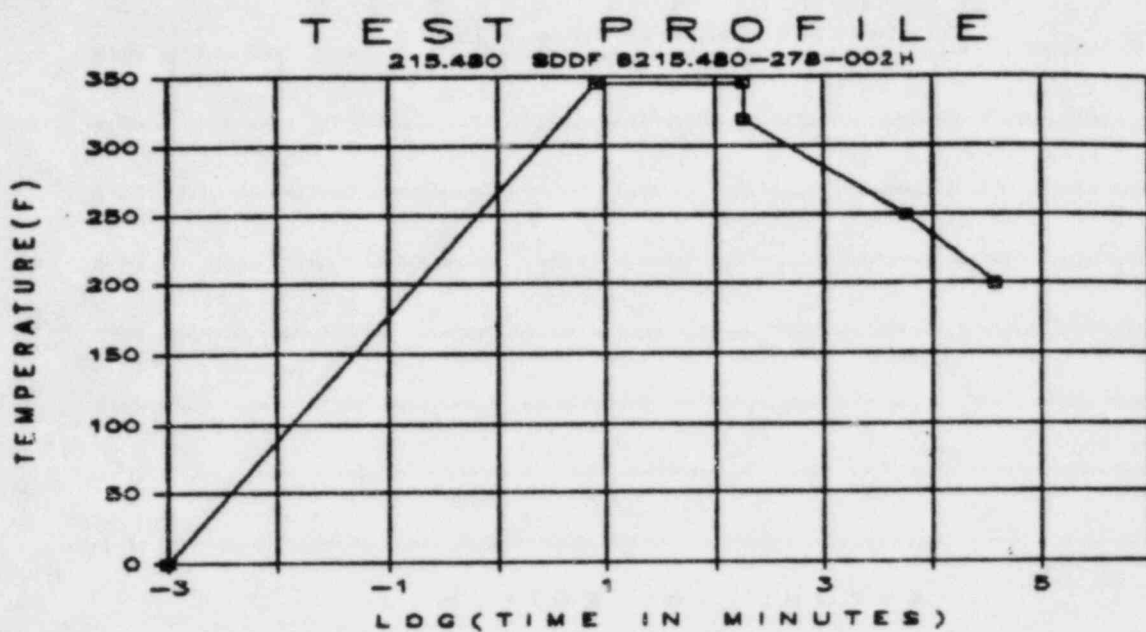
215.480 SDDF 6215.480-278-003C



TEST PROFILE DATA FOR 215.480 SDDF 6215.480-278-003C

LIMIT SWITCHES

TIME	0	30sec	50sec	7hr	7.5hr	1day	2days	4days	5days	30days
LOG (MINUTES)	-3.00	-0.30	-0.08	2.62	2.65	3.16	3.46	3.76	3.86	4.64
TEMP (F)	100	370	340	340	320	320	260	260	200	200
PRES (PSIG)	0	100	100	100	75	75	10	10	10	10



TEST PROFILE DATA FOR 215.480 SDDF 6215.480-278-002H
SOLENOID VALVES

TIME	0	8min	3hr	3hr	4days	26days
LOG (MINUTES)	-3.00	0.90	2.26	2.26	3.76	4.57
TEMP (F)	0	346	346	320	250	200
PRES (PSIG)	0	110	110	75	15	0

SRN 215480-2
REV 0
DATE 05-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						DATE	05-Dec-84
		SHEET 1							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN: DEMO	REMARKS
EQUIP NO.: SEE SHEET 2		OP.TIME:	100 DAYS	>100 DAYS	3	2,4	AN+DATA	YES	NOTE-3
SYSTEM: SEE SHEET 2		TEMP (F):							NOTE-1
		NORMAL	122	140	1	2,4	TEST-SIM	NA	NOTE-2
		ABNORMAL	NA	NA	NA	NA	NA	NA	
		ACCIDENT	165	346	1	2	TEST-SIM	YES	
TYPE: (DESCRIPTION)		PRESS (PSIG):							NOTE-1
SOLENOID VALVE FOR AIR		NORMAL	-0.62" H2O	ATMOS	1	2	TEST-SIM	NA	
DAMPER		ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: ASCO		ACCIDENT	8	110	1	2	TEST-SIM	YES	
		RH (%):							NOTE-1
MODEL: SEE SHEET 2		NORMAL	100	100	1	2	TEST-SIM	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -		ACCIDENT	100	100	1	2	TEST-SIM	NA	
CONTROL AIR DAMPER		RADIATION:							NOTE-1
OPERATION		NORM GAMMA	7E2		1			NA	
		ACC GAMMA	4.4E7	2E8	1	2	TEST-SIM	YES	
OP. CODE: SEE SHEET 2		NORM BETA	0		1			NA	
		ACC BETA	6E2		1			NA	
		NEUTRON	0		1			NA	
ACCURACY - -		SPRAY	NA	NA	NA	NA	NA	NA	
		SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA									
DEMO: NA									
ZONE NO.: SEE SHEET 2									
SUBMERGENCE:		DOCUMENT REFERENCE:							
SPRAY/FROTH:		1. SPECIFICATION 215.480 REV.0, ADD.6 / E&DCR P12,908							
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
EQUIPMENT NOT SUBJECT TO		SDDF # 6215.480-278-002H							
SUBMERGENCE OR SPRAY/FROYH		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
		PAOP DOCUMENT NO. 245.600, REV.0							
		4. CALCULATION NO. 12210-EOS-42							
DOCUMENTATION ACCEPTABILITY:		5. VENDOR INSTALLATION/MAINTENANCE INSTRUCTIONS NO. V-5971							
ACCEPTABLE TO NUREG 0588,CAT I									
MAINT/SURVEILL - - -									
REFERENCE: 2,4,5									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE: 4									

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 215 480-2

REV 0

SHEET NO 2A

DATE 12/3/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME OC
SRN 215480-2				
SPEC 215.480				
GTS GAS TREATMENT STANDBY				
1GTS*SOV1A	NP8321A5E	AB-141-5	2.3 YRS	100D A
1GTS*SOV1B	NP8321A5E	AB-141-6	2.3 YRS	100D A
1GTS*SOV21A	NP8321A5E	AB-141-5	2.3 YRS	100D A
1GTS*SOV21B	NP8321A5E	AB-141-6	2.3 YRS	100D A
1GTS*SOV22A	NP8321A5E	AB-141-5	2.3 YRS	100D A
1GTS*SOV22B	NP8321A5E	AB-141-6	2.3 YRS	100D A
1GTS*SOV23A	NP8321A5E	AB-141-5	2.3 YRS	100D A
1GTS*SOV23B	NP8321A5E	AB-141-6	2.3 YRS	100D A
1GTS*SOV3A	NP8321A5E	AB-141-5	2.3 YRS	100D A
1GTS*SOV3B	NP8321A5E	AB-141-6	2.3 YRS	100D A
1GTS*SOV4A	NP8321A5E	AB-141-5	2.3 YRS	100D A
1GTS*SOV4B	NP8321A5E	AB-141-6	2.3 YRS	100D A
HVF VENTILATION - FUEL BUILDING				
1HVF*SOV102	NP8321A5E	FB-148-G	6.7 YRS	1HR A
1HVF*SOV104	NP8321A5E	FB-148-G	6.7 YRS	1HR A

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 215 480-2

REV 0

SHEET NO 2B

DATE 12/3/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME OC
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SRN 215480-2

HVF VENTILATION - FUEL BUILDING

1HVF*SOV112	NP8321A5E	FB-148-G	6.7 YRS	1 HR A
1HVF*SOV137	NP8321A5E	FB-148-G	6.7 YRS	1 HR A
1HVF*SOV20A	NP8321A5E	FB-148-1	6.7 YRS	100D A
1HVF*SOV20B	NP8321A5E	FB-148-1	6.7 YRS	100D A
1HVF*SOV3A	NP8321A5E	FB-148-1	6.7 YRS	100D A
1HVF*SOV3B	NP8321A5E	FB-148-1	6.7 YRS	100D A
1HVF*SOV31A	NP8321A5E	FB-148-1	6.7 YRS	100D A
1HVF*SOV31B	NP8321A5E	FB-148-1	6.7 YRS	100D A
1HVF*SOV33A	NP8321A5E	FB-148-1	6.7 YRS	100D A
1HVF*SOV33B	NP8321A5E	FB-148-1	6.7 YRS	100D A

HVR VENTILATION - REACTOR PLANT

1HVR*SOV10A	NP8321A5E	AB-141-2	2.3 YRS	1 HR A
1HVR*SOV10B	NP8321A5E	AB-141-2	2.3 YRS	1 HR A

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 215480-2

REV 0

SHEET NO 2C

DATE 12/3/84

MARK NO

MODEL/CATALOG NO.

ENV. ZONE

QUAL. LIFE

OPTIME

REMARKS

SUBMRG

OC

SRN 215480-2

HVR VENTILATION - REACTOR PLANT

1HVR*SOV142

NP8321A5E

AB-141-6

2.3 YRS

1 HR
A

1HVR*SOV143

NP8321A5E

AB-141-1

2.3 YRS

1 HR
A

1HVR*SOV161

NP8321A5E

AB-141-2

2.3 YRS

1 HR
A

1HVR*SOV162

NP8321A5E

AB-141-2

2.3 YRS

1 HR
A

1HVR*SOV164

NP8321A5E

AB-141-1

2.3 YRS

1 HR
A

1HVR*SOV18A

NP8321A5E

AB-141-2

2.3 YRS

1000
A

1HVR*SOV18B

NP8321A5E

AB-141-2

2.3 YRS

1000
A

1HVR*SOV214

NP8321A5E

AB-141-6

2.3 YRS

1 HR
A

1HVR*SOV22A

NP8321A5E

AB-141-3

2.3 YRS

1000
A

1HVR*SOV22B

NP8321A5E

AB-141-3

2.3 YRS

1000
A

1HVR*SOV23A

NP8321A5E

AB-141-2

2.3 YRS

1 HR
A

1HVR*SOV23B

NP8321A5E

AB-141-2

2.3 YRS

1 HR
A

1HVR*SOV245

NP8321A5E

AB-141-2

2.3 YRS

1 HR
A

1HVR*SOV249

NP8321A5E

AB-141-2

2.3 YRS

1 HR
A

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 215 480-2

REV 0

SHEET NO 20

DATE 12/3/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBSRG	QUAL. LIFE	OPTIME OC
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SRN 215480-2

HVR VENTILATION - REACTOR PLANT

1HVR*SOV261	NP8321ASE	AB-141-6	2.3 YRS	1 HR A
1HVR*SOV262	NP8321ASE	AB-141-6	2.3 YRS	1 HR A
1HVR*SOV263	NP8321ASE	AB-141-5	2.3 YRS	1 HR A
1HVR*SOV264	NP8321ASE	AB-141-5	2.3 YRS	1 HR A
1HVR*SOV51A	NP8321ASE	AB-141-1	2.3 YRS	1000 A
1HVR*SOV51B	NP8321ASE	AB-141-2	2.3 YRS	1000 A
1HVR*SOV53A	NP8321ASE	AB-170-1	2.3 YRS	1000 A
1HVR*SOV53B	NP8321ASE	AB-170-1	2.3 YRS	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 215480-2

REV 0

SHEET NO. 3

DATE 12/01/84

NOTES

-
1. For complete environmental conditions, see the documents referenced.
 2. For qualified life, see Reference 4. In the qualified life calculation, the temperature rise of the actuated coil is considered.
 3. Operability period is extended from 32 days tested value to 100 days by Arrhenius equation. See Reference 4.

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 219711-1
REV 0
DATE 05-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
	PARAMETER	SPECIFIED	QUALIFIED	DOCUMENT REFERENCE		QUAL	MARGIN	REMARKS
		VALUE	VALUE	SPECIFIED	QUALIFIED	METHOD	DEMO	
EQUIP NO.: SEE SHEET 2	OP. TIME:	100 DAYS	180 DAYS	3	2	TEST-SIM	YES	
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE-1
	NORMAL	122	210	1	2	TEST-SIM	NA	
	ABNORMAL	140	250	1	2	TEST-SIM	NA	
TYPE: (DESCRIPTION)	ACCIDENT	165	342	1	2	TEST-SIM	YES	
ELECTRICAL PENETRATION	PRESS (PSIG):							NOTE-1
	NORMAL	-1 "H2O	80	1	2	TEST-SIM	NA	
	ABNORMAL	2.3	80	1	2	TEST-SIM	NA	
MANUFACTURER: CONAX	ACCIDENT	9	118	1	2	TEST-SIM	YES	
	RH (%):							NOTE-1
MODEL: SEE SHEET 2	NORMAL	90	100	1	2	TEST-SIM	NA	
	ABNORMAL	100	100	1	2	TEST-SIM	NA	
SAFETY FUNCTION: - - -	ACCIDENT	100	100	1	2	TEST-SIM	NA	
PRESSURE BOUNDARY PRESERVATION	RADIATION:							
	NORM GAMMA	9.05E5		1	2	TEST-SIM	NA	
	ACC GAMMA	1.7E8 TID	2.2E8	1	2	TEST-SIM	YES	
OP. CODE: SEE SHEET 2	NORM BETA							
	ACC BETA							
	NEUTRON							
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -	SUBMERGENCE:	NA	NA	NA	NA	NA	NA	
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:	DOCUMENT REFERENCE:							
SPRAY/FROTH:	1. SPECIFICATION 219.711,REV.3, / E&BCR NO. P-3034							
	2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
EQUIPMENT NOT SUBJECTED TO	SDDF # 6219.711-056-005A							
SUBMERGENCE OR SPRAY/FROTH	3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
	PAOP DOCUMENT NO. 245.600, REV.0							
DOCUMENTATION ACCEPTABILITY:								
ACCEPTABLE TO NUREG 0588,CAT I								
MAINT/SURVEILL - - -								
REFERENCE: NOT REQUIRED								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 2								

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 219711-1

REV. D

DATE 12-3-84

SHEET NO. 2

MARK NO

MODEL/CATALOG NO.

ENV. ZONE

QUAL. LIFE

OPTIME

REMARKS

SUBIRG

CC

SRN 219711-1

SPEC 219.711

JRB SUPERSTRUCTURE - REACTOR BUILDING

1JRB-DRA1(JBE)

CT-G

40 YRS

100D

A

NONE, UNIQUE

ELECTRICAL PENETRATION

1JRB*CPA1(JBF)

AB-170-1

40 YRS

1000

2

NCNE, UNIQUE

ELECTRICAL PENETRATION

1JRB-DRA2(JBE)

CT-G

40 YRS

1000

A

NONE, UNIQUE

ELECTRICAL PENETRATION

1JRB=DRA2(JBF)

FE-113-G

40 YAS

100D

A

NONE, UNIQUE

ELECTRICAL PENETRATION

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

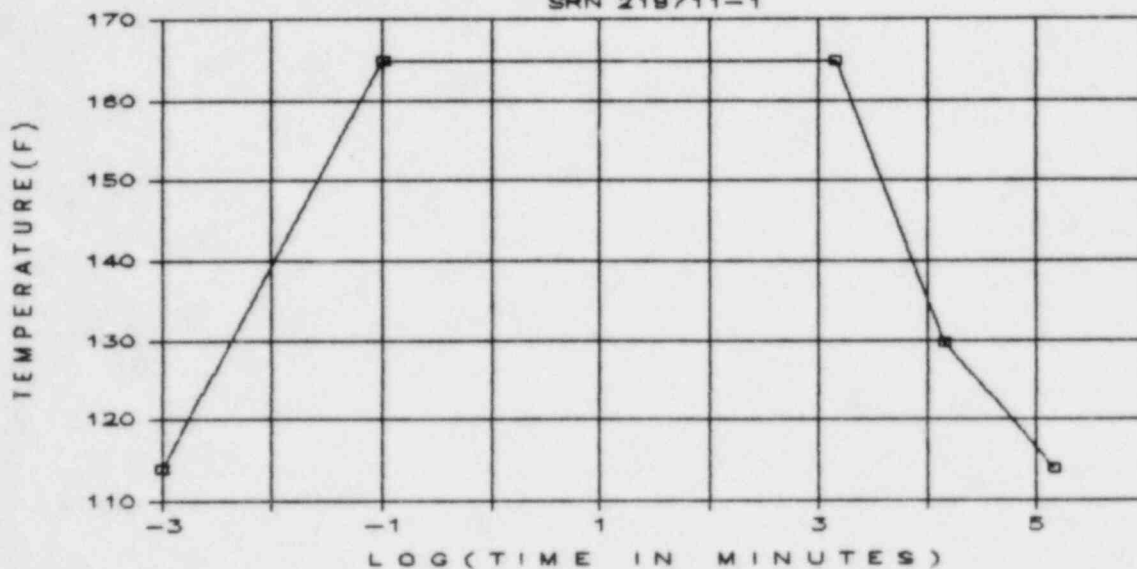
SRN 219711-1
REV 0
SHEET NO. 3
DATE 11/27/84

NOTES

1. For complete environmental conditions, see document referenced.

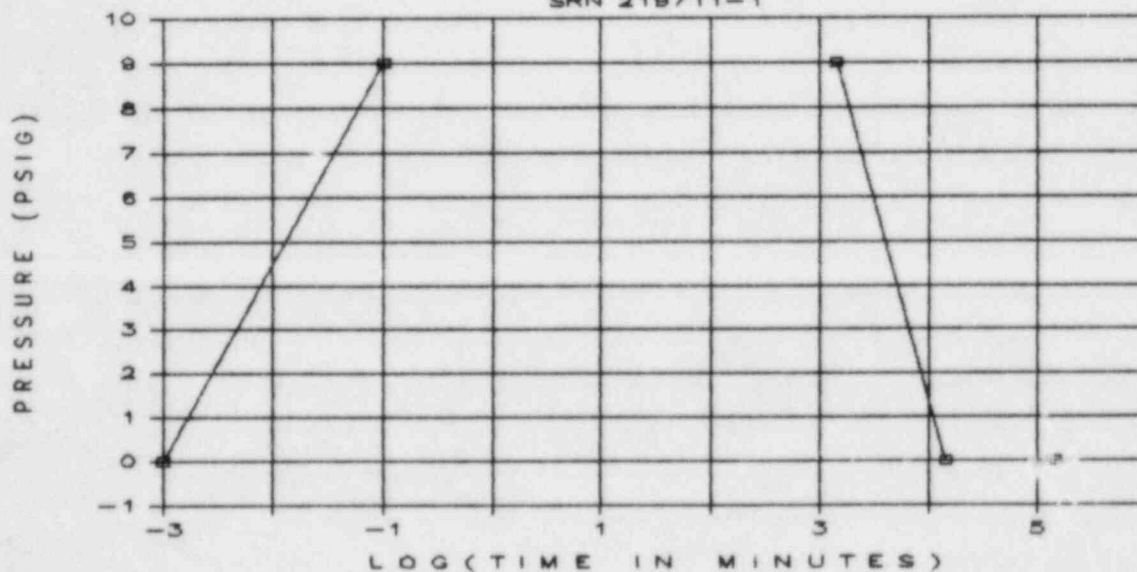
SPECIFIED ACCIDENT PROFILES

SRN 219711-1



SPECIFIED ACCIDENT PROFILES

SRN 219711-1

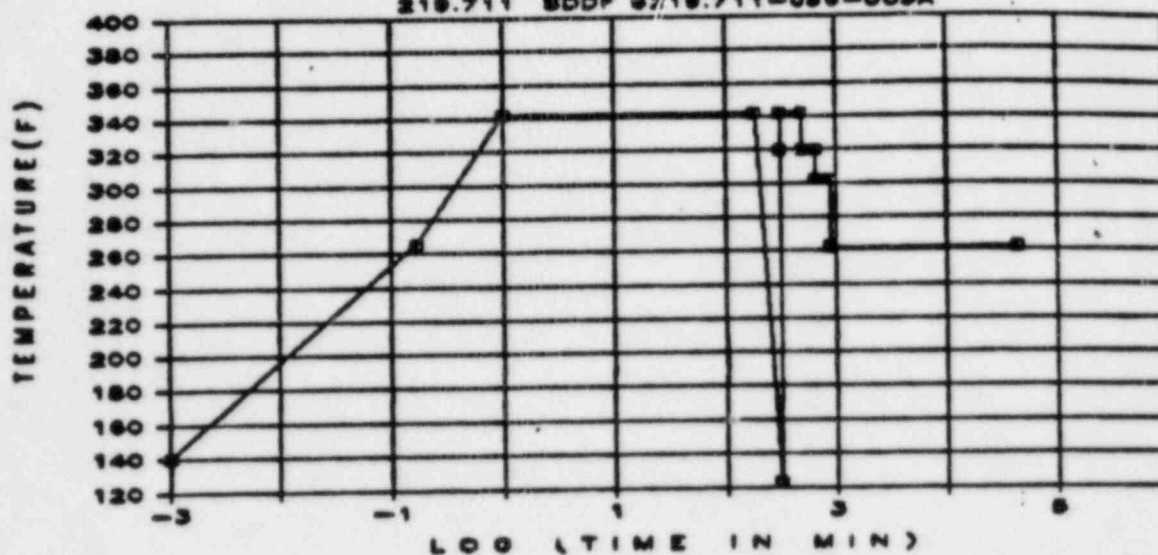


SPECIFIED ACCIDENT CONDITIONS FOR ZONES:219711

TEMPERATURE - - - - -					
TIME	0	6sec	1day	10days	100days
LOG(MINUTES)	-3.00	-1.00	3.16	4.16	5.16
TEMP(F)	114	165	165	130	114
TIME(MIN)	0.001	0.1	1440	14400	144000
PRESSURE - - - - -					
TIME	0	6sec	1day	10days	100days
LOG(MINUTES)	-3.00	-1.00	3.16	4.16	5.16
PRES(PSIG)	0	9	9	0	0
TIME(MIN)	0.001	0.1	1440	14400	144000

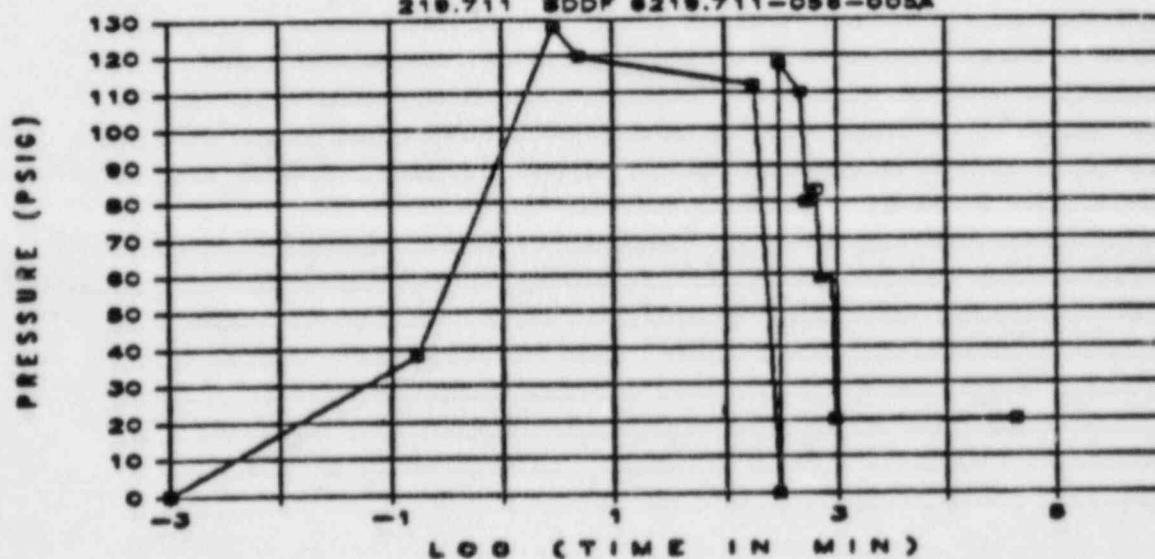
TEST PROFILE

219.711 SDDF 6219.711-056-005A



TEST PROFILE

219.711 SDDF 6219.711-056-005A



TEST PROFILE DATA FOR 219.711 SDDF 6219.711-056-005A -- PENETRATIONS

TEMPERATURE:													
TIME	0	10sec	1min	3hr	5hr	5hr	5hr 1min	8hr	8hr	11hr	11hr	15hr	15hr 30days
LOG(MINUTES)	-3.00	-0.77	0.00	2.26	2.48	2.48	2.48	2.68	2.68	2.82	2.82	2.95	2.95 4.64
TEMP (F)	140	265	342	342	123	320	342	342	320	320	302	302	262 262
PRESSURE:													
TIME	0	10sec	3min	5min	3hr	5hr	5hr 5min	8hr	9hr	11hr	12hr	15hr	16hr 30days
LOG(MINUTES)	-3.00	-0.77	0.48	0.70	2.26	2.48	2.48	2.68	2.73	2.82	2.86	2.95	2.98 4.64
PRES(PSIG)	0	38	128	120	112	0	118	110	80	83	59	59	20 20

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 219711-2
REV 0
DATE 05-Dec-84
SHEET 1

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION							REMARKS
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	
EQUIP NO.: SEE SHEET 2	OP. TIME:	1 HR	1 YEAR	3	2	TEST-SIM	YES	
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE-1
	NORMAL	122	140	1	2	TEST-SIM	NA	
	ABNORMAL	133	140	1	2	TEST-SIM	NA	
TYPE: (DESCRIPTION)	ACCIDENT	135	385	1	2	TEST-SIM	YES	
SOLENIOD VALVE WITH POSITION	PRESS (PSIG)							NOTE-1
SWITCHES	NORMAL	-0.25" H2O	ATMOS	1	2	TEST-SIM	NA	
	ABNORMAL	-0.52" H2O	ATMOS	1	2	TEST-SIM	NA	
MANUFACTURER: TRCP	ACCIDENT	2.1	66	1	2	TEST-SIM	YES	
MODEL: SEE SHEET 2	RH (%):							NOTE-1
	NORMAL	90	99	1	2	TEST-SIM	NA	
	ABNORMAL	36	100	1	2	TEST-SIM	NA	
SAFETY FUNCTION: - - -	ACCIDENT	100	100	1	2	TEST-SIM	NA	
ISOLATION FROM MAIN AIR SUPPLY	RADIATION:							
& INFLATE SEALS TO PRESSURE	NORM GAMMA	9E5	2.27E7	1	2	TEST-SIM	NA	
BOUNDARY	ACC GAMMA	2E6 TID	1.126E8	1	2	TEST-SIM	YES	
OP. CODE: SEE SHEET 2	NORM BETA			1	2		NA	
	ACC BETA			1	2		NA	
	NEUTRON			1	2		NA	
	SPRAY	NA	NA				NA	
ACCURACY - -	SUBMERGENCE	NA	NA				NA	
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:	DOCUMENT REFERENCE:							
SPRAY/FROTH:	1. SPECIFICATION 219.711, REV.3 / E&DOR NO. P-3034							
	2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
EQUIPMENT NOT SUBJECTED TO	SDDF # 6219.711-056-006D							
SUBMERGENCE OR SPRAY/FROTH	3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
	PAOP DOCUMENT NO. 245.600, REV.0							
DOCUMENTATION ACCEPTABILITY:								
ACCEPTABLE TO NUREG 0588, CAT I								
MAINT/SURVEILL - - -								
REFERENCE: NOT REQUIRED								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 2								

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLYSRN 219711-2
REV 0
DATE 12-3-84
SHEET NO. 2

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBNRG	QUAL. LIFE	OPTIME OC
SRN 219711-2				
SPEC 219.711				
JRB SUPERSTRUCTURE - REACTOR BUILDING				
1JRB*SOV15	62B-002	AB-170-1	40 YRS	1HR A
1JRB*SOV25	62B-002	FB-113-G	40 YRS	1HR A
1JRB*ZS16	202683-1	AB-170-1	40 YRS	1HR A
1JRB*ZS17	202683-1	AB-170-1	40 YRS	1HR A
1JRB*ZS26	202683-1	FB-113-G	40 YRS	1HR A
1JRB*ZS27	202683-1	FB-113-G	40 YRS	1HR A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 219711-2

REV 0

SHEET NO. 3

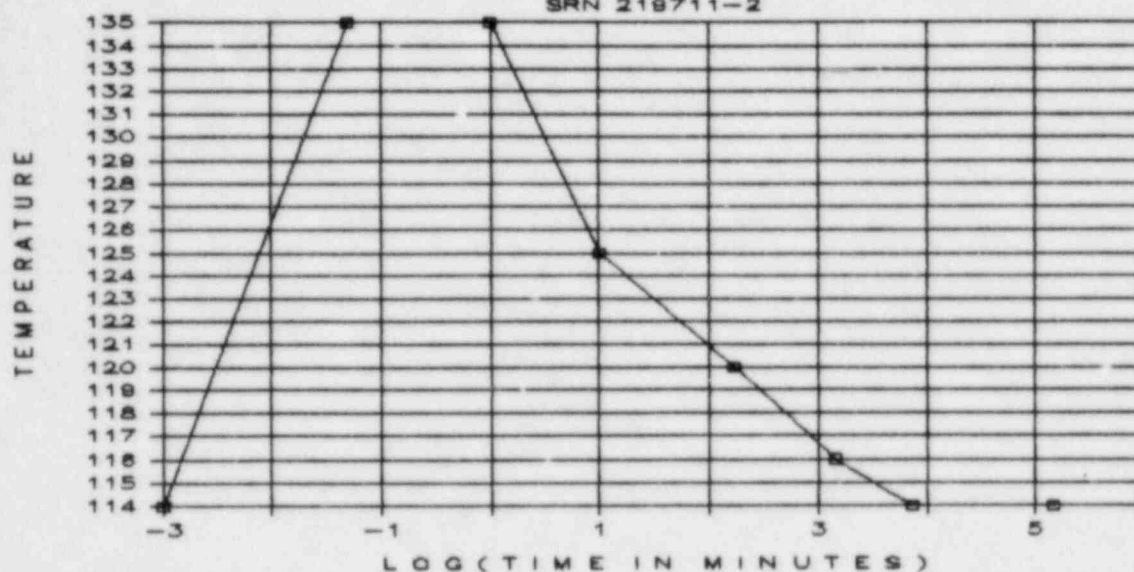
DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see document referenced.

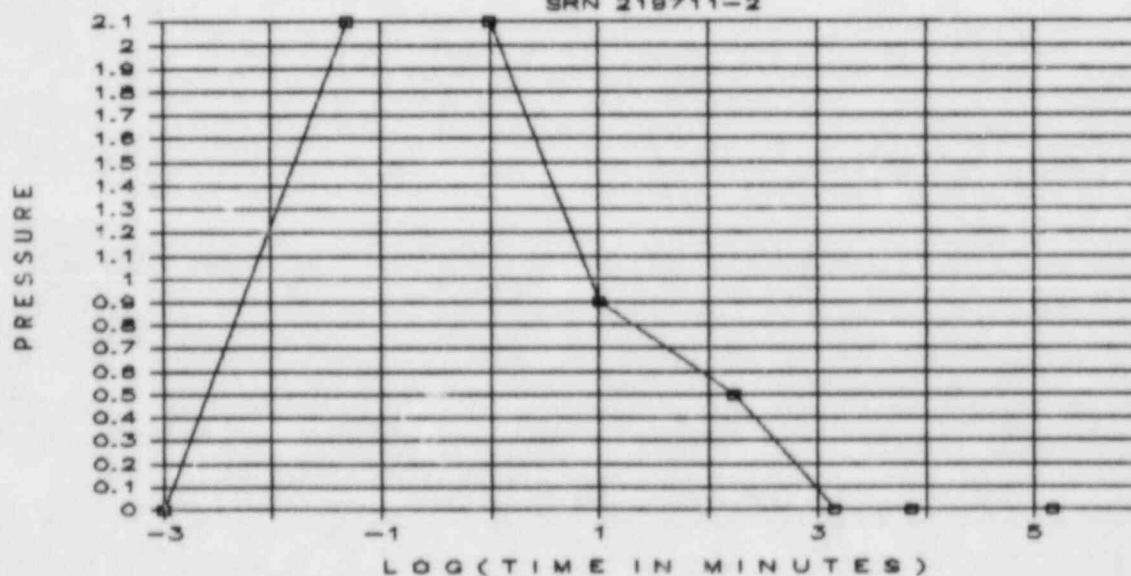
SPECIFIED ACCIDENT CONDITIONS

SRN 219711-2



SPECIFIED ACCIDENT CONDITIONS

SRN 219711-2

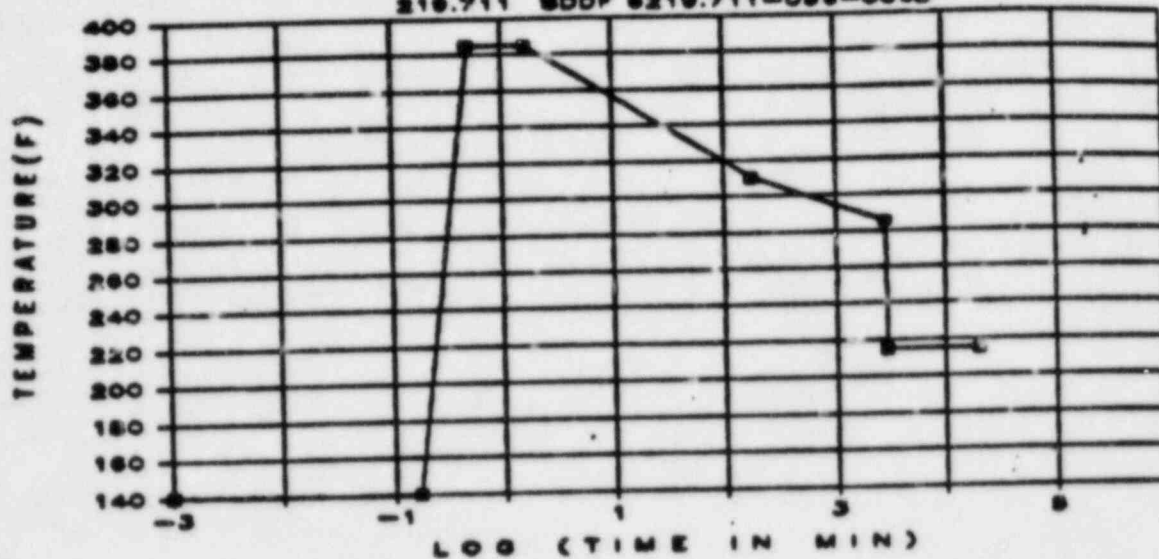


SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION: 219711

TEMPERATURE								
TIME	0	5sec	60sec	600sec	2.8hr	1day	5days	100days
LOG(MINUTES)	-3.00	-1.30	0.00	1.00	2.23	3.16	3.86	5.16
TEMP (F)	114	135	135	125	120	116	114	114
TIME (MIN)	0.001	0.05	1	10	168	1440	7200	144000
PRESSURE								
TIME	0	5sec	60sec	600sec	2.8hr	1day	5days	100days
LOG(MINUTES)	-3.00	-1.30	0.00	1.00	2.23	3.16	3.86	5.16
PRES (PSIG)	0	2	2	1	1	0	0	0
TIME (MIN)	0.001	0	1	10	168	1440	7200	144000

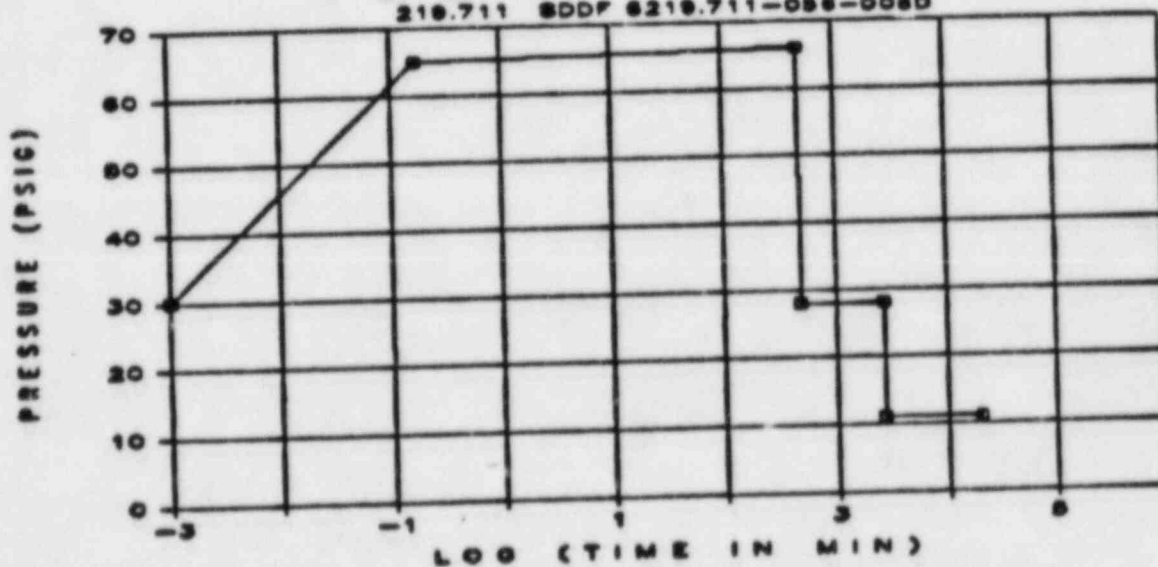
TEST PROFILE

219.711 SDDF 6219.711-056-0060



TEST PROFILE

219.711 SDDF 6219.711-056-0060



TEST PROFILE DATA FOR 219.711 SDDF 6219.711-056-0060 -- SOLENOID VALVES AND POSITION SWITCHES.

TEMPERATURE:

TIME	0	10sec	30sec	1.7min	3hr	47hr	2days	14days
LOG(MINUTES)	-3.00	-0.77	-0.30	0.22	2.26	3.45	3.46	4.30
TEMP (F)	140	140	385	385	310	285	215	215

PRESSURE:

TIME	0	10sec	3hr	3hr	45hr	45hr	14days
LOG(MINUTES)	-3.00	-0.77	2.68	2.68	3.43	3.43	4.30
PRES(PSIG)	30	65	66	28	28	11	11

RES - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 221512-1

REV 0

DATE

05-Dec-84

SHEET 1

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

EQUIPMENT DESCRIPTION	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN: DEMO	REMARKS
				SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2	OP. TIME:	30 DAYS		3	2			
SYSTEM: SEE SHEET 2	TEMP (F):							
	NORMAL	114	122	1	2	TEST-SIM	NA	NOTE-2
	ABNORMAL	114	122	1	2	TEST-SIM	NA	NOTE-1
TYPE: (DESCRIPTION)	ACCIDENT:	135		1				
COMPRESSOR MOTOR	PRESS (PSIG):							
	NORMAL	ATMOS	ATMOS	1	2	TEST-SIM	NA	NOTE-2
	ABNORMAL	ATMOS	ATMOS	1	2	TEST-SIM	NA	NOTE-1
MANUFACTURER: RELIANCE	ACCIDENT:	2.1		1				
MODEL: SEE SHEET 2	PH (2):							
	NORMAL	90	100	1	2	TEST-SIM	NA	NOTE-2
	ABNORMAL	90	100	1	2	TEST-SIM	NA	NOTE-1
SAFETY FUNCTION: - - -	ACCIDENT:	100		1				
MAINTAIN LEAKAGE CONTROL	RADIATION:							
	NORM GAMMA	7E2		1				
	ACC GAMMA	2E6 TID	2E6	1	2	TEST-SIM	NA	NOTE-2
	NORM BETA							
	ACC BETA		1.6E9		2	TEST-SIM	NA	NOTE-1
	NEUTRON							
	SFRAY	NA	NA	NA	NA	NA	NA	
	SURMERGENCE:	NA	NA	NA	NA	NA	NA	

DOCUMENT REFERENCE:

1. SPECIFICATION 21.512 REV.1 / E&OR P12.957
2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDOF # 6221.512-527-0036
3. FOST-ACCIDENT OPERABILITY PERIOD: SEE P&OP DOCUMENT NO. 245.600, REV.0

DOCUMENTATION ACCEPTABILITY:

NUREG 0588, CAT 1

QUALIFICATION IN PROGRESS

SEE NOTE-2

MAINT/SURVEILL - - -

REFERENCE: 2

QUALIFIED LIFE - - -

(YEARS): SEE SHEET 2

REFERENCE: 2

SRN 221512-1
 REV 0
 SHEET NO 2
 DATE 12/3/84

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
 SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

HARSH NO	MODEL/CATALOG NO.	ENV. ZONE	QUAL. LIFE	OPTIME
REHANS				

SRN 221512-1

SPEC 221.512

LSV LEAKAGE CONTROL - PENETRATION VALVE

ILSV-C3A

356TS

AB-141-2

40YRS

100 D
A

ILSV-C3B

356TS

AB-141-3

40YRS

100 D
A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 221512-1

REV

SHEET NO. 3

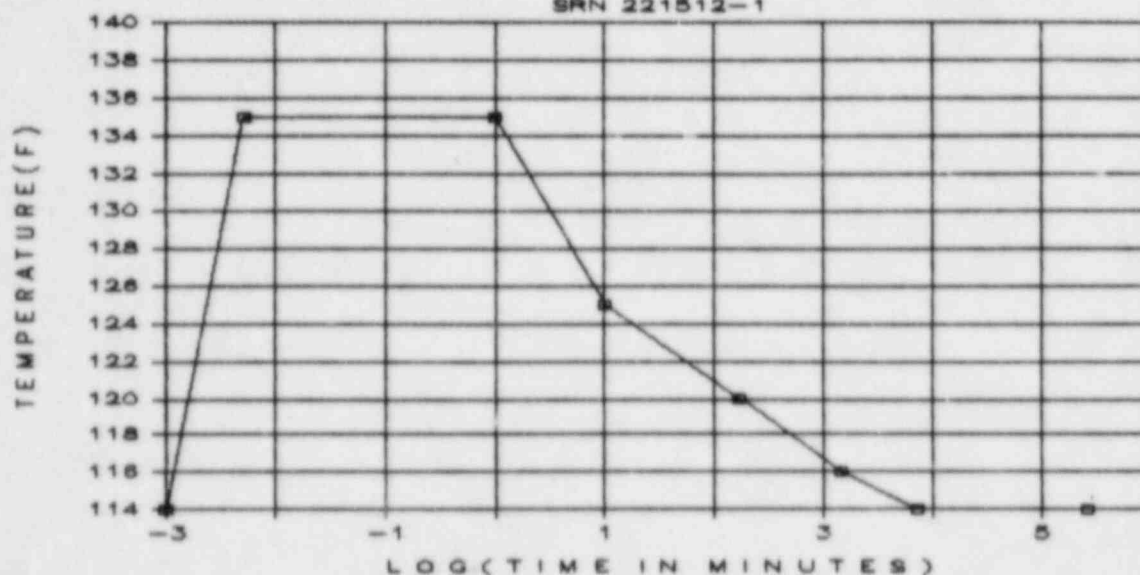
DATE 12/01/84

NOTES

-
1. For complete environmental conditions, see documents referenced.
 2. Qualification for operation under accident conditions is being completed by vendor.

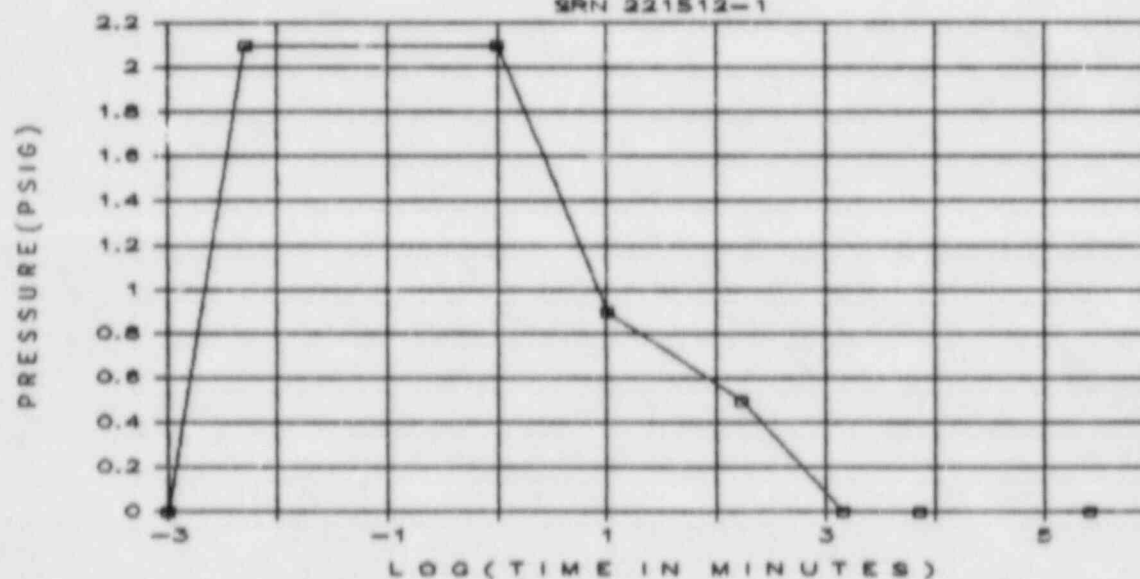
SPECIFIED ACCIDENT PROFILES

SRN 221512-1



SPECIFIED ACCIDENT PROFILES

SRN 221512-1



SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION: 221512

T E M P E R A T U R E								
TIME	0	5sec	60sec	600sec	2.8hr	1day	5days	180days
LOG (MINUTES)	-3.00	-2.30	0.00	1.00	2.23	3.16	3.86	5.41
TEMP (F)	114	135	135	125	120	116	114	114
TIME (MIN)	0.001	0.005	1	10	168	1440	7200	259200
P R E S S U R E								
TIME	0	5sec	60sec	600sec	2.8hr	1day	5days	180days
LOG (MINUTES)	-3.00	-2.30	0.00	1.00	2.23	3.16	3.86	5.41
PRES (PSIG)	0	2.1	2.1	0.9	0.5	0	0	0
TIME (MIN)	0.001	0.005	1	10	168	1440	7200	259200

SRN 223311-1
REV 0
DATE 03-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						DATE	03-Dec-84
		SHEET 1							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	REMARKS
					SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2		OP.TIME:	100 DAYS		3	2			NOTE-2
SYSTEM: SEE SHEET 2		TEMP (F):							NOTE-1
		NORMAL	122	122	1	2	TEST-SIM	NA	
		ABNORMAL	130		1			NA	NOTE-2
TYPE: (DESCRIPTION)		ACCIDENT	130		1				NOTE-2
PUMP MOTOR		PRESS (PSIG):							NOTE-1
		NORMAL	-0.25" H2O	ATMOS	1	2	TEST-SIM	NA	
		ABNORMAL	-0.62" H2O		1			NA	NOTE-2
MANUFACTURER: RELIANCE		ACCIDENT	-0.62" H2O		1				NOTE-2
		IRH (%):							NOTE-1
MODEL: SEE SHEET 2		NORMAL	55	100	1	2	TEST-SIM	NA	
		ABNORMAL	38		1			NA	NOTE-2
SAFETY FUNCTION. - - -		ACCIDENT	38		1				NOTE-2
PROVIDE COOLING FOR SPENT FUEL		RADIATION:							NOTE-1
		NORM GAMMA	1.8E6		1	2		NA	
		ACC GAMMA	40	2E8	1	2	TEST-SIM	YES	
OP. CODE: SEE SHEET 2		NORM BETA	0		1			NA	
		ACC BETA	6E2	1.6E9	1	2	TEST-SIM	YES	
		NEUTRON	0		1			NA	
ACCURACY - -		SPRAY	NA	NA	NA	NA	NA	NA	
SPEC: NA		SUBMERGENCE	NA	NA	NA	NA	NA	NA	
DEMO: NA									
ZONE NO.: SEE SHEET 2									
SUBMERGENCE:		DOCUMENT REFERENCE:							
SPRAY/FROTH:		1. SPECIFICATION 223.311, REV.0, ADD.8 / E&DCR P12,904							
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 4223.311-021-001C							
EQUIPMENT NOT SUBJECTED TO SUBMERGENCE OR SPRAY/FROTH		3. POST-ACCIDENT OPERABILITY PERIOD: SEE PAOP DOCUMENT NO. 245.600, REV.0							
DOCUMENTATION ACCEPTABILITY:									
NUREG 0588,CAT I									
QUALIFICATION IN PROGRESS									
NOTE-2									
MAINT/SURVEILL - - -									
REFERENCE: 2									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE: 2									

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 223311-1
REV 1
SHEET NO. 2
DATE 12-12-84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME OC
SRN 223311-1				
SPEC 223.311				
SFC SPENT FUEL POOL COOLING AND CLEAN-UP				
1SFC*P1A	NONE, UNIQUE NOTE 2	FB-070-1	40 YRS	1000 A
1SFC*P1B	NONE, UNIQUE NOTE 2	FB-070-1	40 YRS	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 223311-1

REV 0

SHEET NO. 3

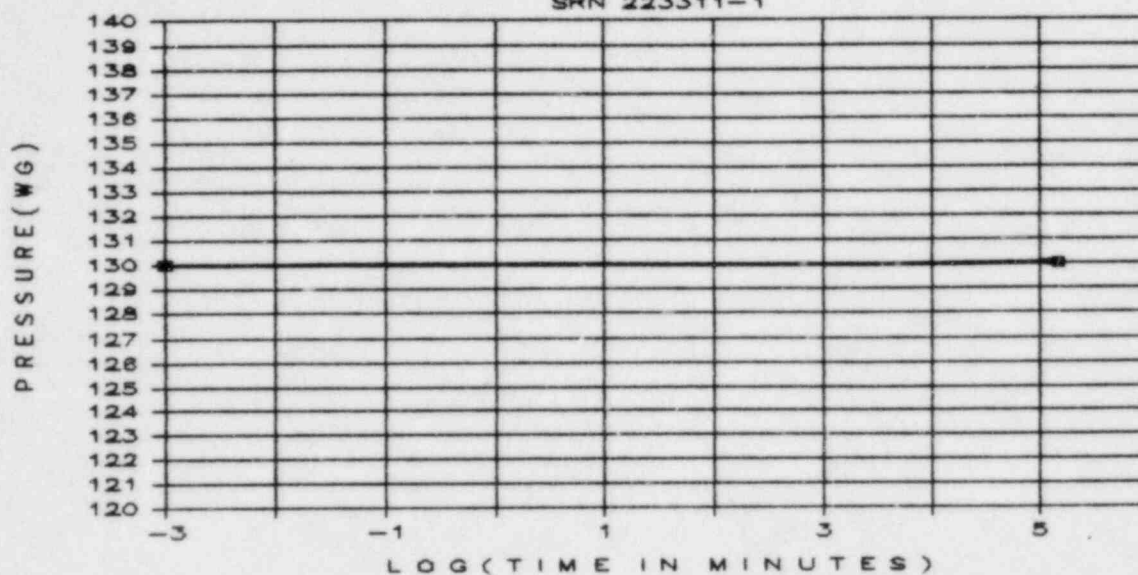
DATE 11/27/84

NOTES

-
1. For complete environmental profile, see document referenced.
 2. Qualification is complete for 40 years normal operation and for all radiation. Additional qualification is being provided for abnormal and accident operation at 130°F. The nameplate rating is 65°C ambient. Documentation is required to establish that this rating is good for full load operation for at least 2460 hours in addition to 40 years at 50°C.

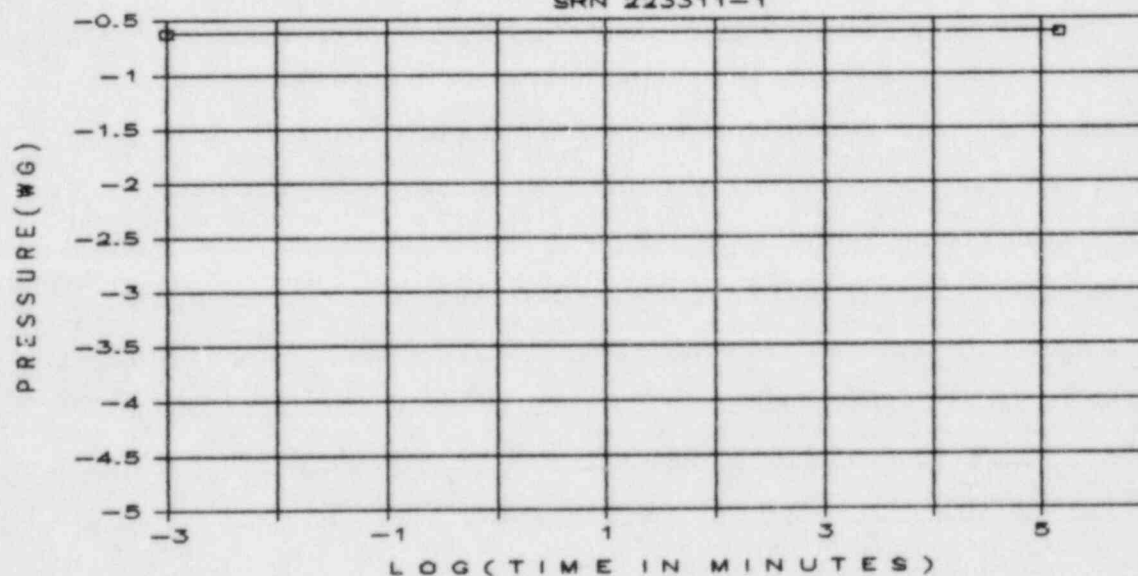
SPECIFIED ACCIDENT PROFILES

SRN 223311-1



SPECIFIED ACCIDENT PROFILES

SRN 223311-1



SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION: 223311

TEMPERATURE -----

TIME	0 100days			
LOG (MINUTES)	-3.00	5.16		
TEMP(F)	130	130	120	140
TIME(MIN)	0.001	144000		

PRESSURE -----

TIME	0 100days			
LOG(MINUTES)	-3.00	5.16		
PRES(WG)	-0.62	-0.62	-1	-5
TIME(MIN)	0.001	144000		

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 224520-1
REV 1
DATE 13-DEC-84
SHEET 1

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	REMARKS
EQUIP NO.: SEE SHEET 2	OP. TIME:	27 DAYS	30 DAYS	3	2	TEST-IDENT	YES	
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE 1
	NORMAL	114	150	1	2	TEST-IDENT	NA	NOTE 2
	ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)	ACCIDENT	114	150	1	2,5	TEST-IDENT	YES	NOTE 3
	PRESS (PSIG)							NOTE 1
H2 RECOMBINER POWER SUPPLY	NORMAL	ATMOS	ATMOS	1	2	TEST-IDENT	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: WESTINGHOUSE	ACCIDENT	ATMOS	ATMOS	1	2,5	TEST-IDENT	NO	NOTE 3
	IRH (%)							NOTE 1
MODEL: SEE SHEET 2	NORMAL	90	90	1	2	TEST-IDENT	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -	ACCIDENT	90	90	1	2,5	TEST-IDENT	NA	NOTE 3
PROVIDE REGULATED POWER TO THE HYDROGEN RECOMBINER	RADIATION:							NOTE 1
	NORM GAMMA							
	ACC GAMMA	6E3	1E4	4	2	AN + DATA	YES	NOTE 4
	NORM BETA							
	ACC BETA							
	NEUTRON							
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:								
SPRAY/FROTH:								
EQUIPMENT NOT SUBJECTED TO SUBMERGENCE OR SPRAY/FROTH CONDITIONS								
DOCUMENTATION ACCEPTABILITY:								
ACCEPTABLE TO NUREG 0588,CAT I								
MAINT/SURVEILL - - -								
REFERENCE: 2								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: SEE NOTE 5								

- DOCUMENT REFERENCE:
1. SPECIFICATION 224-520 THRU ADD.# 3 & E&DCR NO. P-12,910A
 2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,
SDDF # 6224,520-214-001B TO 009B &
WESTINGHOUSE LETTER # P1-82-0166, DATED 4-27-82
 3. POST-ACCIDENT OPERABILITY PERIOD: SEE
PAOP DOCUMENT NO. 245,600, REV. 0
 4. CALCULATION NO. 12210-PR(C)-481, REV. 1
 5. NRC LETTER DATED 6/22/78 FROM J.F.STOLTZ (NRC) TO T.M.ANDERSON (W).

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 224 520-1

REV 0

SHEET NO 2

DATE 12/3/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBORG	QUAL. LIFE	OPTIME OC
---------	------------------------------	---------------------	------------	--------------

SRN 224520-1

SPEC 224.520

HCS HYDROGEN RECOMBINER

1HCS*PWRS1A

MODEL B

AB-141-1

40YRS

27D

A

1HCS*PWRS1B

MODEL B

AB-141-2

40YRS

27D

A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 224520-1

REV 1

SHEET NO. 3

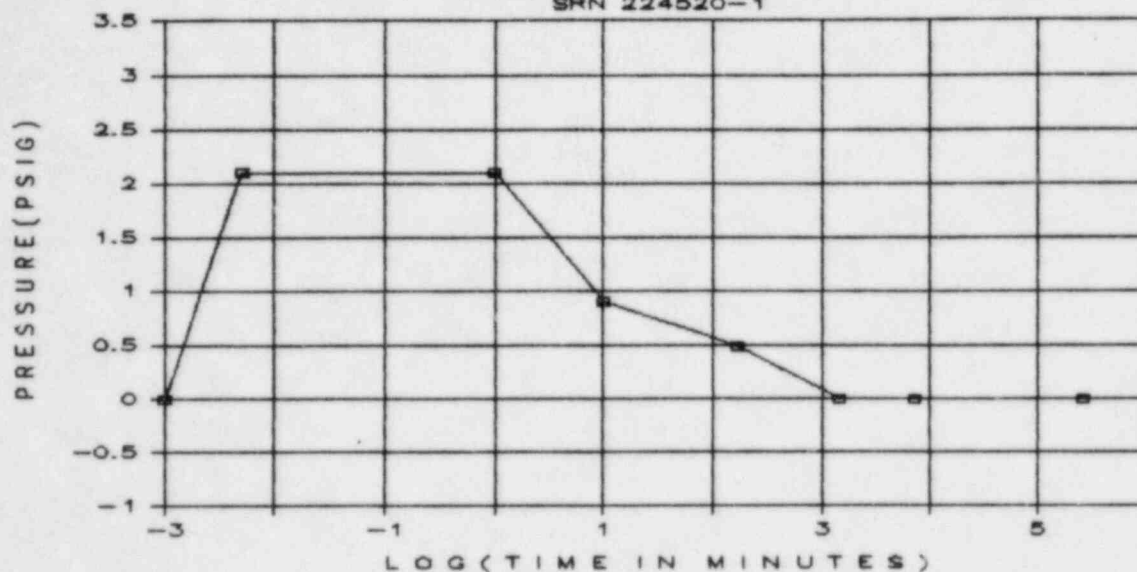
DATE 12/01/84

NOTES

1. For complete environmental conditions, see the document referenced.
2. Power supply is required to operate during LOCA only. It was tested for operation at 150°F, and it remains deenergized during normal conditions.
3. Power supply is required to operate during LOCA only, at which time its location experiences normal environmental conditions (with exception of radiation). It is not required to operate during other accident conditions. Unit can be tested, maintained, and repaired after these accidents. See Reference 5.
4. SWEC has reviewed the power supply drawings and concluded that there are no metal oxide semiconductor devices used. Based on an ANS report, Short Course - Radiation Effects on Electronics, dated November 13, 1982, all the electronics in the power supply have a radiation qualification exposure threshold above 1E4 rads.
5. 40-year qualified life is attained by the power supplies being located in zones where the units can be tested and maintained. See Reference 2 and 5.

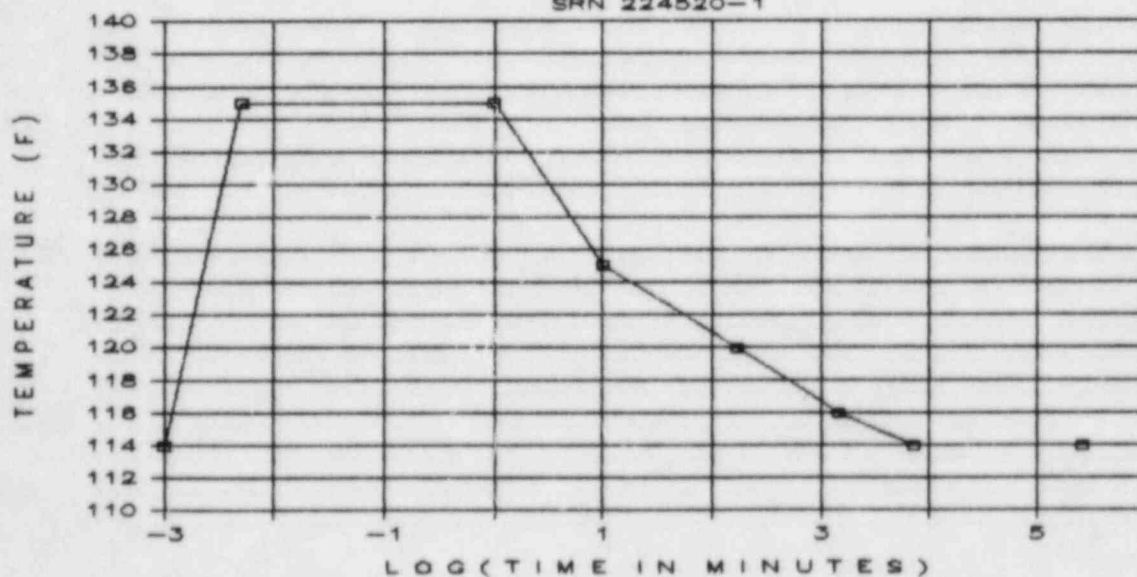
SPECIFIED ACCIDENT PROFILES

SRN 224520-1

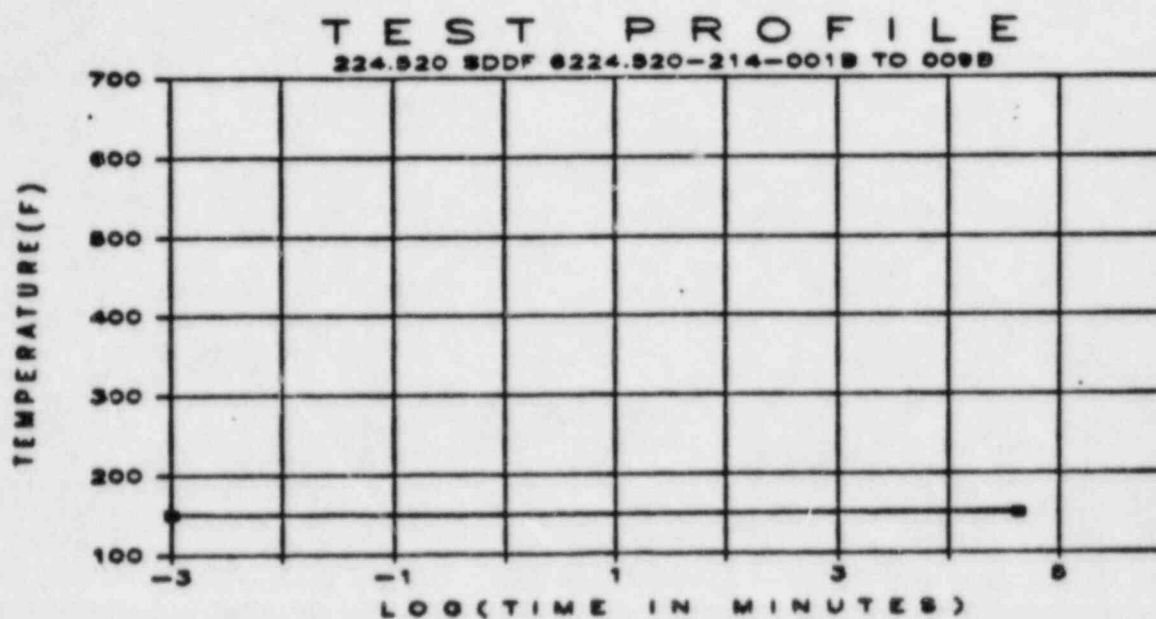


SPECIFIED ACCIDENT PROFILES

SRN 224520-1



TEMPERATURE								
TIME	0	5sec	60sec	600sec	2.8hr	1day	5days	180days
LOG (MINUTES)	-3.00	-2.30	0.00	1.00	2.23	3.16	3.86	5.41
TEMP(F)	114	135	135	125	120	116	114	114
TIME(MIN)	0.001	0.005	1	10	168	1440	7200	259200
PRESSURE								
TIME	0	5sec	60sec	600sec	2.8hr	1day	5days	180days
LOG(MINUTES)	-3.00	-2.30	0.00	1.00	2.23	3.16	3.86	5.41
PRES(PSIG)	0	2.1	2.1	0.9	0.5	0	0	0
TIME(MIN)	0.001	0.005	1	10	168	1440	7200	259200



TEST PROFILE DATA FOR 224.520 SDDF 6224.520-214-001B TO 009B
 LOCATION AB-141-142

TIME	0	30 days
LOG (MINUTES)	-3.00	4.64
TEMP (F)	150	150

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 224520-2
REV 1
DATE 13-DEC-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						REMARKS
PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO		
			SPECIFIED	QUALIFIED				
CDHIP NO.: SEE SHEET 2	OP. TIME:	100 DAYS	11 MON.	3	4	TEST-IDENT	YES	
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE 1
	NORMAL	90	155	1	2,5	TEST-IDENT	NA	
	ABNORMAL	140	155	1	2,5	TEST-IDENT	NA	
TYPE: (DESCRIPTION)	ACCIDENT	165	200	1	2,5	TEST-IDENT	YES	
	PRESS (PSIG)							NOTE 1
RECOMBINER UNIT	NORMAL	-1.0" WG	ATMOS	1	2,5	TEST-IDENT	NA	
	ABNORMAL	2.3	85	1	2,5	TEST-IDENT	NA	NOTE 2
MANUFACTURER: WESTINGHOUSE	ACCIDENT	9.0	85	1	2,5	TEST-IDENT	YES	
	RH (%)							NOTE 1
MODEL: SEE SHEET 2	NORMAL	50	100	1	7	AN + DATA	NA	
	ABNORMAL	100	100	1	7	TEST-IDENT	NA	
SAFETY FUNCTION: - - -	ACCIDENT	100	100	1	7	TEST-IDENT	NA	
REMOVE HYDROGEN FROM	RADIATION:							NOTE 1
CONTAINMENT ATMOSPHERE	NORM GAMMA	YES		1				
	ACC GAMMA	1.8E8TID	2E8	1	6	TEST-IDENT	YES	
OP. CODE: SEE SHEET 2	NORM BETA							
	ACC BETA							
	NEUTRON							
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:								
SPRAY/FROTH:								
EQUIPMENT NOT SUBJECTED TO								
SUBMERGENCE OR SPRAY/FROTH								
CONDITIONS								
DOCUMENTATION ACCEPTABILITY:								
ACCEPTABLE TO NUREG 0588, CAT I								
MAINT/SURVEILL - - -								
REFERENCE: NOT REQUIRED								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 9								

- DOCUMENT REFERENCE:
1. SPECIFICATION 224.520 THRU ADD. # 3 & E&DCR NO. P-12,910A
 2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6224.520-214-001B TO 009B & WESTINGHOUSE LTR. #PI-82-0166, DATED 4/27/82
 3. POST-ACCIDENT OPERABILITY PERIOD: SEE P&OP DOCUMENT NO. 245.600, REV. 0
 4. SDDF # 6224.520-214-006B
 5. SDDF # 6224.520-214-005B
 6. SDDF # 6224.520-214-004B
 7. SDDF # 6224.520-214-003B
 8. SDDF # 6224.520-214-001B
 9. NRC LETTER DATED 6/22/78 FROM J.F.STOLTZ (NRC) TO T.M.ANDERSON (W)

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 224520-2

REV 0

SHEET NO 2

DATE 12/3/84

HARK NO	MODEL/CATALOG NO.	ENV. ZONE	QUAL. LIFE	OPTIME
	REMARKS	SUBURG		CC

SRN 224520-2

SPEC 224.520

HCS HYDROGEN RECOMBINER

1HCS*RENRI1A

MODEL B

CT-G

40YRS

100D
A

1HCS*RBNR1B

MODEL B

CT-5A

40YRS

100D
A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 224520-2

REV

SHEET NO. 3

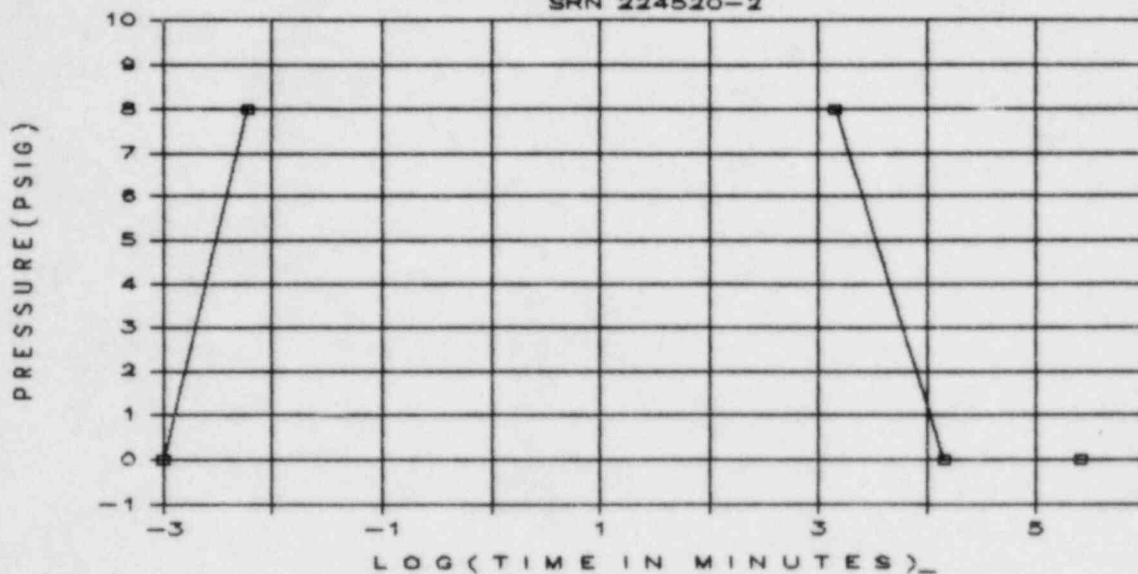
DATE 12/01/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. The recombiner was tested under accident conditions to 85 psia. Therefore, 2.3 psig will not affect the recombiner.

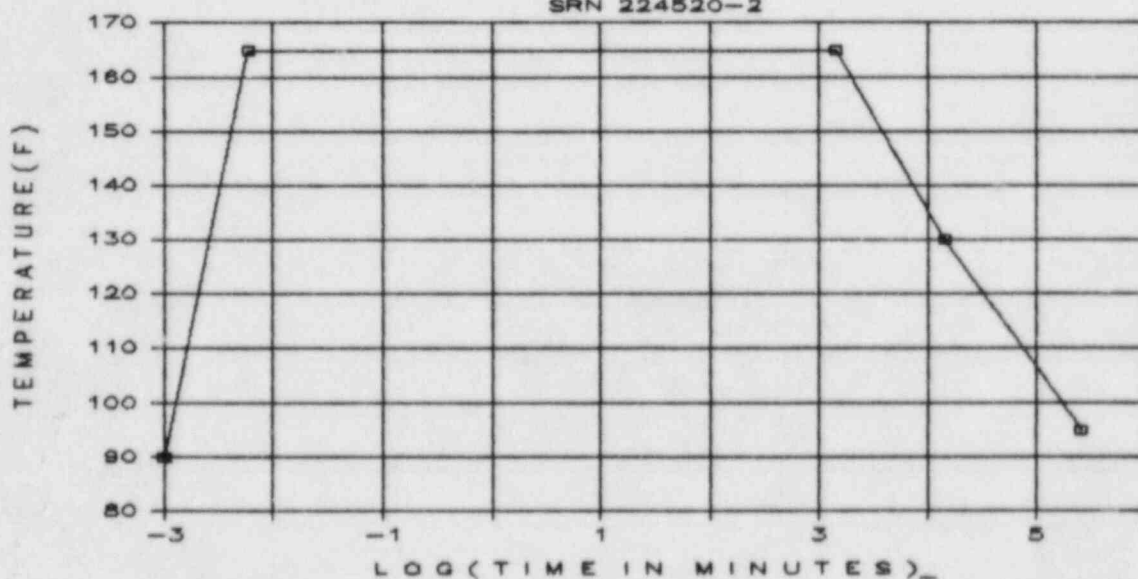
SPECIFIED ACCIDENT PROFILES

SRN 224520-2



SPECIFIED ACCIDENT PROFILES

SRN 224520-2

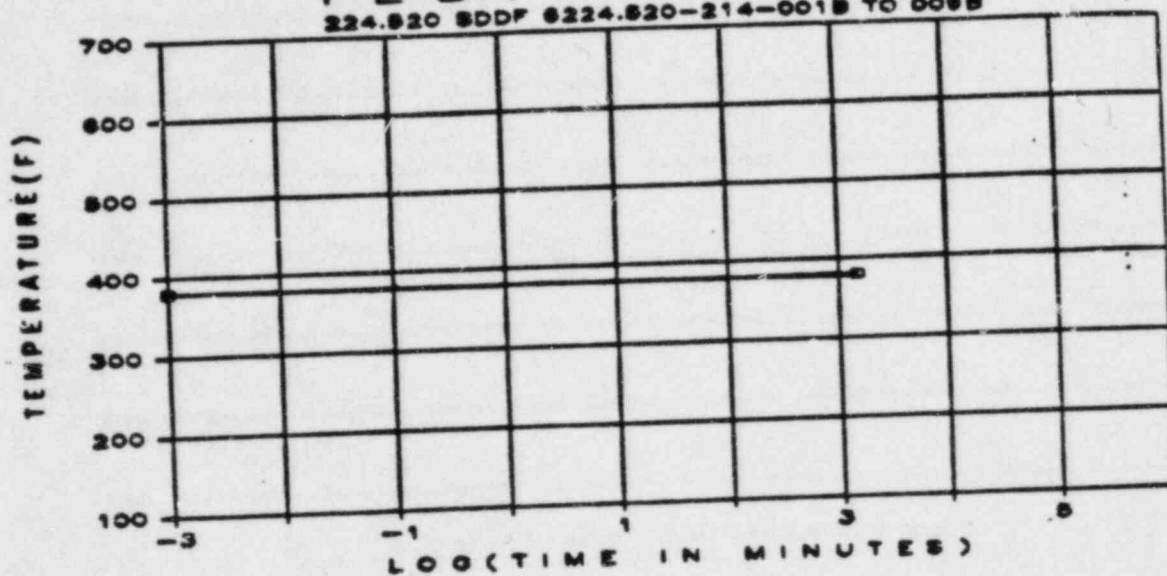


SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION: 224520

TEMPERATURE					
TIME	0	6sec	1day	10days	180days
LOG (MINUTES)	-3.00	-2.22	3.16	4.16	5.41
TEMP (F)	90	165	165	130	95
TIME (MIN)	0.001	0.006	1440	14400	259200
PRESSURE					
TIME	0	6sec	1day	10days	180days
LOG (MINUTES)	-3.00	-2.22	3.16	4.16	5.41
PRES (PSIG)	0	8	8	0	0
TIME (MIN)	0.001	0.006	1440	14400	259200

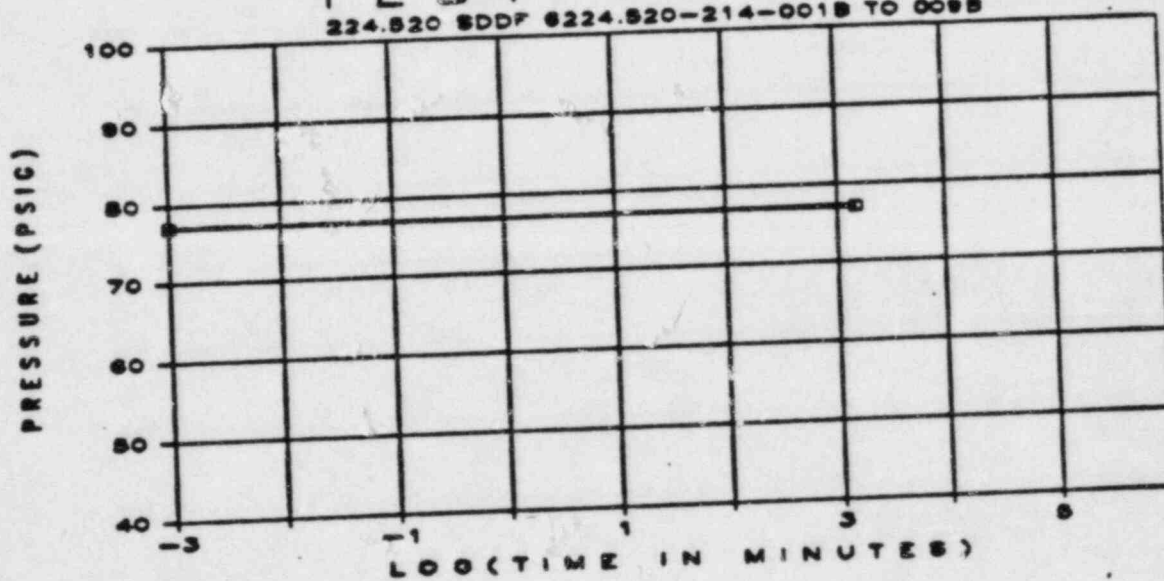
TEST PROFILE

224.520 SDDF 6224.520-214-001B TO 009B



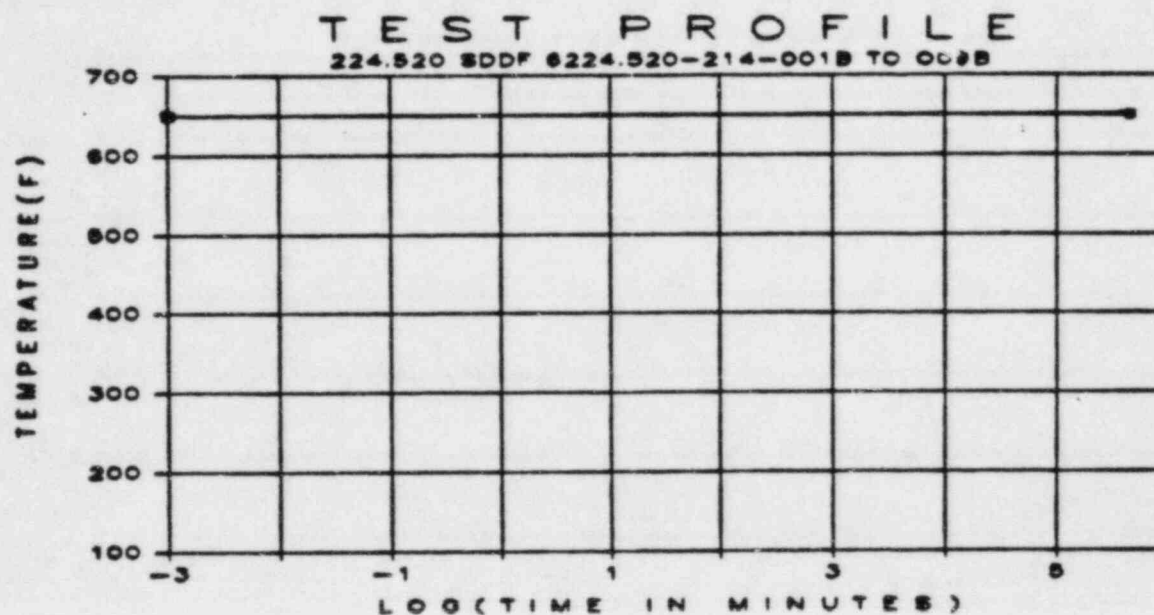
TEST PROFILE

224.520 SDDF 6224.520-214-001B TO 009B



TEST PROFILE DATA FOR 224.520 SDDF 6224.520-214-001B TO 009B
LOCATION CT-6

TEST 1:	0	25hr
TIME		
LOG(MINUTES)	-3.00	3.18
TEMP (F)	380	380
PRES(PSIG)	77	77



TEST PROFILE DATA FOR 224.520 SDDF 6224.520-214-001B TO 009B
LOCATION CT-6

TEST 3:		
TIME	0 11 months	
LOG(MINUTES)	-3.00	5.68
TEMP (F)	650	650

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 225220-1
REV 0
DATE 05-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION						MARGIN DEMO	REMARKS
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		DUAL METHOD		
				SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2	OP. TIME:	100 DAYS	>100 DAYS	3	2	TEST-IDENT	YES	
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE 1
	NORMAL	122	137	1	2	TEST-IDENT	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)	ACCIDENT	122	184	1	2	TEST-IDENT	YES	
HEATER	PRESS (PSIG)							NOTE 1
	NORMAL	ATMOS	ATMOS	1	2	TEST-IDENT	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: NUTHERM	ACCIDENT	ATMOS	ATMOS	1	2	TEST-IDENT		NOTE-2
	RRH (%)							NOTE 1
MODEL: SEE SHEET 2	NORMAL	90	95	1	2	TEST-IDENT	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -	ACCIDENT	90	95	1	2	TEST-IDENT	YES	
LIMIT RELATIVE HUMIDITY OF AIR ENTERING FILTER UNIT	RADIATION:							NOTE 1
	NORM GAMMA						NA	
	ACC GAMMA	3.3E6 TID	1.1E7	4	2	TEST-IDENT	YES	
OP. CODE: SEE SHEET 2	NORM BETA							
	ACC BETA							
	NEUTRON							
ACCURACY - -	SPRAY	NA	NA	NA	NA	NA	NA	
	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SURMERGENCE:	DOCUMENT REFERENCE:							
SPRAY/FROTH:	1. SPECIFICATION 225.220 THRU ADD. # 8 & E&DCR NO. P-12,903A							
	2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6225.220-115-026A							
EQUIPMENT NOT SUBJECTED TO SUBMERGENCE OR SPRAY/FROTH CONDITIONS	3. POST-ACCIDENT OPERABILITY PERIOD: SEE PAOP DOCUMENT NO. 245.600, REV. 0							
	4. CALCULATION NO. 12210-PR(C)-552							
DOCUMENTATION ACCEPTABILITY:								
ACCEPTABLE TO NUREG 0588, CAT I								
MAINT/SURVEILL - - -								
REFERENCE: 2								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 2								

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 225 220-1

REV 0

SHEET NO 2

DATE 12/31/84

MARK NO

MODEL/CATALOG NO.
REMARKS

ENV. ZONE
SUBMRG

QUAL. LIFE

OPTIME
CC

SRN 225220-1

SPEC 225.220

GTS GAS TREATMENT STANDBY

1GTS* *FLTIAH*

A-1057

AB-141-5

40 YRS

1000
A

1GTS* *FLTIBH*

A-1057

AB-141-6

40 YRS

1000
A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 225220-1

REV 0

SHEET NO. 3

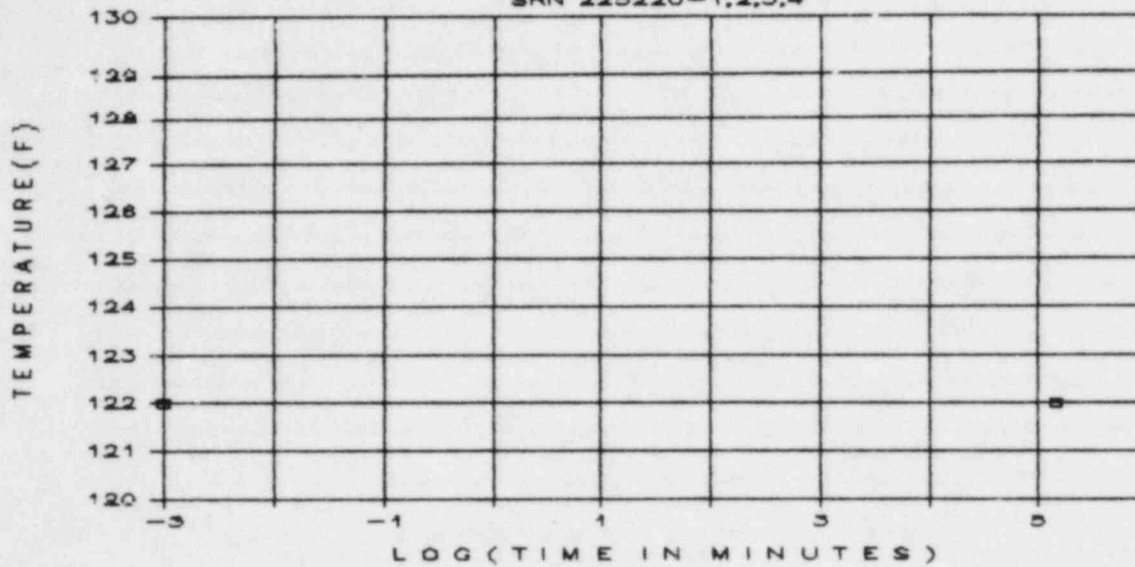
DATE 12/01/84

NOTES

-
1. For complete environmental conditions, see the documents referenced.
 2. Atmospheric changes are present during normal testing. Margin is not applicable for normal conditions.

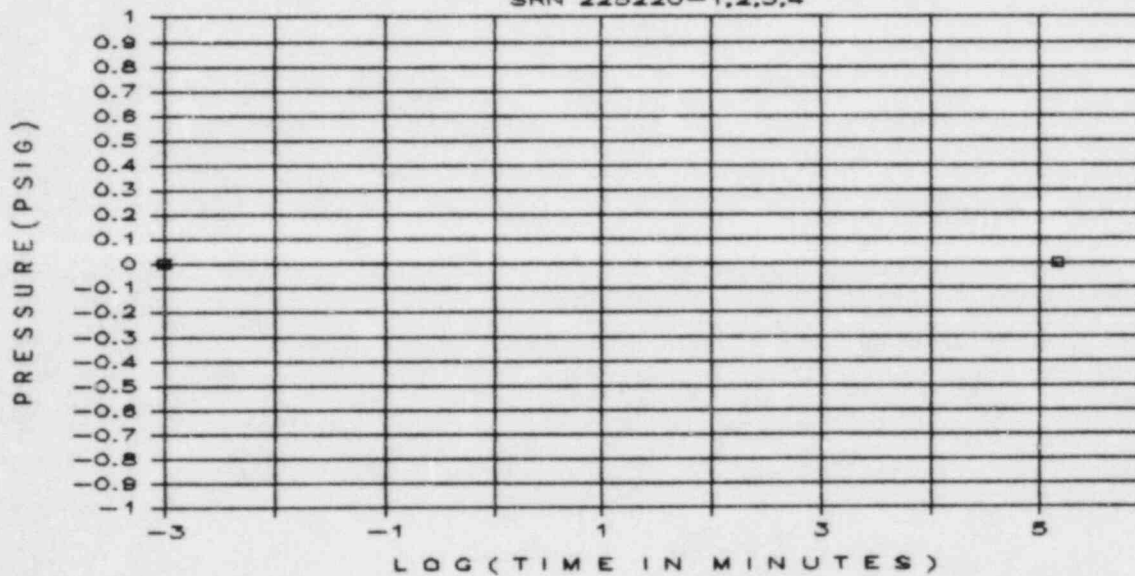
SPECIFIED ACCIDENT PROFILES

SRN 225220-1,2,3,4



SPECIFIED ACCIDENT PROFILES

SRN 225220-1,2,3,4

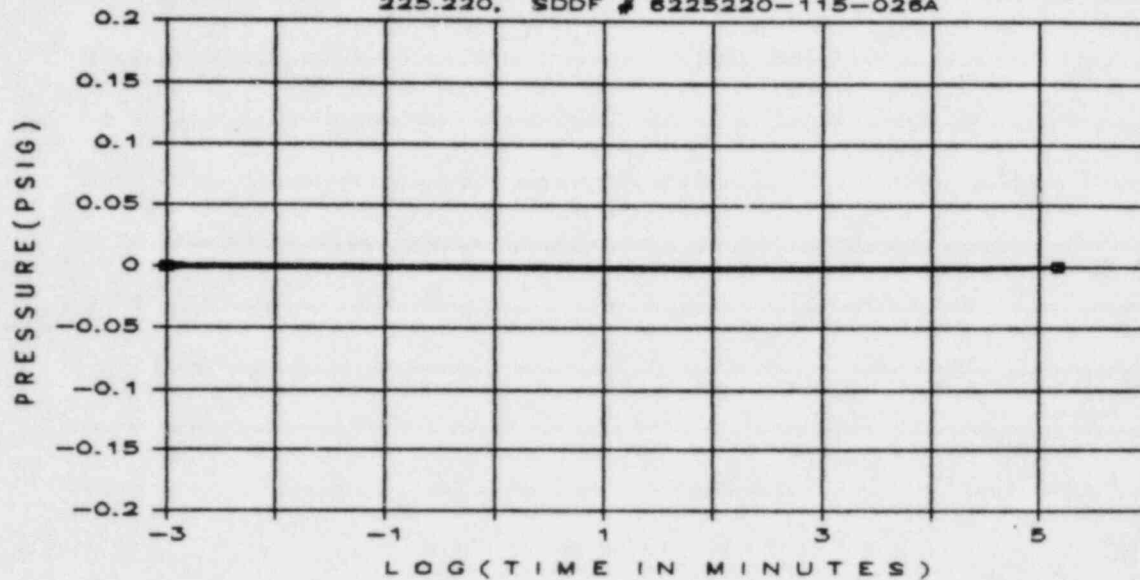


SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION: 225220

TEMPERATURE - - - - -				
TIME	0	100days		
LOG (MINUTES)	-3.00	5.16		
TEMP(F)	122	122	120	130
TIME(MIN)	0.001	144000		
PRESSURE - - - - -				
TIME	0	100days		
LOG (MINUTES)	-3.00	5.16		
PRES(PSIG)	0	0	-1	1
TIME(MIN)	0.001	144000		

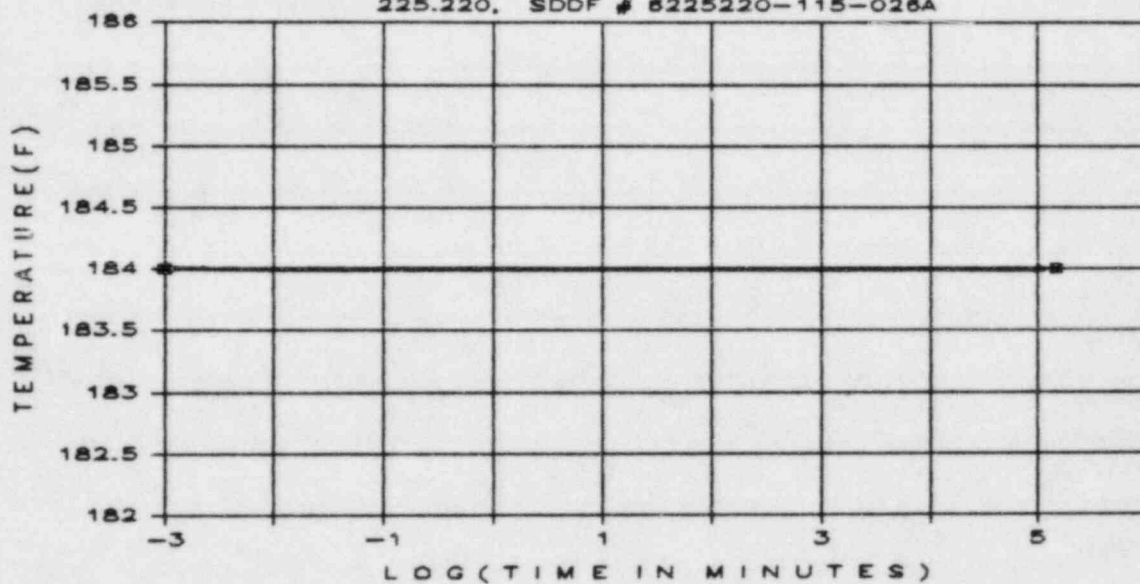
TEST PROFILE

225.220, SDDF # 6225220-115-026A



TEST PROFILE

225.220, SDDF # 6225220-115-026A



SPECIFIED TEST CONDITIONS FOR SDDF # 6225.220-115-026A

TEMPERATURE -----		
TIME	0 days	100 days
LOG (MINUTES)	-3.00	5.16
TEMP (F)	184	184
TIME (MIN)	0.001	144000
PRESSURE -----		
TIME	0 days	100 days
LOG (MINUTES)	-3.00	5.16
PRES (PSIG)	0	0
TIME (MIN)	0.001	144000

SRN 225220-2
REV 0
DATE 05-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						DATE	
		SHEET 1						05-Dec-84	
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	REMARKS
					SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2		OP.TIME:	100 DAYS	>100 DAYS	3	2	AN + DATA	YES	
SYSTEM: SEE SHEET 2		TEMP (F):							NOTE 1
		NORMAL	122	137	1	2	AN + DATA	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)		ACCIDENT	122	184	1	2	AN + DATA	YES	
		PRESS (PSIG)							NOTE 1
FLOW SWITCH		NORMAL	ATMOS	ATMOS	1	2	AN + DATA	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: CEMCO		ACCIDENT	ATMOS	ATMOS	1	2	AN + DATA		NOTE 2
		RH (%)							NOTE 1
MODEL: SEE SHEET 2		NORMAL	90	95	1	2	AN + DATA	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -		ACCIDENT	90	95	1	2	AN + DATA	YES	
INDICATE AIR FLOW THROUGH		RADIATION:							NOTE 1
FILTER UNIT		NORM GAMMA						NA	
		ACC GAMMA	3.3E6 TID	2.5E7	4	2	TEST-IDENT	YES	
OP. CODE: SEE SHEET 2		NORM BETA							
		ACC BETA							
		NEUTRON							
ACCURACY - -		SPRAY	NA	NA	NA	NA	NA	NA	
		SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA									
DEMO: NA									
ZONE NO.: SEE SHEET 2									
SUBMERGENCE:		DOCUMENT REFERENCE:							
SPRAY/FROTH:		1. SPECIFICATION 225.220 THRU ADD.# 8 & E&DCR NO. P-12,903A							
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
		SDDF # 6225.220-115-026A							
EQUIPMENT NOT SUBJECTED TO		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
SUBMERGENCE OR SPRAY/FROTH		PAOP DOCUMENT NO. 245.600, REV.0							
CONDITIONS		4. CALCULATION NO. 12210-PR(C)-552							
DOCUMENTATION ACCEPTABILITY:									
ACCEPTABLE TO NUREG 0588,CAT I									
MAINT/SURVEIL: - - -									
REFERENCE: 2									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE: 2									

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
 SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 225 220-2

REV. 0

SHEET NO. 2

DATE: 12/3/84

MARK NO

MODEL/CATALOG NO.
 REMARKS

ENV. ZONE
 SUCHRG

QUAL. LIFE

OPTIME
 CC

SRN 225220-2

SPEC 225.220

GTS GAS TREATMENT STANDBY

1GTS#FS2A

RH-15

AB-141-5

10 YRS

1000
 A

1GTS#FS2B

RH-15

AB-141-6

10 YRS

1000
 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 225220-2

REV 0

SHEET NO. 3

DATE 12/01/84

NOTES

-
1. For complete environmental conditions, see the documents referenced.
 2. Atmospheric changes are present during normal testing. Margin is not applicable for normal conditions.

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 225220-3
REV 0
DATE 05-Dec-84
SHEET 1

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION							REMARKS
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	
EQUIP NO.: SEE SHEET 2	OP. TIME:	100 DAYS	>100 DAYS	3	2	AN + DATA	YES	
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE 1
	NORMAL	122	137	1	2	AN + DATA	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)	ACCIDENT	122	184	1	2	AN + DATA	YES	
	PRESS (PSIG)							NOTE 1
TEMPERATURE SWITCH	NORMAL	ATMOS	ATMOS	1	2	AN + DATA	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: FENWAL	ACCIDENT	ATMOS	ATMOS	1	2	AN + DATA		NOTE 2
	RH (%)							NOTE 1
MODEL: SEE SHEET 2	NORMAL	90	95	1	2	AN + DATA	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -	ACCIDENT	90	95	1	2	AN + DATA	YES	
OVER TEMPERATURE	RADIATION:							NOTE 1
AUTO RESET	NORM GAMMA						NA	
	ACC GAMMA	9.3E5 TID	1.3E6	4	2	TEST-IDENT	YES	
OP. CODE: SEE SHEET 2	NORM BETA							
	ACC BETA							
	NEUTRON							
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:								
SPRAY/FROTH:								
EQUIPMENT NOT SUBJECTED TO								
SUBMERGENCE OR SPRAY/FROTH								
CONDITIONS								
DOCUMENTATION ACCEPTABILITY:								
ACCEPTABLE TO NUREG 0588, CAT I								
MAINT/SURVEILL - - -								
REFERENCE: 2								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 2								

- DOCUMENT REFERENCE:
1. SPECIFICATION 225.220 THRU ADD.# 8 & E&DCR NO. P-12,903A
 2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6225.220-115-026A
 3. POST-ACCIDENT OPERABILITY PERIOD: SEE PADP DOCUMENT NO. 245.600, REV.0
 4. CALCULATION NO. 12210-PR(C)-552

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SCRIBED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 225 220-3

REV 0

SHEET NO. 2

DATE 12/3/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBREG	QUAL. LIFE	OPTIME OC
---------	------------------------------	---------------------	------------	--------------

SRN 225220-3

SPEC 225.220

GTS GAS TREATMENT STANDBY

1GTS*TS5A	54-301	AB-141-5	40YRS	1000 A
1GTS*TS5B	54-301	AB-141-6	40YRS	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 225220-3

REV 0

SHEET NO. 3

DATE 12/01/84

NOTES

-
1. For complete environmental conditions, see the documents referenced.
 2. Atmospheric changes are present during normal testing. Margin is not applicable for normal conditions.

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 225220-4

REV 0

DATE 05-Dec-84

SHEET 1

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION							REMARKS
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	
EQUIP NO.: SEE SHEET 2	OP. TIME:	100 DAYS	>100 DAYS	3	2	AN + DATA	YES	
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE 1
	NORMAL	122	137	1	2	AN + DATA	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)	ACCIDENT	122	184	1	2	AN + DATA	YES	
	PRESS (PSIG)							NOTE 1
TEMPERATURE SWITCH	NORMAL	ATMOS	ATMOS	1	2	AN + DATA	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: FENWAL	ACCIDENT	ATMOS	ATMOS	1	2	AN + DATA		NOTE 2
	RH (%)							NOTE 1
MODEL: SEE SHEET 2	NORMAL	90	95	1	2	AN + DATA	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -	ACCIDENT	90	95	1	2	AN + DATA	YES	
OVER TEMPERATURE	RADIATION:							NOTE 1
MANUAL RESET	NORM GAMMA						NA	
	ACC GAMMA	9.3E5 TID	1.3E6	4	2	TEST-IDENT	YES	
OP. CODE: SEE SHEET 2	NORM BETA							
	ACC BETA							
	NEUTRON							
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -	SUBMERGENCE:	NA	NA	NA	NA	NA	NA	
	SPEC: NA							
	DEMO: NA							
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:								
SPRAY/FROTH:								
EQUIPMENT NOT SUBJECTED TO								
SUBMERGENCE OR SPRAY/FROTH								
CONDITIONS								
DOCUMENTATION ACCEPTABILITY:								
ACCEPTABLE TO NUREG 0588,CAT								
MAINT/SURVEILL - - -								
REFERENCE: 2								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 2								

DOCUMENT REFERENCE:

1. SPECIFICATION 225.220 THRU ADD.# 8 & E&DCR NO. P-12,903A
2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6225.220-115-026A
3. POST-ACCIDENT OPERABILITY PERIOD: SEE PAOP DOCUMENT NO. 245.600, REV.0
4. CALCULATION NO. 12210-PR(C)-552

SRN 225 220-4
REV 0
SHEET NO. 2
DATE 12/3/84

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

MARK NO

MODEL/CATALOG NO.

ENV. ZONE QUAL. LIFE OPTIME

SUBNEG OC

REMARKS

SRN 225220-4

SPEC 225.220

GTS GAS TREATMENT STANDBY

IGTS*TS35A

IGTS*TS35B

54-302 AB-141-5 40 YRS 1000
A

54-302 AB-141-6 40 YRS 1000
A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 225220-4

REV 0

SHEET NO. 3

DATE 12/01/84

NOTES

-
1. For complete environmental conditions, see the documents referenced.
 2. Atmospheric changes are present during normal testing. Margin is not applicable for normal conditions.

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 225220-5
REV 0
DATE 05-Dec-84
SHEET 1

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

EQUIPMENT DESCRIPTION	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	REMARKS
				SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2	OP.TIME:	100 DAYS	>100 DAYS	3	2	TEST-IDENT	YES	
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE 1
	NORMAL	96	137	1	2	TEST-IDENT	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)	ACCIDENT	124	184	1	2	TEST-IDENT	YES	
	PRESS (PSIG)							NOTE 1
HEATER	NORMAL	-0.25" WG	ATMOS	1	2	TEST-IDENT	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: NUTHERM	ACCIDENT	-0.62" WG	ATMOS	1	2	TEST-IDENT		NOTE 2
	RH (%)							NOTE 1
MODEL: SEE SHEET 2	NORMAL	55	95	1	2	TEST-IDENT	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -	ACCIDENT	45	95	1	2	TEST-IDENT	YES	
LIMIT RELATIVE HUMIDITY OF AIR ENTERING FILTER UNIT	RADIATION:							NOTE 1
	NORM GAMMA	7E2		1			NA	
	ACC GAMMA	1E5 TID	1.1E5	1	2	TEST-IDENT	YES	
OP. CODE: SEE SHEET 2	NORM BETA							
	ACC BETA							
	NEUTRON							
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:								
SPRAY/FROTH:								
EQUIPMENT NOT SUBJECTED TO SUBMERGENCE OR SPRAY/FROTH CONDITIONS								
DOCUMENTATION ACCEPTABILITY: ACCEPTABLE TO NUREG 0583, CAT I								
MAINT/SURVEILL - - -								
REFERENCE: 2								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 2								

DOCUMENT REFERENCE:

1. SPECIFICATION 225.220 THRU ADD.# 8 & E&DCR NO. P-12,903A
2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,
SDDF # 6225.220-115-026A
3. POST-ACCIDENT OPERABILITY PERIOD: SEE
PAOP DOCUMENT NO. 245.600, REV.0

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 225220-5

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

REV 0
SHEET NO 2
DATE 12/3/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME CC
---------	------------------------------	---------------------	------------	--------------

SRN 225220-5

SPEC 225.220

HVF VENTILATION - FUEL BUILDING

1HVF* FLT 2AH

A-1057

FB-148-1

40 YRS

1000
A

1HVF* FLT 2BH

A-1057

FB-148-1

40 YRS

1000
A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 225220-5

REV 0

SHEET NO. 3

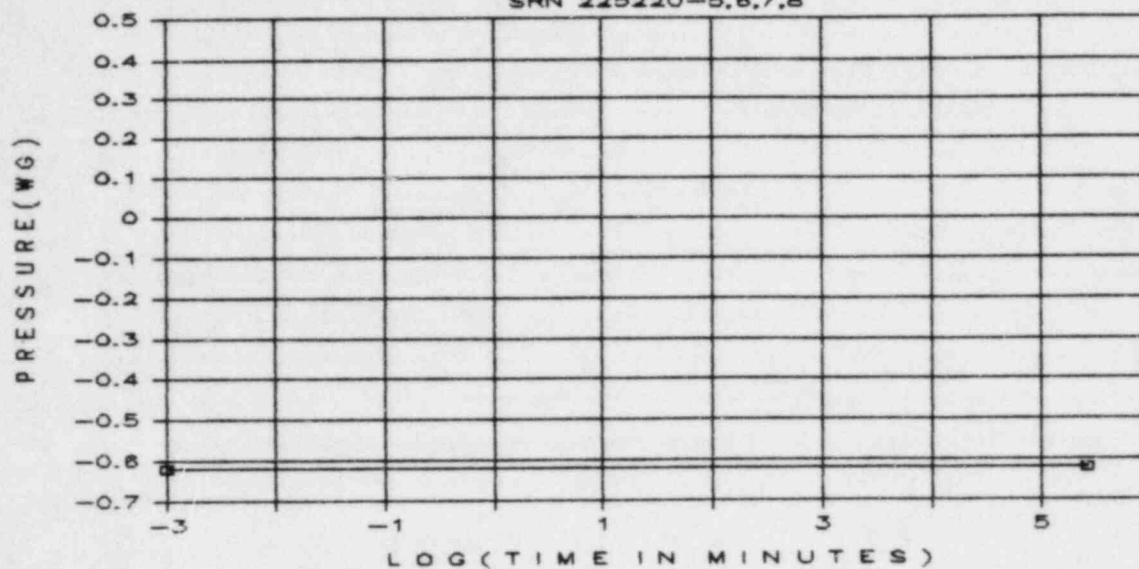
DATE 12/01/84

NOTES

-
1. For complete environmental conditions, see the documents referenced.
 2. Slight negative pressure within atmospheric tolerances.

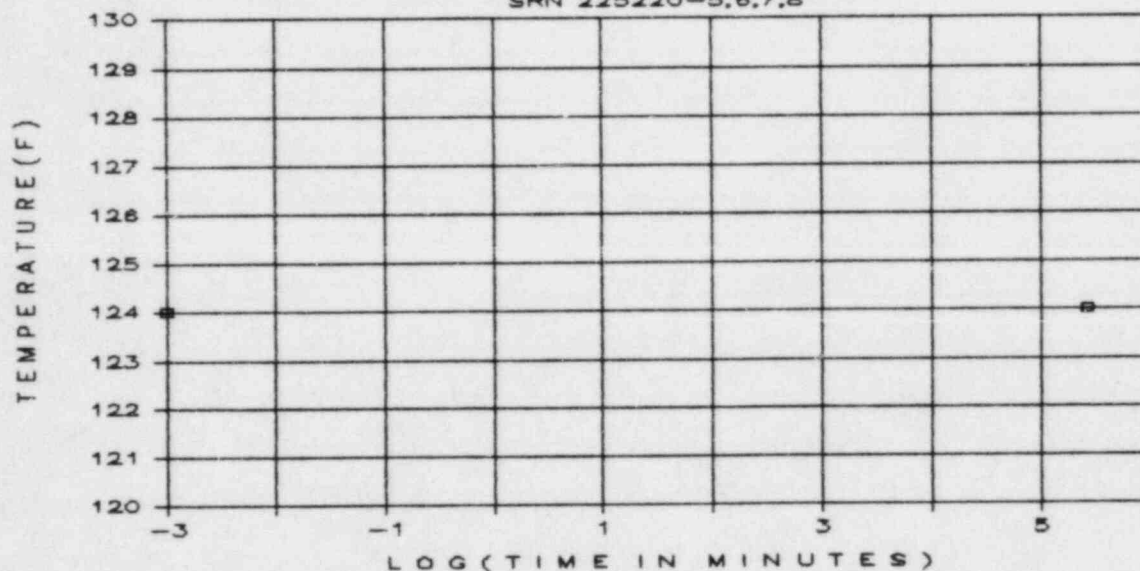
SPECIFIED ACCIDENT PROFILES

SRN 225220-5,6,7,8



SPECIFIED ACCIDENT PROFILES

SRN 225220-5,6,7,8



SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION: 225220

TEMPERATURE -----

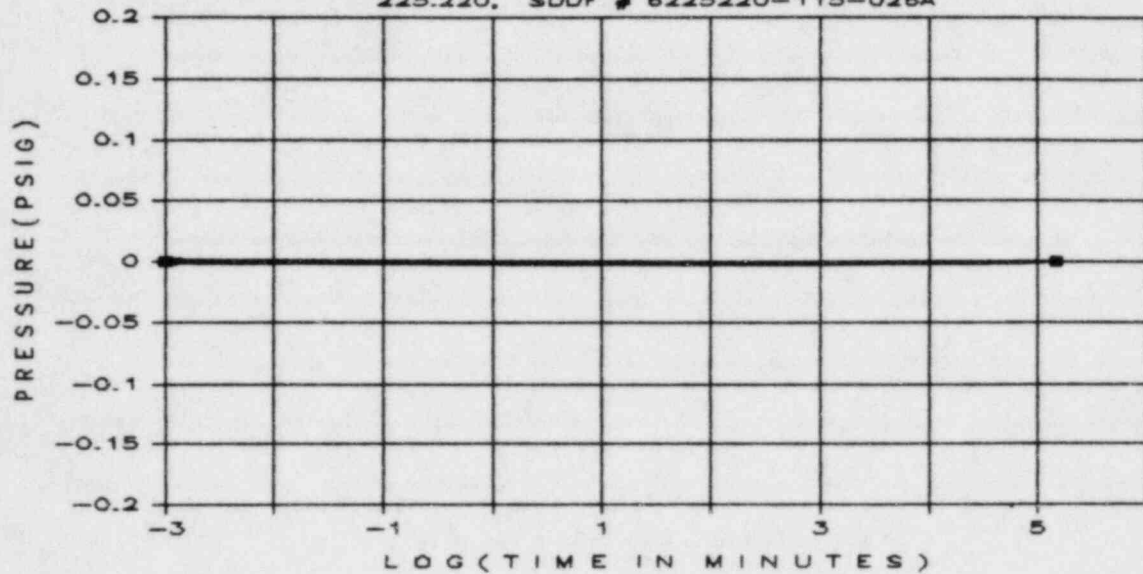
TIME	0	180days		
LOG (MINUTES)	-3.00	5.41		
TEMP(F)	124	124	120	130
TIME(MIN)	0.001	259200		

PRESSURE -----

TIME	0	180days		
LOG(MINUTES)	-3.00	5.41		
PRES(WG)	-0.62	-0.62	0.5	0.1
TIME(MIN)	0.001	259200		

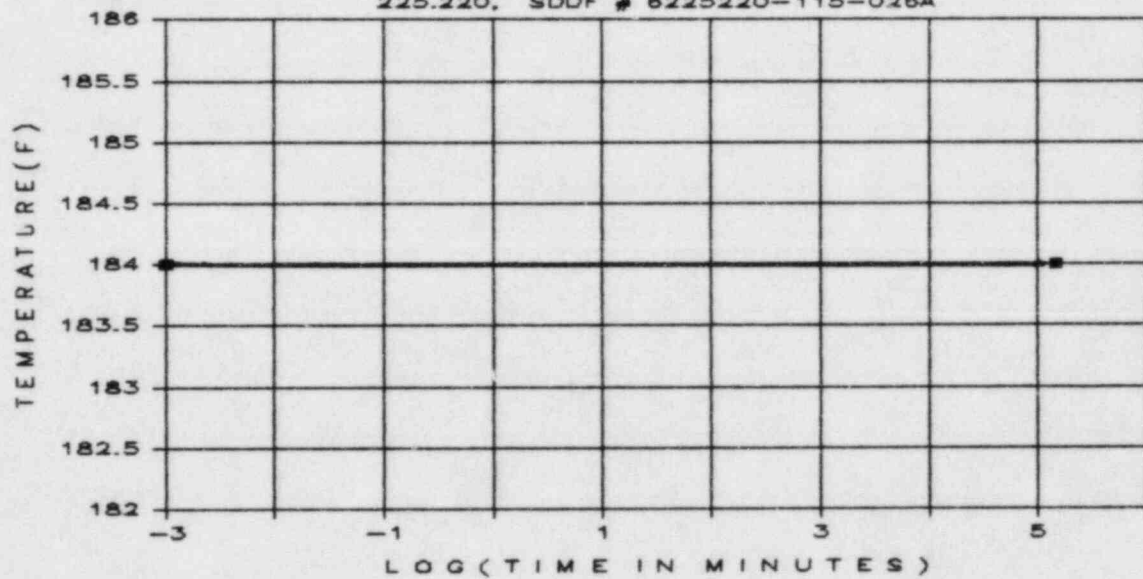
TEST PROFILE

225.220, SDDF # 6225220-115-026A



TEST PROFILE

225.220, SDDF # 6225220-115-026A



SPECIFIED TEST CONDITIONS FOR SDDF # 6225.220-115-026A

T E M P E R A T U R E -----		
TIME	0 days	100 days
LOG (MINUTES)	-3.00	5.16
TEMP (F)	184	184
TIME (MIN)	0.001	144000
P R E S S U R E -----		
TIME	0 days	100 days
LOG (MINUTES)	-3.00	5.16
PRES (PSIG)	0	0
TIME (MIN)	0.001	144000

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 225220-6
REV 0
DATE 05-Dec-84
SHEET 1

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION							REMARKS
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN: DEMO	
EQUIP NO.: SEE SHEET 2	OP. TIME:	100 DAYS	>100 DAYS	3	2	AN + DATA	YES	
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE 1
	NORMAL	96	137	1	2	AN + DATA	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)	ACCIDENT	124	184	1	2	AN + DATA	YES	
	PRESS (PSIG)							NOTE 1
FLOW SWITCH	NORMAL	-0.26" WG	ATMOS	1	2	AN + DATA	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: CEMCO	ACCIDENT	-0.62" WG	ATMOS	1	2	AN + DATA		NOTE 2
	RH (%)							NOTE 1
MODEL: SEE SHEET 2	NORMAL	55	95	1	2	AN + DATA	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -	ACCIDENT	45	95	1	2	AN + DATA	YES	
INDICATE AIR FLOW THROUGH FILTER UNIT	RADIATION:							NOTE 1
	NORM GAMMA	7E2		1			NA	
	ACC GAMMA	1E5 TID	2.5E7	1	2	TEST-IDENT	YES	
OP. CODE: SEE SHEET 2	NORM BETA							
	ACC BETA							
	NEUTRON							
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:								
SPRAY/FROTH:								
EQUIPMENT NOT SUBJECTED TO SUBMERGENCE OR SPRAY/FROTH CONDITIONS								
DOCUMENTATION ACCEPTABILITY:								
ACCEPTABLE TO NUREG 0588, CAT I								
MAINT/SURVEILL - - -								
REFERENCE: 2								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 2								

DOCUMENT REFERENCE:

1. SPECIFICATION 225.220 THRU ADD.# 8 & E&DCR NO. P-12,903A
2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,
SDDF # 6225.220-115-026A
3. POST-ACCIDENT OPERABILITY PERIOD: SEE
PAOP DOCUMENT NO. 245.600, REV.0

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 225 220-6

REV 0

SHEET NO 2

DATE 12/3/84

MARK NO

MODEL/CATALOG NO.

ENV. ZONE

QUAL. LIFE

OPTIME

REMARKS

SUSMRG

OC

SRN 225220-6

SPEC 225.220

HVF VENTILATION - FUEL BUILDING

1HVF*FS19A

RH-15

FB-146-1

10 YRS

1000

A

1HVF*FS19B

RH-15

FB-146-1

10 YRS

1000

A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 225220-6

REV 0

SHEET NO. 3

DATE 12/01/84

NOTES

-
1. For complete environmental conditions, see the documents referenced.
 2. Slight negative pressure within atmospheric tolerances.

SRN 225220-7
REV 0
DATE 05-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						DATE	05-Dec-84
		SHEET 1							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	REMARKS
					SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2		OP.TIME:	100 DAYS	>100 DAYS	3	2	AN + DATA	YES	
SYSTEM: SEE SHEET 2		TEMP (F):	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	NOTE 1
		NORMAL	96	137	1	2	AN + DATA	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)		ACCIDENT	124	184	1	2	AN + DATA	YES	
		PRESS (PSIG)	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	NOTE 1
TEMPERATURE SWITCH		NORMAL	-0.25" WG	ATMOS	1	2	AN + DATA	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: FENWAL		ACCIDENT	-0.62" WG	ATMOS	1	2	AN + DATA		NOTE 2
		RH (%)	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	NOTE 1
MODEL: SEE SHEET 2		NORMAL	55	95	1	2	AN + DATA	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -		ACCIDENT	45	95	1	2	AN + DATA	YES	
OVER TEMPERATURE		RADIATION:	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	NOTE 1
AUTO RESET		NORM GAMMA	7E2		1				
		ACC GAMMA	1E5 TID	1.3E6	1	2	TEST-IDENT	YES	
OP. CODE: SEE SHEET 2		NORM BETA							
		ACC BETA							
		NEUTRON							
ACCURACY - -		SPRAY	NA	NA	NA	NA	NA	NA	
		SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA									
DEMO: NA									
ZONE NO.: SEE SHEET 2									
SUBMERGENCE:		DOCUMENT REFERENCE:							
SPRAY/FROTH:		1. SPECIFICATION 225.220 THRU ADD.# 8 & E&DCR NO. P-12,903A							
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6225.220-115-026A							
EQUIPMENT NOT SUBJECTED TO		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
SUBMERGENCE OR SPRAY/FROTH		PAOP DOCUMENT NO. 245.600, REV.0							
CONDITIONS									
DOCUMENTATION ACCEPTABILITY:									
ACCEPTABLE TO NUREG 0588,CAT I									
MAINT/SURVEILL - - -									
REFERENCE: 2									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE: 2									

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 225 220-7

REV 0

SHEET NO 2

DATE 12/3/84

MARK NO

MODEL/CATALOG NO.

ENV. ZONE

QUAL. LIFE

OPTIME

REMARKS

SUCMRG

OC

SRN 225220-7

SPEC 225.220

HVF VENTILATION - FUEL BUILDING

1HVF*TS5A

54-301

FB-148-1

40YRS

100D
A

1HVF*TS5B

54-301

FB-148-1

40YRS

100D
A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 225220-7

REV 0

SHEET NO. 3

DATE 12/01/84

NOTES

1. For complete environmental conditions, see the documents referenced.
2. Slight negative pressure within atmospheric tolerances.

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 225220-8
REV 0
DATE 05-Dec-84
SHEET 1

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

EQUIPMENT DESCRIPTION	PARAMETER		SPECIFIED	QUALIFIED	DOCUMENT REFERENCE		QUAL	MARGIN	REMARKS
	VALUE		VALUE	VALUE	SPECIFIED	QUALIFIED	METHOD	DEMO	
EQUIP NO.: SEE SHEET 2	OP. TIME:		100 DAYS	>100 DAYS	3	2	AN + DATA	YES	
SYSTEM: SEE SHEET 2	TEMP (F):								NOTE 1
	NORMAL		96	137	1	2	AN + DATA	NA	
	ABNORMAL		NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)	ACCIDENT		124	184	1	2	AN + DATA	YES	
	PRESS (PSIG)								NOTE 1
TEMPERATURE SWITCH	NORMAL		-0.25" WG	ATMOS	1	2	AN + DATA	NA	
	ABNORMAL		NA	NA	NA	NA	NA	NA	
MANUFACTURER: FENWAL	ACCIDENT		-0.62" WG	ATMOS	1	2	AN + DATA		NOTE 2
	RH (%)								NOTE 1
MODEL: SEE SHEET 2	NORMAL		55	95	1	2	AN + DATA	NA	
	ABNORMAL		NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -	ACCIDENT		45	95	1	2	AN + DATA	YES	
OVER TEMPERATURE	RADIATION:								NOTE 1
MANUAL RESET	NORM GAMMA		7E2		1			NA	
	ACC GAMMA		1E5 TID	1.3E6	1	2	TEST-IDENT	YES	
OP. CODE: SEE SHEET 2	NORM BETA								
	ACC BETA								
	NEUTRON								
	SPRAY		NA	NA	NA	NA	NA	NA	
ACCURACY - -	SUBMERGENCE		NA	NA	NA	NA	NA	NA	
SPEC: NA									
DEMO: NA									
ZONE NO.: SEE SHEET 2									
SUBMERGENCE:	DOCUMENT REFERENCE:								
SPRAY/FROTH:	1. SPECIFICATION 225.220 THRU ADD. # B & E DCR NO. P-12,903A								
	2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,								
EQUIPMENT NOT SUBJECTED TO	SDDF # 6225.220-115-026A								
SUBMERGENCE OR SPRAY/FROTH	3. POST-ACCIDENT OPERABILITY PERIOD: SEE								
CONDITIONS	PAOP DOCUMENT NO. 245.600, REV.0								
DOCUMENTATION ACCEPTABILITY:									
ACCEPTABLE TO NUREG 0588,CAT I									
MAINT/SURVEILL - - -									
REFERENCE: 2									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE: 2									

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 225 220-8

REV 0

SHEET NO 2

DATE 12/3/84

MARK NO

MODEL/CATALOG NO.

ENV. ZONE

QUAL. LIFE

OPTIME

REMARKS

SUCHRG

OC

SRN 225220-8

SPEC 225.220

HVF VENTILATION - FUEL BUILDING

1HVF*TS23A

54-302

FB-140-1

40 YRS

100D
A

1HVF*TS23B

54-302

FB-148-1

40 YRS

100D
A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 225220-8

REV 0

SHEET NO. 3

DATE 12/01/84

NOTES

-
1. For complete environmental conditions, see the documents referenced.
 2. Slight negative pressure within atmospheric tolerances.

228243_1
228241_5
228216_1
228214_1

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 228212_1
REV 1
DATE 13-DEC-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						REMARKS	
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	
EQUIP NO.: SEE SHEET 2		OP.TIME:	100 DAYS	100 days	3	2,4	TEST - SIM	YES	-NOTE 3
SYSTEM: SEE SHEET 2		TEMP (F):	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	-
		NORMAL	140	140	1	2,4	TEST - SIM	NA	
		ABNORMAL	260	300	1	2,4	AN + DATA	NA	
TYPE: (DESCRIPTION)		ACCIDENT	330	340	1	2,4	TEST - SIM	YES	-NOTE 7
MOV-AC/RH INSULATED MOTOR IN-		PRESS(PSIG)	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	-
SIDE CONTAINMENT-SEE NOTE 6		NORMAL	.5	ATMOS	1	2,4	TEST - SIM	NA	
		ABNORMAL	5	105	1	2,4	AN + DATA	NA	
MANUFACTURER: LIMITORQUE		ACCIDENT	+25 TO -8	105	1	2,4	TEST - SIM	YES	
		IRH (%)	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	-
MODEL: SEE SHEET 2		NORMAL	100	100	1	2,4	TEST - SIM	NA	
		ABNORMAL	100	100	1	2,4	AN + DATA	NA	
SAFETY FUNCTION: - - -		ACCIDENT	STEAM	STEAM	1	2,4	TEST - SIM	NA	
VALVES MUST OPEN AND/OR CLOSE		RADIATION:	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	-
AS REQUIRED		NORM GAMMA						NA	
		ACC GAMMA	1.77E7	2.04E8	1	2	TEST - SIM	YES	-NOTE 5
OP. CODE: SEE SHEET 2		NORM BETA						NA	
		ACC BETA						NA	
		NEUTRON						NA	
		SPRAY	7 seconds	24 HOURS	5	6,4	TEST - SIM	NA	-NOTE 1
ACCURACY - -		SUBMERGENCE	100 DAYS	SEE NOTE 2	5	2,4	AN + DATA	NA	-NOTE 1, 2
SPEC: NA									
DEMO: NA									
ZONE NO.: SEE SHEET 2									
SUBMERGENCE:		DOCUMENT REFERENCE:							
SPRAY/FROTH:		1. SPECIFICATIONS 228.212, 228.214, 228.216, 228.241 & 228.243							
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
SEE NOTE 1, PAGE 3		SDDF # 6228.212-047-068D							
		6228.214-059-010D							
		6228.216-050-017D							
		6228.241-092-009B							
		6228.243-105-001C							
DOCUMENTATION ACCEPTABILITY:		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
ACCEPTABLE TO NUREG 0588,CAT I		PAOP DOCUMENT NO. 245.600, REV.0							
		4. CALCULATION NO. 12210-EQS-4							
		5. FSAR, APPENDIX 6A, FIGURE 6A-10.2							
		6. SDDF # 6228.212-047-072A							
MAINT/SURVEILL - - -									
REFERENCE: 2									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE: 4 (SEE NOTE 4)									

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228212-1
REV 1
DATE 27-NOV-84
SHEET 2 A

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUCHRG	QUAL. LIFE (YEARS)	OPTIME OC	MOTOR INSUL	MOTOR MAKE
SRN 228212-1						
SPEC 228.212						
B21 NUCLEAR BOILER SYSTEM						
1B21*NOVF016	SB-00-10	DN-1	2	1 HR A	RH	RELIANCE
CCP COMPONENT COOLING - PRIMARY CONTAINMENT OR REACTOR						
1CCP*NOV158	SHB-0-25	CT-G	2	1HR A	RH	RELIANCE
CPP CONTAINMENT PURGE						
1CPP*NOV104	SHB-000-5	CT-5A	2	N/R B	RH	RELIANCE
1CPP*NOV105	SHB-000 5 NOTE B	AN-1	2	N/R B	B	RELIANCE
E12 RESIDUAL HEAT REMOVAL						
1E12*NOVF009	SD-2-60 NOTES 1,2	DN-1 YLS	2	N/R D	RH	RELIANCE
1E12*NOVF037A	SHB-1-25	CT-G	2	N/R D	RH	RELIANCE
1E12*NOVF037B	SHB-1-25	CT-G	2	N/R B	RH	RELIANCE
1E12*NOVF040A	SD-2-60	CT-G	2	1000 A	RH	RELIANCE
1E12*NOVF040B	SD-2-60	CT-G	2	1000 A	RH	RELIANCE

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228212-1
REV 0
DATE 27-NOV-84
SHEET 2 P

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBURG	QUAL. LIFE (YEARS)	OPTIME OC	MOTOR INSUL	MOTOR MAKE
SRN 228212-1						
E51 REACTOR CORE ISOLATION COOLING SYSTEM						
1E51*MOVFO63	SB-1-60	CT-9	2	12 HRS A	RH	RELIANCE
G33 REACTOR WATER CLEAN-UP						
1G33*MOVFO01	SB-1-25	DN-1	2	1 HR A	RH	RELIANCE
1G33*MOVFO28	SB-00S-10	CT-7	2	1 HR A	RH	RELIANCE
1G33*MOVFO31	SHB-0-10	CT-7	2	N/R B	RH	RELIANCE
1G33*MOVFO40	SB-0-25	CT-7	2	1 HR A	RH	RELIANCE
1G33*MOVFO42	SHB-1-25	CT-7	2	N/R B	RH	RELIANCE
1G33*MOVFO44	SHB-0-10	CT-7	2	N/R B	RH	RELIANCE
1G33*MOVFO63	SB-0-15	CT-7	2	1 HR A	RH	RELIANCE
1G33*MOVFO100	SHB-00-10 NOTES 1,2	DN-1 YES	2	N/R B	RH	RELIANCE
1G33*MOVFO101	SHB-00-10 NOTES 1,2	DN-1 YES	2	N/R B	RH	RELIANCE
1G33*MOVFO102	SHB-0-15 NOTES 1,2	DN-1 YES	2	N/R B	RH	RELIANCE

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228212-1
REV 0
DATE 27-NOV-84
SHEET 2 C

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUDMRG	QUAL. LIFE (YEARS)	OPTIME OC	MOTOR INSUL	MOTOR MAKE

SRN 228212-1						
G33 REACTOR WATER CLEAN-UP						
1G33*HOVF104	SHB-0-10	CT-7	2	N/R B	RH	RELIANCE
1G33*HOVF106	SHB-00-15 NOTES 1,2	DW-1 YES	2	N/R B	RH	RELIANCE
1G33*HOVF107	SHB-1-15	CT-7	2	N/R B	RH	RELIANCE
HVN CHILLED WATER - VENTILATION						
1HVN*HOV102	SHB-00-15	CT-G	2	1 HR A	RH	RELIANCE
1HVN*HOV22A	SHB-00-10	CT-G	2	1 HR A	RH	RELIANCE
1HVN*HOV22B	SHB-00-10	CT-G	2	1 HR A	RH	RELIANCE
SNP SERVICE WATER						
1SNP*HOV4A	SHB-0-15	CT-G	2	1000 A	RH	RELIANCE
1SNP*HOV4B	SHB-0-15	CT-G	2	1000 A	RH	RELIANCE
1SNP*HOV5A	SHB-0-15	CT-G	2	1000 A	RH	RELIANCE
1SNP*HOV5B	SHB-0-15	CT-G	2	1000 A	RH	RELIANCE
1SNP*HOV502A	SHB-00-10	CT-G	2	1000 A	RH	RELIANCE

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
 SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228212-1
 REV 0
 DATE 27-NOV-84
 SHEET 2 D

 MARK NO MODEL/CATALOG NO. ENV. ZONE QUAL. LIFE OPTIME MOTOR MOTOR
 REMARKS SUBMRG (YEARS) CC INSUL MAKE

SRN 228212-1

SHP SERVICE WATER

1SHP#MOV502B	SHB-00-10	CT-G	2	1000 A	RH	RELIANCE
1SHP#MOV503A	SHB-00-10	CT-G	2	1000 A	RH	RELIANCE
1SHP#MOV503B	SHB-00-10	CT-G	2	1000 A	RH	RELIANCE
WCS REACTOR WATER CLEAN-UP						
1WCS#MOV178	SHB-000-5	CT-7	2	1HR A	RH	RELIANCE

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
 SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228214-1
 REV 0
 DATE 27-NOV-84
 SHEET 2 E

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUSIRG	QUAL. LIFE (YEARS)	OPTIME OC	MOTOR INSUL	MOTOR MAKE

SRN 228214-1						
SPEC 228.214						
B21 NUCLEAR BOILER SYSTEM						
1B21*HOVF001	SHB-000-5	DH-1	2	N/R B	RH	RELIANCE
1B21*HOVF002	SHB-000-5	DH-1	2	N/R B	RH	RELIANCE
1B21*HOVF005	SHB-000-2	DH-1	2	N/R B	RH	RELIANCE
E51 REACTOR CORE ISOLATION COOLING SYSTEM						
1E51*HOVF076	SHB-000-2	DH-2	2	12 HRS A	RH	RELIANCE

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
 SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228241-5
 REV 0
 DATE 27-NOV-84
 SHEET 29

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUSING	QUAL. LIFE (YEARS)	OPTIME OC	MOTOR INSUL	MOTOR MAKE
SRN 228241-5						
SPEC 228.241						
CPH CONTAINMENT HYDROGEN MIXING						
1CPH*MOV1A	SHD-000-2	CT-G	2	3 HR A	RH	RELIANCE
1CPH*MOV1B	SHB-000-2	CT-5A	2	3 HR A	RH	RELIANCE
1CPH*MOV2A	SHB-000-2	CT-G	2	3 HR A	RH	RELIANCE
1CPH*MOV2B	SHD-000-2	CT-G	2	3 HR A	RH	RELIANCE
1CPH*MOV3A	SHB-000-2	CT-G	2	3 HR A	RH	RELIANCE
1CPH*MOV3B	SHD-000-2	CT-5A	2	3 HR A	RH	RELIANCE
1CPH*MOV4A	SHD-000-2 NOTE 1	CT-G SPRAY/EPOTH	2	3 HR A	RH	RELIANCE
1CPH*MOV4B	SHB-000-2	CT-G	2	3 HR A	RH	RELIANCE

RDS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
 SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228243-1
 REV 0
 DATE 27-MAY-84
 SHEET 2H

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUDIRG	QUAL. LIFE (YEARS)	OPTIME OC	MOTOR INSUL	MOTOR MAKE

SRN 228243-1						
SPEC 228.243						
CCP COMPONENT COOLING - PRIMARY CONTAINMENT OR REACTOR						
1CCP*MOV142	SMB-000-2	CT-G	2	1HR A	RH	RELIANCE
1CCP*MOV143	SMB-000-2	CT-G	2	1HR A	RH	RELIANCE
1CCP*MOV144	SMB-000-2	DW-2	2	1HR A	RH	RELIANCE

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

228212-1 228216-1
228214-1 228241-5
SRN 228243-1
REV 1
SHEET NO. 3
DATE 11/27/84

NOTES

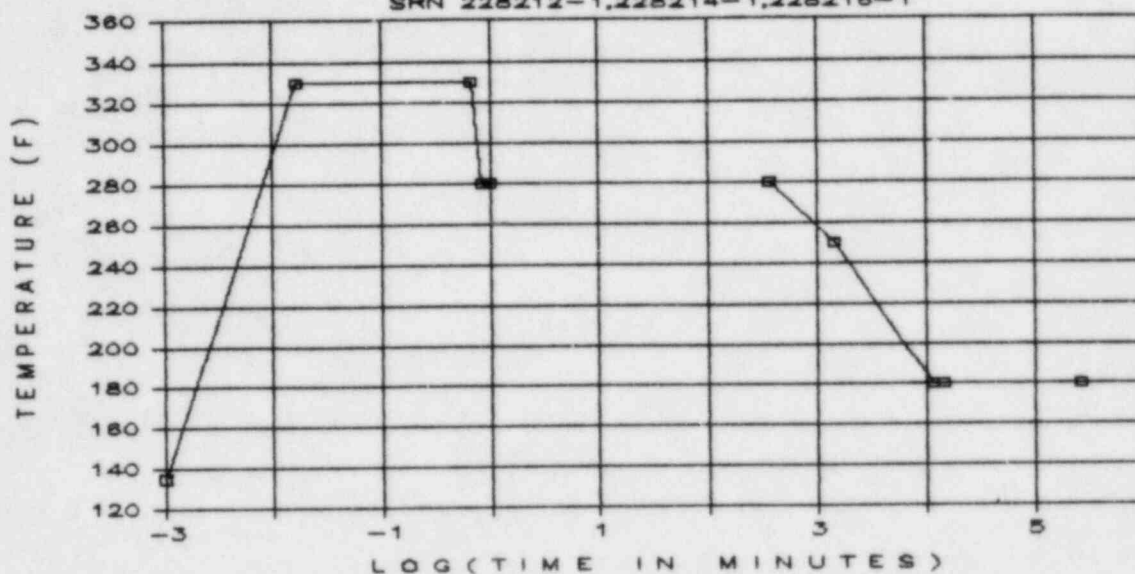
1. Equipment in the drywell below el 105 ft 3 in. is subject to submergence as a result of reverse vent clearing. The five valves subject to this condition are identified on Sheet No. 2, pages 2A, 2B, and 2C.

Equipment in containment below el 109 ft 0 in. is subject to submergence, and equipment between 109 ft 0 in. and 120 ft 0 in. is subject to spray/froth as a result of pool swell. One valve is subject to the spray/froth condition and is identified on Sheet No. 2, page 2G.

2. The valves subject to submergence have no safety function and are not required to cycle following an accident. Valve position will be unaffected by submergence.
3. Operability period extended from 30 days of tested value to 100 days by Arrhenius calculation. See Reference 4.
4. Extension of qualified life past 2 years will be based on the results of the GE Phase 3 testing program for Limitorque actuators.
5. Combined radiation for gamma, beta, and neutron for 20 years of qualified life plus accident, including applicable beta and neutron reduction, is 177 megarads.
6. Refer to Sheet No. 2 for the motor details.
7. Maximum specified accident temperature duration is 40 seconds. Vendor testing at maximum temperature is 6 hours over two transients.
8. Actual conditions for this MOV do not exceed 165°F.

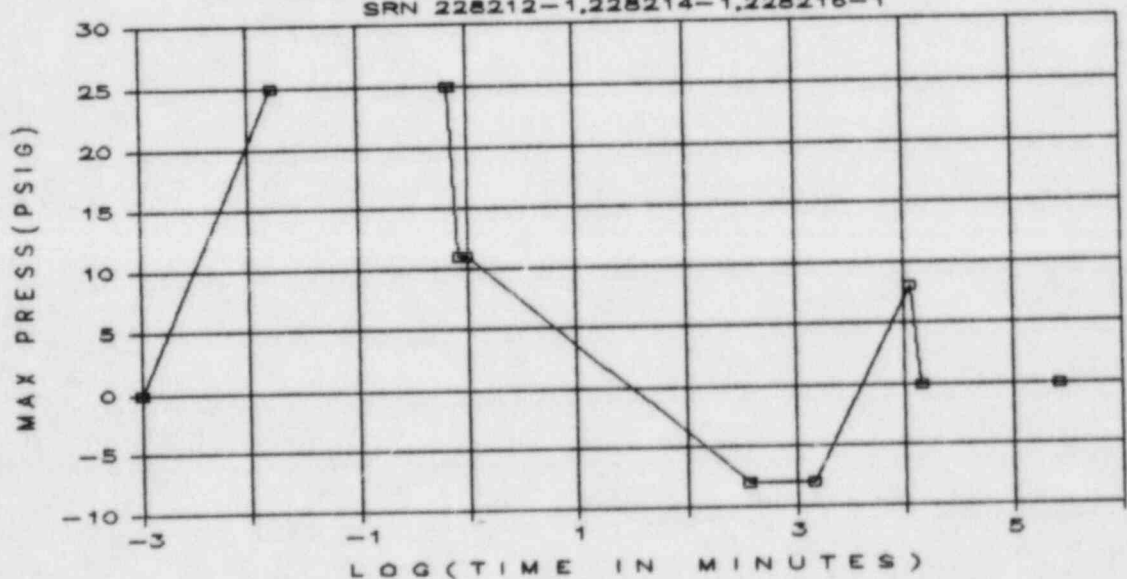
SPECIFIED ACCIDENT PROFILES

SRN 228212-1,228214-1,228216-1



SPECIFIED ACCIDENT PROFILES

SRN 228212-1,228214-1,228216-1

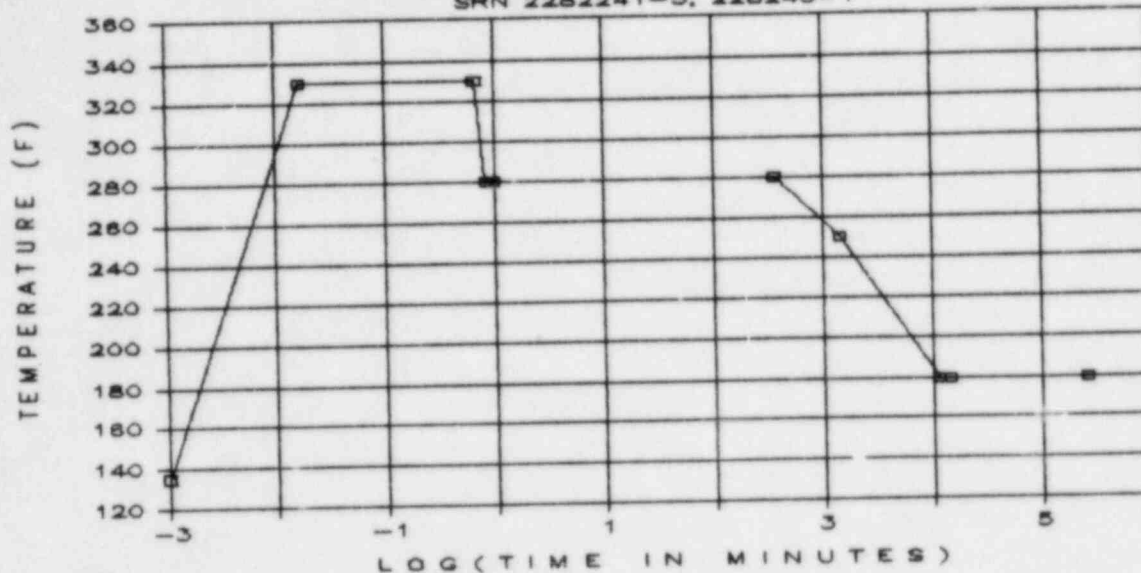


TEMPERATURE										
TIME	0	1sec	40sec	50sec	60sec	6hrs	1day	8days	10days	180days
LOG (MINUTES)	-3.00	-1.78	-0.18	-0.08	0.00	2.56	3.16	4.06	4.16	5.41
TEMP (F)	135	330	330	280	280	280	250	180	180	180
TIME (MIN)	0.001	0.0167	0.667	0.83	1	360	1440	11520	14400	259200

PRESSURE										
TIME	0	1sec	40sec	50sec	60sec	6hrs	1day	8days	10days	180days
LOG (MINUTES)	-3.00	-1.78	-0.18	-0.08	0.00	2.56	3.16	4.06	4.16	5.41
MAX PRES (PSIG)	0	25	25	11	11	-11	-11	8	0	0
TIME (MIN)	0.001	0.0167	0.667	0.83	1	360	1440	11520	14400	259200

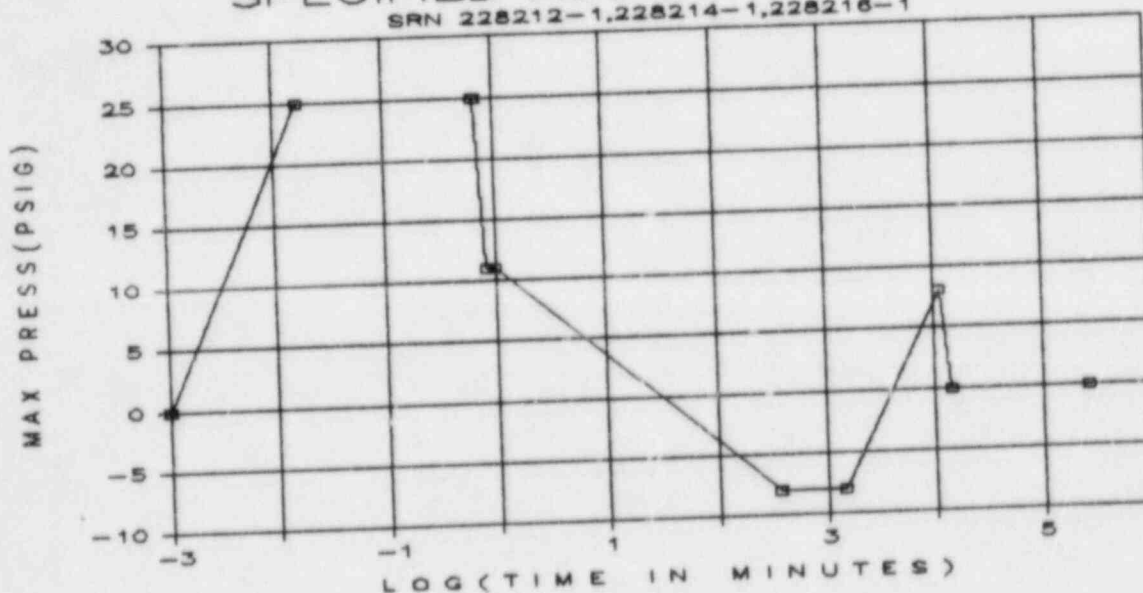
SPECIFIED ACCIDENT PROFILES

SRN 2282241-5, 228243-1



SPECIFIED ACCIDENT PROFILES

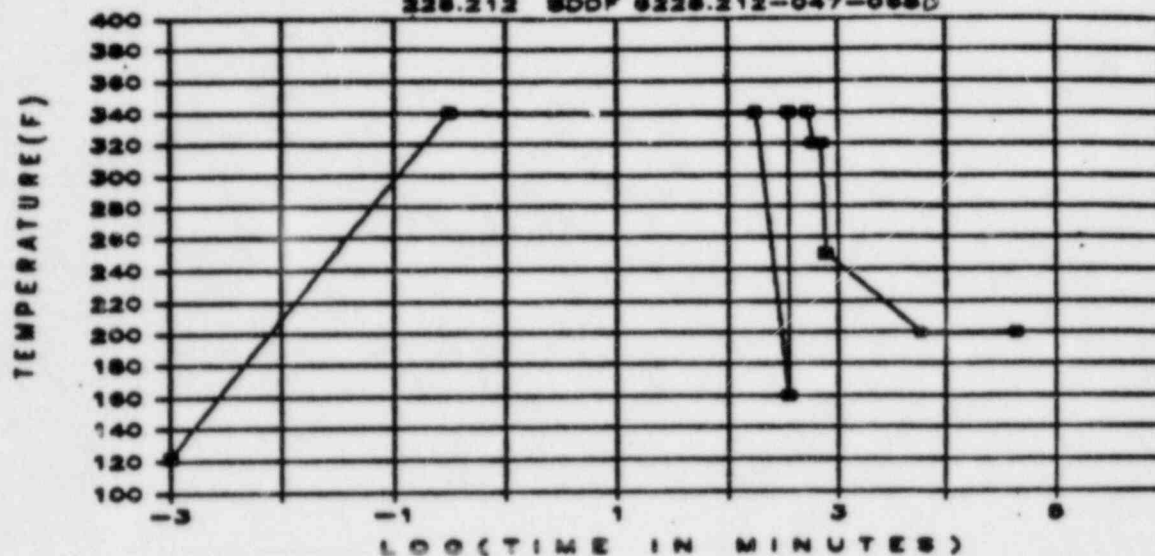
SRN 228212-1, 228214-1, 228216-1



TEMPERATURE											
TIME	0	19secs	3hrs	6hrs	6hrs23sec	9hrs	10hrs	12hrs	13hrs	4days	30days
LOG (MINUTES)	-3.00	-0.50	2.26	2.56	2.56	2.73	2.78	2.86	2.89	3.76	4.64
TEMP (F)	122	340	340	160	340	340	320	320	250	200	200
TIME (MIN)	0.001	0.319	180	360	360	540	600	720	780	5760	43200
PRESSURE											
TIME	0	19secs	3hrs	6hrs	6hrs23sec	9hrs	10hrs	12hrs	13hrs	4days	30days
LOG (MINUTES)	-3.00	-0.50	2.26	2.56	2.56	2.73	2.78	2.86	2.89	3.76	4.64
PRES (PSIG)	0	110	105	0	105	105	75	75	19	10	10
TIME (MIN)	0.001	0.319	180	360	360	540	600	720	780	5760	43200

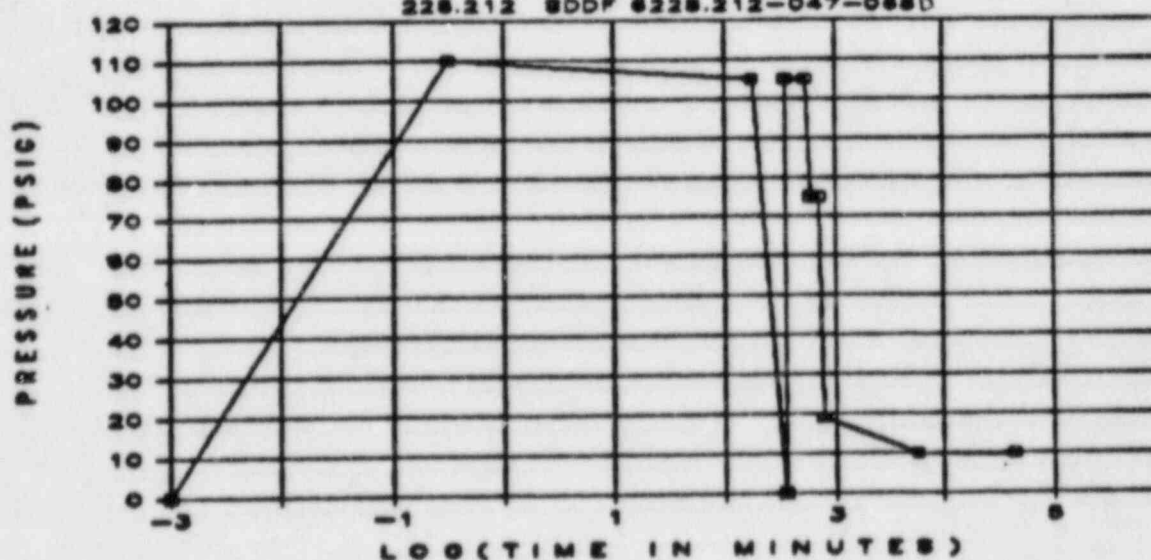
TEST PROFILE

228.212 SDDF 6228.212-047-0680



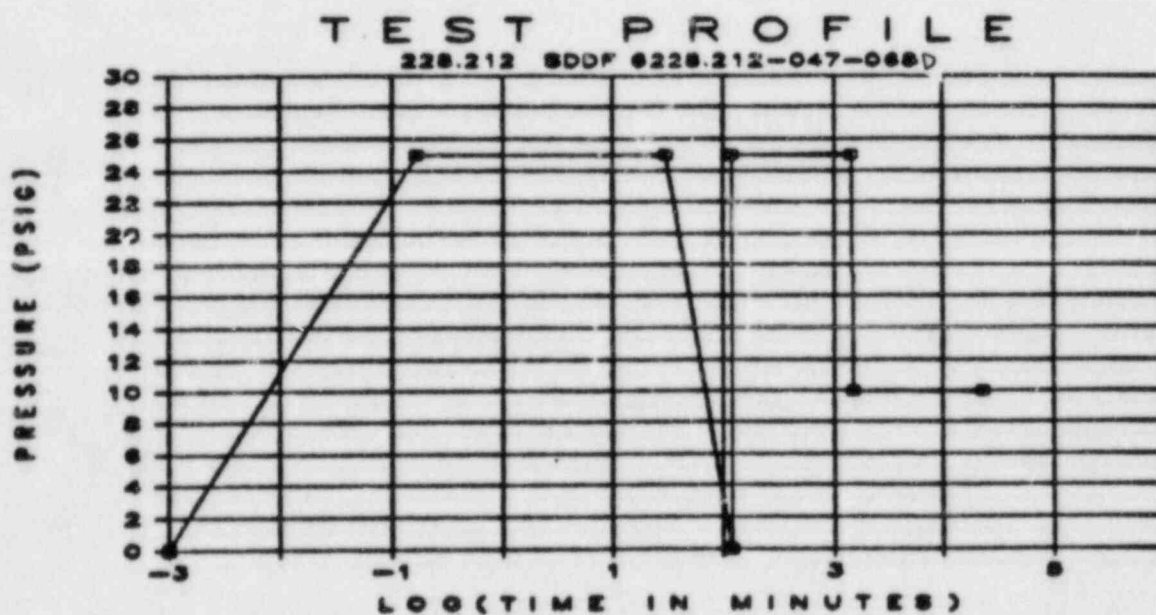
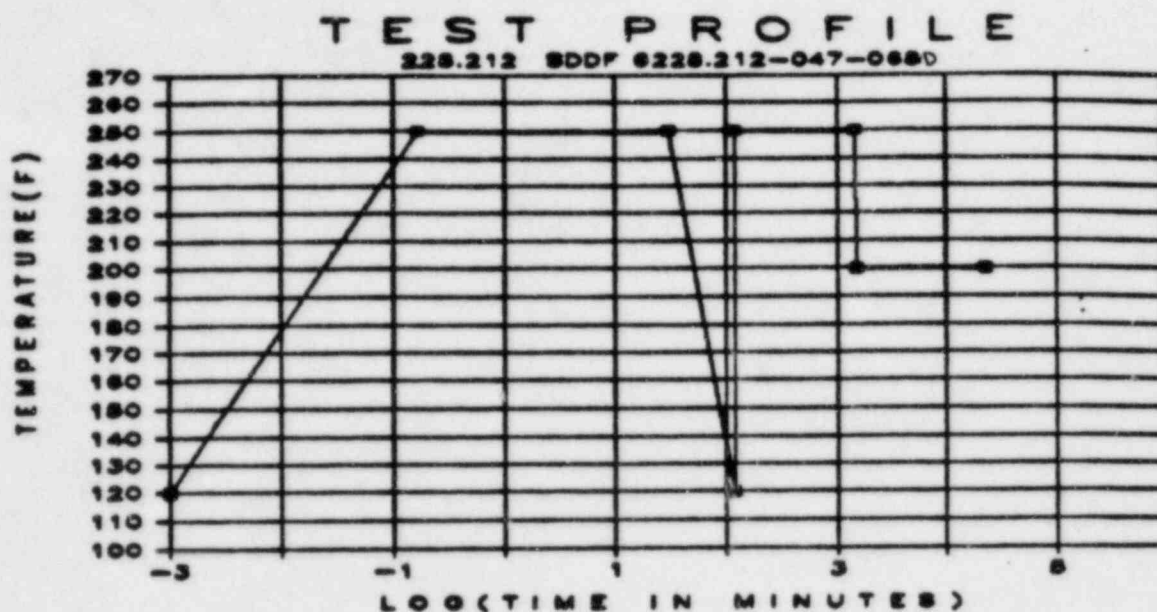
TEST PROFILE

228.212 SDDF 6228.212-047-0680



TEST PROFILE DATA FOR 228.212 SDDF 6228.212-047-0680
INSIDE CONTAINMENT

TIME	0	19sec	3hr	6hr	6hr23sec	9hr	10hr	12hr	13hr	4days	30days
LOG(MINUTES)	-3.00	-0.50	2.26	2.56	2.56	2.73	2.78	2.86	2.89	3.76	4.64
TEMP (F)	122	340	340	160	340	340	320	320	250	200	200
PRES(PSIG)	0	110	105	0	105	105	75	75	19	10	10



TEST PROFILE DATA FOR 228.212 SDDF 6228.212-047-068D
OUTSIDE CONTAINMENT

TIME	0	10sec	30min	2hr	2hr10sec	24hr	25hr	16days
LOG (MINUTES)	-3.00	-0.78	1.48	2.08	2.08	3.16	3.18	4.36
TEMP (F)	120	250	250	120	250	250	200	200
PRES (PSIG)	0	25	25	0	25	25	10	10

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

228243_2
228216_2
228214_2
SRN 228212_2
REV 0
DATE 05-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						REMARKS
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO
					SPECIFIED	QUALIFIED		
EQUIP NO.: SEE SHEET 2		OP.TIME:	100 DAYS	100 days	3	2,4	TEST - SIM	YES -NOTE 2
SYSTEM: SEE SHEET 2		TEMP (F):						
		NORMAL	130	130	1	2,5	TEST - SIM	NA -NOTE 3
		ABNORMAL	145	280	1	2,4	AN + DATA	NA
TYPE: (DESCRIPTION)		ACCIDENT	320	320	1	2,4	TEST - SIM	YES -NOTE 4
MOV-AC/B INSULATED MOTOR OUT-		PRESS (PSIG):						
SIDE CONTAINMENT-SEE NOTE 1		NORMAL	.5	ATMOS	1	2	TEST - SIM	NA
		ABNORMAL	-.62 WG	ATMOS	1	2,4	AN + DATA	NA
MANUFACTURER: LIMITORQUE		ACCIDENT	13	25	1	2	TEST - SIM	YES
		RH (%):						
MODEL: SEE SHEET 2		NORMAL	90	100	1	2	TEST - SIM	NA
		ABNORMAL	26	100	1	2,4	AN + DATA	NA
SAFETY FUNCTION: - - -		ACCIDENT	STEAM	STEAM	1	2	TEST - SIM	NA
VALVES MUST OPEN AND/OR CLOSE		RADIATION:						
AS REQUIRED		NORM GAMMA:						NA
		ACC GAMMA	2E7	2E7	1	2,4	TEST - SIM	YES -NOTE 5
OP. CODE: SEE SHEET 2		NORM BETA						NA
		ACC BETA						NA
		NEUTRON					NA	NA
ACCURACY - -		SPRAY	NA	NA			NA	NA
		SUBMERGENCE:	NA	NA			NA	NA
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:		DOCUMENT REFERENCE:						
SPRAY/FROTH:		1. SPECIFICATIONS 228.212, 228.214, 228.216 & 228.243						
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,						
EQUIPMENT NOT SUBJECT TO		SDDF # 6228.212-047-068D						
SUBMERGENCE OR SPRAY/FROTH		6228.214-059-010D						
CONDITIONS		6228.216-050-017D						
		6228.243-105-001C						
DOCUMENTATION ACCEPTABILITY:		3. POST-ACCIDENT OPERABILITY PERIOD: SEE						
ACCEPTABLE TO NUREG 0589,CAT I		PAOP DOCUMENT NO. 245.600, REV.0						
		4. CALCULATION NO. 12210-EQS-5						
		5. CALCULATION NO. 12210-EQS-10						
MAINT/SURVEILL - - -								
REFERENCE: 2								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 5								

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228212-2
REV 0
DATE 27-NOV-84
SHEET 2A

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE (YEARS)	OPTIME OC	MOTOL INSUL	MOTOL MAKE

SRN 228212-2						
SPEC 228.212						
B21 NUCLEAR BOILER SYSTEM						
1B21*HOVF019	SB-00-10	AB-114-2	7	1 HR A	B	RELIANCE
1B21*HOVF065B	SHB-4-250	AB-114-7	7	1 HR A	B	ELEC APPARATUS
1B21*HOVF085	SHB-00-10	AB-114-2	7	1 HR A	B	RELIANCE
1B21*HOVF066	SHB-00-10	AB-114-7	7	1 HR A	B	RELIANCE
1B21*HOVF098A	SHB-4-250	AB-114-7	7	1 HR A	B	ELEC. APPARATUS
1B21*HOVF098B	SHB-4-250	AB-114-7	7	1 HR A	B	ELEC. APPARATUS
1B21*HOVF098C	SHB-4-250	AB-114-7	7	1 HR A	B	ELEC. APPARATUS
1B21*HOVF098D	SHB-4-250	AB-114-7	7	1 HR A	B	ELEC APPARATUS
CCP COMPONENT COOLING - PRIMARY CONTAINMENT OR REACTOR						
1CCP*HOV138	SHB-0-25	AB-114-6	7	1HR A	B	RELIANCE
1CCP*HOV159	SHB-0-25	AB-114-6	7	1HR A	B	RELIANCE
B21 NUCLEAR BOILER SYSTEM						
1B21*HOVF065A	SHB-4-250	AB-114-7	7	1 HR A	B	ELEC. APPARATUS

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228212-2
REV 0
DATE 27-NOV-84
SHEET 2 B

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE (YEARS)	OPTIME OC	MOTOR INSUL	MOTOR MAKE
SRN 228212-2						
CNS CONDENSATE - MAKE-UP AND DRAHOFF						
1CNS*HOV130	SHB-00-10	AD-114-6	7	1HR A	B	RELIANCE
E12 RESIDUAL HEAT REMOVAL						
1E12*HOVF003A	SHB-3-40	AB-070-2	7	100D A	B	ELEC. APPARATUS
1E12*HOVF003B	SHB-3-40	AB-070-5	7	100D A	B	ELEC. APPARATUS
1E12*HOVF004A	SHB-0-25	AB-070-8	7	100D A	B	RELIANCE
1E12*HOVF004B	SHB-0-25	AB-070-7	7	100D A	B	RELIANCE
1E12*HOVF006A	SHB-0-25	AB-070-2	7	N/R B	B	RELIANCE
1E12*HOVF006B	SHB-0-25	AB-070-5	7	N/R B	B	RELIANCE
1E12*HOVF008	SB-2-60	AB-114-2	7	N/R B	B	RELIANCE
1E12*HOVF011A	SHB-00-5	AB-095-8	7	N/R B	B	RELIANCE
1E12*HOVF011B	SHB-00-5	AB-095-7	7	N/R B	B	RELIANCE
1E12*HOVF021	SB-3-60	AB-095-7	7	N/R B	B	ELEC. APPARATUS

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228212-2
REV 0
DATE 27-NOV-84
SHEET 20

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE (YEARS)	OPTIME OC	MOTOR INSOL	MOTOL NAME
SRN 228212-2						
E12 RESIDUAL HEAT REMOVAL						
1E12*MOVFO23	SB-00S-5	AB-095-4	7	N/R B	B	RELIANCE
1E12*MOVFO24A	SHB-1-60	AB-095-8	7	1000 A	B	ELEC. APP.
1E12*MOVFO24B	SHB-1-60	AB-095-7	7	1000 A	B	ELEC. APP.
1E12*MOVFO26A	SHB-00-10	AB-070-2	7	N/R B	B	RELIANCE
1E12*MOVFO26B	SHB-00-10	AB-070-5	7	N/R B	B	RELIANCE
1E12*MOVFO27A	SHB-0-40	AB-114-6	7	1000 A	B	RELIANCE
1E12*MOVFO27B	SHB-0-40	AB-114-5	7	1000 A	B	RELIANCE
1E12*MOVFO40	SB-00S-15	AB-070-2	7	N/R B	B	RELIANCE
1E12*MOVFO42C	SB-2-60	AB-114-5	7	1000 A	B	ELEC. APP.
1E12*MOVFO47A	SHB-1-40	AB-095-2	7	1000 A	B	RELIANCE
1E12*MOVFO47B	SHB-1-40	AB-095-5	7	1000 A	B	RELIANCE
1E12*MOVFO48A	SHB-3-40	AB-070-2	7	1000 A	B	ELEC. APP.

SRN: 228212-2
REV: 0
DATE: 27-NOV-84
SHEET: 2 D

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

MARK NO	MODEL/CATALOG NO.	ENV. ZONE	QUAL. LIFE (YEARS)	OPTIME CC	MOTOR INCL	MOTOR MAKE
SRN 228212-2						
E12 RESIDUAL HEAT REMOVAL						
1E12*NOVF048B	SHB-3-40	AB-070-5	7	1000 A	B	ELEC. APP
1E12*NOVF049	SB-005-15	AB-070-2	7	N/R B	B	RELIGARE
1E12*NOVF052A	SHB-2-40	AB-114-8	7	N/R B	B	RELIGARE
1E12*NOVF052B	SHB-2-40	AB-114-8	7	N/R B	B	RELIGARE
1E12*NOVF053A	SHB-3-80	AB-095-2	7	N/R B	B	RELIGARE
1E12*NOVF053B	SHB-3-80	AB-095-5	7	N/R B	B	RELIGARE
1E12*NOVF064A	SB-005-10	AB-070-2	7	1000 A	B	RELIGARE
1E12*NOVF064B	SB-005-10	AB-070-5	7	1000 A	B	RELIGARE
1E12*NOVF064C	SB-005-10	AB-070-4	7	1000 A	B	RELIGARE
1E12*NOVF067A	SB-2-40	AB-114-9	7	N/R B	B	RELIGARE
1E12*NOVF067B	SB-2-40	AB-114-8	7	N/R B	B	RELIGARE

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228212-2
REV 0
DATE 27-NOV-84
SHEET 2 E

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBING	QUAL. LIFE (YEARS)	OPTIME CC	MOTOR MODEL	MOTOR MAKE
SRN 228212-2						
E12 RESIDUAL HEAT REMOVAL						
1E12*MOV094	SHB-0-15	AB-070-5	7	1000 A	B	RELIANCE
1E12*MOV096	SHB-0-25	AB-070-5	7	1000 A	B	RELIANCE
1E12*MOV105	SHB-0-C5	AB-070-7	7	1000 A	B	RELIANCE
E21 CORE SPRAY - LOW PRESSURE						
1E21*MOV001	SHB-0-25	AB-070-8	7	N/R B	B	RELIANCE
1E21*MOV005	SD-2-60	AB-114-6	7	1000 A	B	ELEC. APP
1E21*MOV011	SHB-00-10	AB-095-8	7	1000 A	B	RELIANCE
1E21*MOV012	SHB-2-25	AB-095-8	7	1 HR A	B	RELIANCE
E51 REACTOR CORE ISOLATION COOLING SYSTEM						
1E51*MOV078	SHB-000-2	AB-095-6	7	1 HR A	B	RELIANCE
FPW FIRE PROTECTION - WATER						
1FPW*MOV121	SHB-00-10	AB-141-3	7	1 HR A	B	RELIANCE
1FPW*MOV122	SHB-00-10	AB-141-3	7	1 HR A	B	RELIANCE

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228212-2
REV 0
DATE 27-NOV-84
SHEET 2 F

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBGRG	QUAL. LIFE (YEARS)	OPTIME CC	MOTOR INSUL	MOTOR MAKE
SRN 228212-2						
FWS FEEDWATER SYSTEM						
1FWS#MOV7A	SMB-4-200	AB-114-7	7	1HR A	B	RELIANCE
1FWS#MOV7B	SMB-4-200	AB-114-7	7	1HR A	B	RELIANCE
G33 REACTOR WATER CLEAN-UP						
1G33#MOVF004	SB-1-40	AB-114-2	7	1 HR A	B	RELIANCE
1G33#MOVF034	SB-00S-10	AB-114-2	7	1 HR A	B	RELIANCE
1G33#MOVF035	SMB-0-7.5	AB-114-7	7	N/R B	B	RELIANCE
1G33#MOVF039	SB-0-25	AB-114-2	7	1 HR A	B	RELIANCE
1G33#MOVF046	SMB-0-7.5	AB-114-7	7	N/R B	B	RELIANCE
1G33#MOVF054	SB-0-15	AB-114-2	7	1 HR A	B	RELIANCE
HVN CHILLED WATER - VENTILATION						
1HVN#MOV127	SMB-00-15	AB-141-4	7	1 HR A	B	RELIANCE
1HVN#MOV128	SMB-00-15	AB-141-4	7	1 HR A	B	RELIANCE
1HVN#MOV129	SMB-00-15	AB-141-4	7	1 HR A	B	RELIANCE

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228212-2
LEV 0
DATE 27-10-84
SHOOT 2G

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE (YEARS)	OPTIME OC	MOTOR INVL	MOTOR MAKE
SRN 228212-2						
HVN CHILLED WATER - VENTILATION						
1HVN#HOV130	SHB-00-15	AB-141-4	7	1 HR A	B	RELIANCE
IAS INSTRUMENT AIR						
1IAS#HOV106	SHB-000-5	AB-114-6	7	1HR A	B	RELIANCE
1IAS#HOV107	SHB-000-5	AB-114-6	7	1HR A	B	RELIANCE
SAS SERVICE AIR						
1SAS#HOV102	SHB-000-5	AB-114-6	7	1HR A	B	RELIANCE
1SAS#HOV103	SHB-000-5	AB-114-6	7	1HR A	B	RELIANCE
SNP SERVICE WATER						
1SNP#HOV504A	SHB-0-15	AB-070-8	7	1000 A	B	RELIANCE
1SNP#HOV504B	SHB-0-15	AB-070-7	7	1000 A	B	RELIANCE
1SNP#HOV507A	SHB-0-15	AB-114-6	7	1000 A	B	RELIANCE
1SNP#HOV507B	SHB-0-15	AB-141-3	7	1000 A	B	RELIANCE
1SNP#HOV510A	SHB-0-15	AB-070-8	7	1000 A	B	RELIANCE
1SNP#HOV510B	SHB-0-15	AB-070-7	7	1000 A	B	RELIANCE

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
 SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228212-2
 REV 0
 DATE 27-NOV-84
 SHEET 2H

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBNRC	QUAL. LIFE (YEARS)	OPTIME OC	MOTOR INCL	MOTOR MAKE
SRN 228212-2						
SNP SERVICE WATER						
1SWP*MOV01A	SHB-0-15	AB-114-6	7	1000 A	B	RELIANCE
1SWP*MOV01B	SHB-0-15	AB-141-3	7	1000 A	B	RELIANCE
WCS REACTOR WATER CLEAN-UP						
1WCS*MOV111	SHB-0-75	AB-114-2	7	1HR A	B	RELIANCE
1WCS*MOV173	SHB-000-5	AB-114-2	7	1HR A	B	RELIANCE

SRN 228214-2
REV 0
DATE 27-11-84
SHEET 21

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

MARK NO

ENV. ZONE
SUCIRG
QUAL. LIFE
(YEARS)

OC
OPTIME
MOTOR
INSUL
MAKS

MODEL/CATALOG NO.
REMARKS

SRN 228214-2

SPEC 228.214

B21 NUCLEAR BOILER SYSTEM

1B21*HOVF027A

1B21*HOVF027B

1B21*HOVF027C

1B21*HOVF027D

1B21*HOVF067A

1B21*HOVF067B

1B21*HOVF067C

1B21*HOVF067D

E12 RESIDUAL HEAT REMOVAL

1E12*HOVF073A

1E12*HOVF073B

1E12*HOVF074A

SHC-04-2	AB-114-2	7	1 HR A	B	PARAMOUNT
SHC-04-2	AB-114-2	7	1 HR A	B	PARAMOUNT
SHC-04-2	AB-114-2	7	1 HR A	B	PARAMOUNT
SHC-04-2	AB-114-2	7	1 HR A	B	PARAMOUNT
SB-00-5	AB-114-2	7	1 HR A	B	RELIANCE
SB-00-5	AB-114-2	7	1 HR A	B	RELIANCE
SB-00-5	AS-114-2	7	1 HR A	B	RELIANCE
SB-00-5	AB-114-2	7	1 HR A	B	RELIANCE
SNB-000-2	AB-095-8	7	N/R B	B	RELIANCE
SNB-000-2	AB-095-7	7	N/R B	B	RELIANCE
SNB-000-2	AB-095-2	7	N/R B	B	RELIANCE

RDS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228214-2
REV 0
DATE 27-NOV-84
SHEET 2 J

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE (YEARS)	OPTIME OC	MOTOR INSUL	MOTOR MAKE

SRN 226214-2						
E12 RESIDUAL HEAT REMOVAL						
1E12*MOV074B	SHB-000-2	AB-095-5	7	N/R B	B	RELIANCE
E33 MAIN STEAM ISOLATION VALVE SEALS						
1E33*MOV005	SHB-000-5	AB-114-6	7	100D A	B	RELIANCE
1E33*MOV006	SHB-000-2	AB-114-6	7	100D A	B	RELIANCE
1E33*MOV025	SHB-000-5	AB-114-3	7	100D A	B	RELIANCE
1E33*MOV026	SHB-000-2	AB-114-3	7	100D A	B	RELIANCE
1E33*MOV027	SHB-000-5	AB-114-7	7	100D A	B	RELIANCE
1E33*MOV028	SHB-000-5	AB-114-7	7	100D A	B	RELIANCE
E51 REACTOR CORE ISOLATION COOLING SYSTEM						
1E51*MOV077	SHB-000-2	AB-095-7	7	1 HR A	B	RELIANCE
LSV LEAKAGE CONTROL - PENETRATION VALVE						
1LSV*MOV11A	SHC-04-2	AB-141-2	7	30 D A	B	PARAMOUNT
1LSV*MOV11B	SHC-04-2	AB-141-2	7	30 D A	B	PARAMOUNT
1LSV*MOV13A	SHC-04-2	AB-141-4	7	30D A	B	PARAMOUNT

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
 SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228214-2
 REV 0
 DATE 27-11-84
 SHEET 2K

HARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE (YEARS)	OPTIME DC	MOTOL INSUL	MOTOL MAKE

SRN 228214-2						
LSV LEAKAGE CONTROL - PENETRATION VALVE						
1LSV*MOV13B	SHC-04-2	AB-141-2	7	30 D A	B	PARAMOUNT
1LSV*MOV15A	SHC-04-3	AB-095-10	7	30 D A	B	PARAMOUNT
1LSV*MOV15B	SHC-04-3	AB-141-2	7	30 D A	B	PARAMOUNT
1LSV*MOV16A	SHC-04-3	AB-095-10	7	30 D A	B	PARAMOUNT
1LSV*MOV16B	SHC-04-3	AB-141-2	7	30 D A	B	PARAMOUNT
1LSV*MOV19A	SHD-000-2	AB-141-2	7	30 D A	B	RELIANCE
1LSV*MOV19B	SHD-000-2	AB-141-3	7	30 D A	B	RELIANCE

RDS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228216-2
LEV 0
DATE 27-10-74
SHEET 2L

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE (YEARS)	OPTIME OC	MOTOR INSUL	MOTOR MAKE
SRN 228216-2						
SPEC 228.216						
C11 CONTROL ROD DRIVE HYDRAULIC CONTROL SYSTEM						
1C11*NOVF083	SHB-000-5	FB-095-G	7	1 HR A	B	RELIANCE
SFC SPENT FUEL POOL COOLING AND CLEAN-UP						
1SFC*NOV121	SHB-00-15	FB-131-1	7	1 HP A	B	RELIANCE
1SFC*NOV122	SHB-00-25	FB-131-1	7	1 H A	B	RELIANCE
SVV STEAM VENTS - SAFETY VALVES						
1SVV*NOV1A	SHB-000-2	AB-114-6	7	1000 A	B	RELIANCE
1SVV*NOV1B	SHB-000-2	AB-114-5	7	1000 A	B	RELIANCE
SFC SPENT FUEL POOL COOLING AND CLEAN-UP						
1SFC*NOV119	SHB-00-15	FB-131-1	7	1 HR A	B	RELIANCE

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
 SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228243-2
 REV 0
 DATE 27-NOV-84
 SHEET 2 M

MARK NO

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBNRG	QUAL. LIFE (YEARS)	OPTIME OC	MOTOR INSUL	MOTOR MAKE
SRN 228243-2						
SPEC 228.243						
CCP COMPONENT COOLING - PRIMARY CONTAINMENT OR REACTOR						
1CCP*MOV129	SMB-000-5	AB-070-8	7	1000 A	B	RELIANCE
1CCP*MOV130	SMB-000-5	AB-070-8	7	1000 A	B	RELIANCE
1CCP*MOV16A	SMB-000-5	AB-070-8	7	1000 A	B	RELIANCE
1CCP*MOV16B	SMB-000-5	AB-070-8	7	1000 A	B	RELIANCE
1CCP*MOV335	SMB-000-5	AB-070-8	7	1000 A	B	RELIANCE
1CCP*MOV336	SMB-000-5	AB-070-8	7	1000 A	B	RELIANCE
E12 RESIDUAL HEAT REMOVAL						
1E12*MOV068A	SMB-00-10	PT-3	7	1000 A	B	RELIANCE
1E12*MOV068B	SMB-00-10	PT-3	7	1000 A	B	RELIANCE
SHP SERVICE WATER						
1SHP*MOV171	SMB-000-2	PT-3	7	1000 A	B	RELIANCE
1SHP*MOV172	SMB-000-2	PT-3	7	1000 A	B	RELIANCE
1SHP*MOV173	SMB-000-2	PT-3	7	1000 A	B	RELIANCE

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
 SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228243-2
 REV 0
 DATE 27-NOV-84
 SHEET 2 N

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE (YEARS)	OPTIME OC	MOTOR INSUL	MOTOR MAKE
SRN 228243-2						
SHP SERVICE WATER						
1SHP*NOV174	SHB-000-2	PT-3	7	100D A	B	RELIANCE
1SHP*NOV501A	SHB-00-10	PT-2	7	100D A	B	RELIANCE
1SHP*NOV501B	SHB-00-10	PT-2	7	100D A	B	RELIANCE
1SHP*NOV511A	SHB-00-10	PT-2	7	100D A	B	RELIANCE
1SHP*NOV511B	SHB-00-10	PT-2	7	100D A	B	RELIANCE
1SHP*NOV57A	SHB-00-25	PT-3	7	1HR A	B	RELIANCE
1SHP*NOV57B	SHB-00-25	PT-3	7	1HR A	B	RELIANCE
1SHP*NOV96A	SHB-00-25	PT-3	7	1HR A	B	RELIANCE
1SHP*NOV96B	SHB-00-25	PT-3	7	1HR A	B	RELIANCE

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

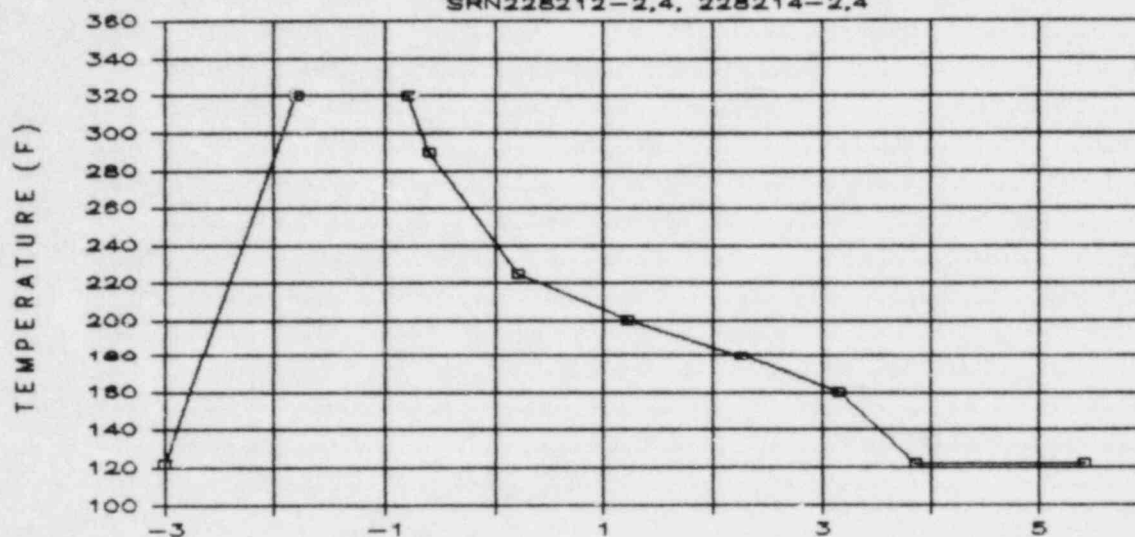
228212-2
228214-2
228216-2
SRN 228243-2
REV 0
SHEET NO. 3
DATE 11/27/84

NOTES

-
1. Refer to Sheet No. 2 for motor details.
 2. Operability period extended from 30 days to 100 days by Arrhenius calculation. See Reference 4.
 3. Worst-case composite for 7 years of normal qualified life. See Reference 5. Qualified life can be extended past 7 years in many cases where specific environmental zone conditions are less severe than worst-case composite.
 4. Maximum specified accident temperature duration is 15 seconds. Qualification justification is given in Reference 4.
 5. Combined radiation for gamma and beta is for 7 years of qualified life, plus accident, including margin, for worst-case composite conditions. See Reference 4.

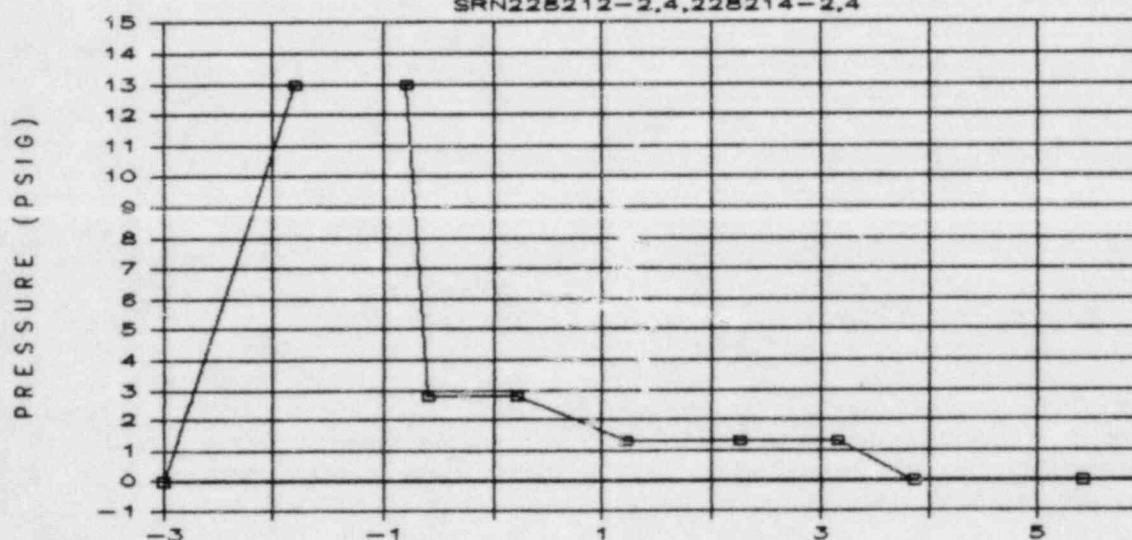
SPECIFIED ACCIDENT PROFILES

SRN228212-2,4, 228214-2,4



SPECIFIED ACCIDENT PROFILES

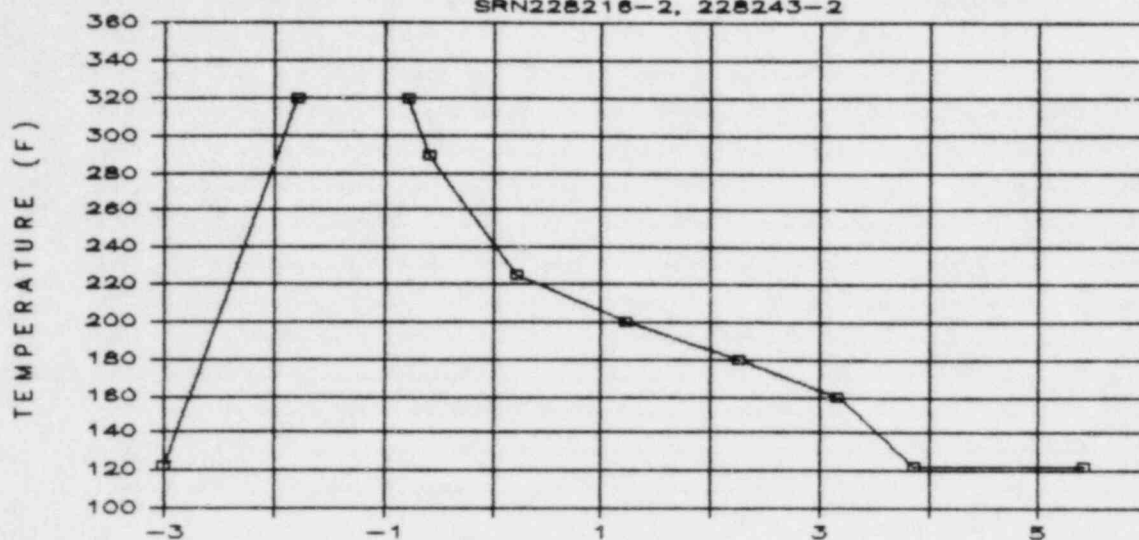
SRN228212-2,4,228214-2,4



TEMPERATURE										
TIME	0	1sec	10sec	15sec	100sec	1000sec	3hrs	1day	5days	180days
LOG (MINUTES)	-3.00	-1.80	-0.80	-0.60	0.22	1.22	2.26	3.16	3.86	5.41
TEMP (F)	122	320	320	290	225	200	180	160	122	122
TIME (MIN)	0.001	0.016	0.16	0.25	1.65	16.7	180	1440	7200	259200
PRESSURE										
TIME	0	1sec	10sec	15sec	100sec	1000sec	3hrs	1day	5days	180days
LOG (MINUTES)	-3.00	-1.80	-0.80	-0.60	0.22	1.22	2.26	3.16	3.86	5.41
PRES (PSIG)	0	13	13	2.8	2.8	1.3	1.3	1.3	0	0
TIME (MIN)	0.001	0.016	0.16	0.25	1.65	16.7	180	1440	7200	259200

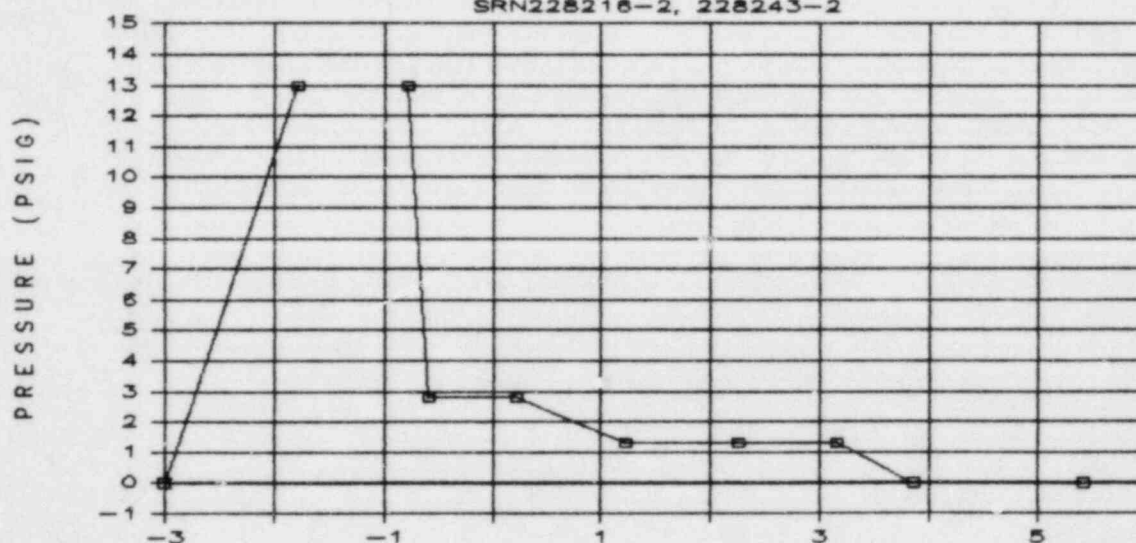
SPECIFIED ACCIDENT PROFILES

SRN228216-2, 228243-2



SPECIFIED ACCIDENT PROFILES

SRN228216-2, 228243-2

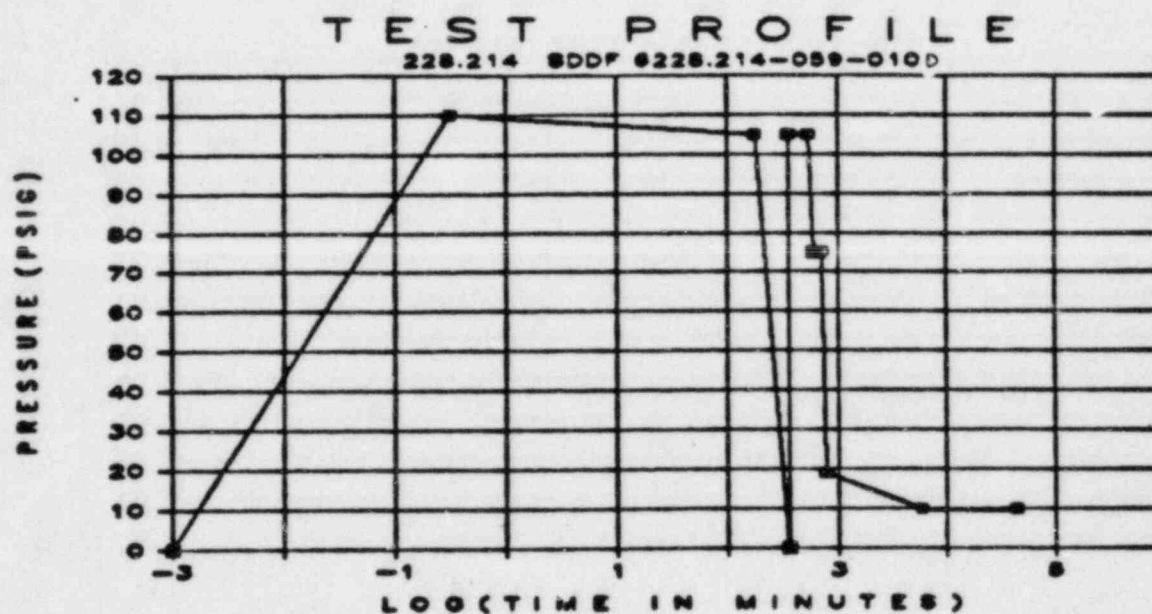
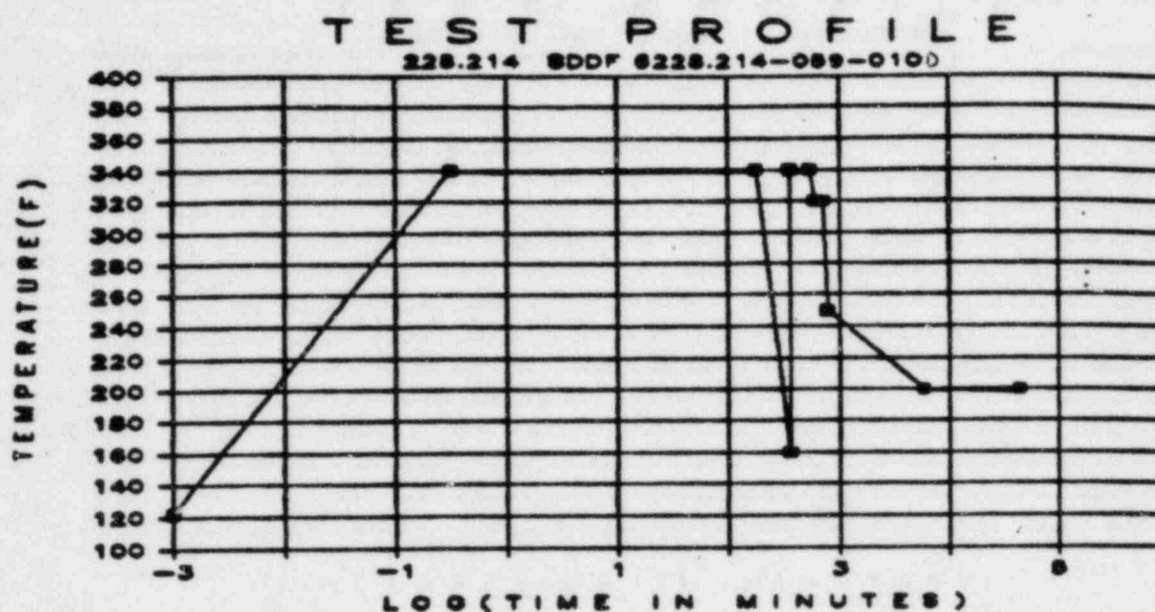


TEMPERATURE

TIME	0	1sec	10sec	15sec	100sec	1000sec	3hrs	1day	5days	180days
LOG(MINUTES)	-3.00	-1.80	-0.80	-0.60	0.22	1.22	2.26	3.16	3.86	5.41
TEMP(F)	122	320	320	290	225	200	180	160	122	122
TIME(MIN)	0.001	0.016	0.16	0.25	1.65	16.7	180	1440	7200	259200

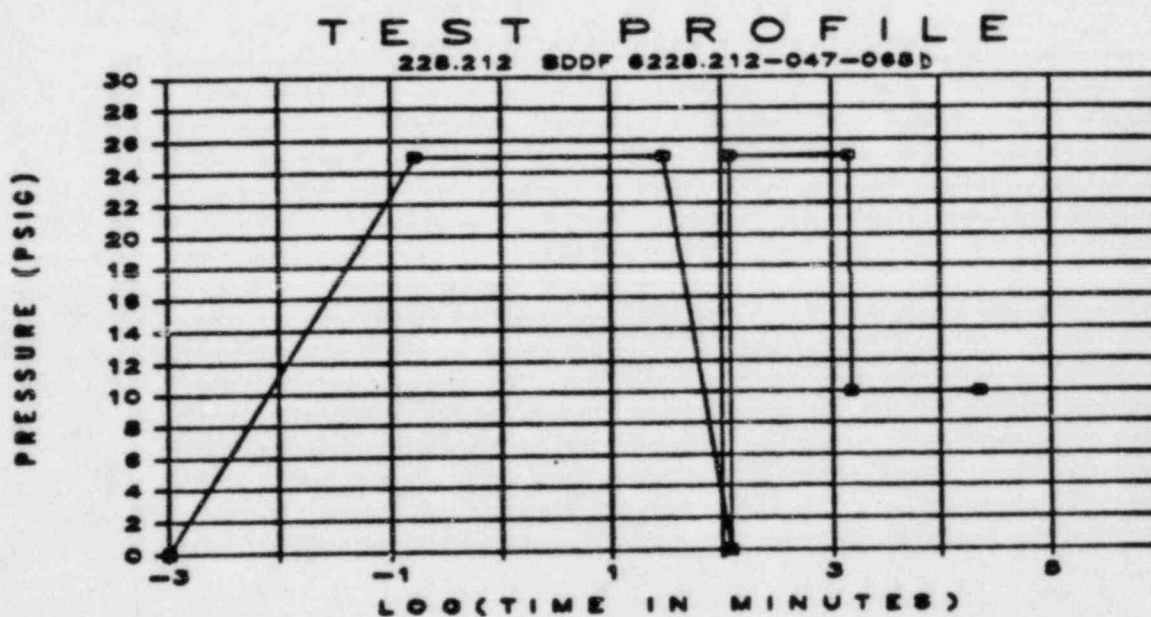
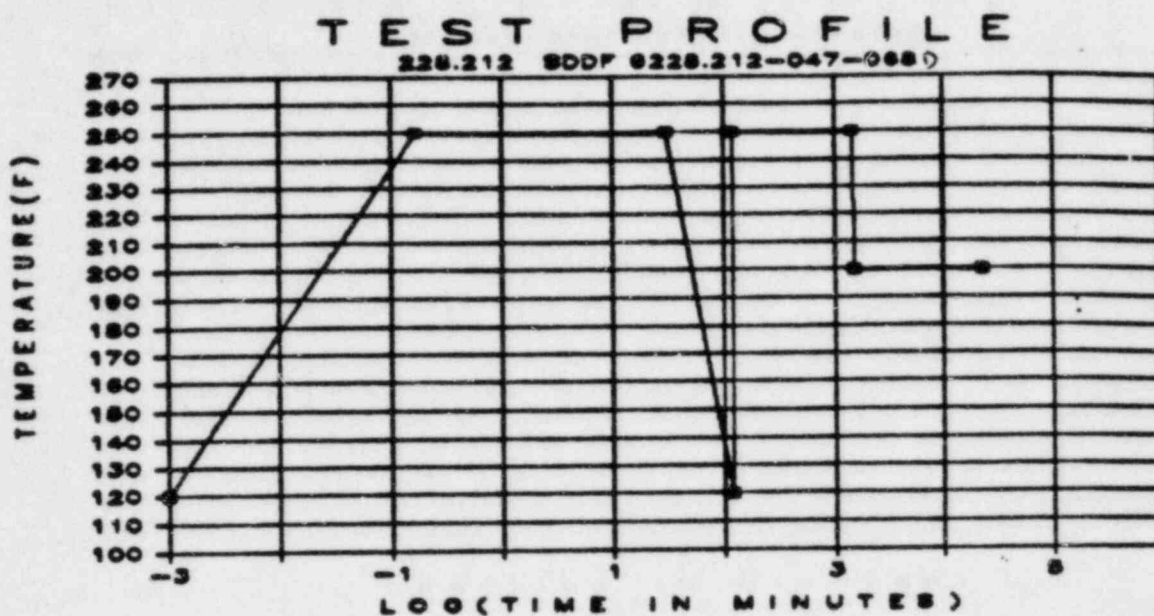
PRESSURE

TIME	0	1sec	10sec	15sec	100sec	1000sec	3hrs	1day	5days	180days
LOG(MINUTES)	-3.00	-1.80	-0.80	-0.60	0.22	1.22	2.26	3.16	3.86	5.41
PRES(PSIG)	0	13	13	2.8	2.8	1.3	1.3	1.3	0	0
TIME(MIN)	0.001	0.016	0.16	0.25	1.65	16.7	180	1440	7200	259200



TEST PROFILE DATA FOR 228.214 SDDF 6228.214-059-0100
INSIDE CONTAINMENT

TIME	0	19sec	3hr	6hr	6hr23sec	9hr	10hr	12hr	13hr	4days	30days
LOG(MINUTES)	-3.00	-0.50	2.26	2.56	2.56	2.73	2.78	2.86	2.89	3.76	4.64
TEMP (F)	122	340	340	160	340	340	320	320	250	200	200
PRES(PSIG)	0	110	105	0	105	105	75	75	19	10	10



TEST PROFILE DATA FOR 228.212 SDDF 6228.212-047-068D
OUTSIDE CONTAINMENT

TIME	0	10sec	30min	2hr	2hr10sec	24hr	25hr	16days
LOG (MINUTES)	-3.00	-0.78	1.48	2.08	2.08	3.16	3.18	4.36
TEMP (F)	120	250	250	120	250	250	200	200
PRES (PSIG)	0	25	25	0	25	25	10	10

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

228214_3
SRN 228212_3
REV 0
DATE 05-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	REMARKS
EQUIP NO.: SEE SHEET 2		OP. TIME:	12 HOURS	100 days	3	2,4	TEST - SIM	YES	NOTE 2
SYSTEM: SEE SHEET 2		TEMP (F):							
		NORMAL	122	122	1	2	TEST - SIM	NA	
		ABNORMAL	NA	NA	1		NA	NA	
TYPE: (DESCRIPTION)		ACCIDENT	280	340	1	2	TEST - SIM	YES	
MOV-DC/RH INSULATED MOTOR OUT-		PRESS (PSIG)							
SIDE CONTAINMENT-SEE NOTE 1		NORMAL	ATMOS	ATMOS	1	2	TEST - SIM	NA	
		ABNORMAL	NA	NA	1		NA	NA	
MANUFACTURER: LIMITORQUE		ACCIDENT	2,1	105	1	2	TEST - SIM	YES	
		RH (%)							
MODEL: SEE SHEET 2		NORMAL	90	100	1	2	TEST - SIM	NA	
		ABNORMAL	NA	NA	1		NA	NA	
SAFETY FUNCTION: - - -		ACCIDENT	100	STEAM	1	2	TEST - SIM	NA	
VALVES MUST OPEN AND/OR CLOSE AS REQUIRED		RADIATION:							
		NORM GAMMA						NA	
OP. CODE: SEE SHEET 2		ACC GAMMA	1.21E7	2E7	1	2,4	AN + DATA	YES	NOTE 3
		NORM BETA						NA	
		ACC BETA							
		NEUTRON					NA	NA	
		SPRAY	NA	NA			NA	NA	
ACCURACY - -		SUBMERGENCE	NA	NA			NA	NA	
SPEC: NA									
DEMO: NA									
ZONF NO.: SEE SHEET 2									
SUBMERGENCE:		DOCUMENT REFERENCE:							
SP: //FROTH:		1. SPECIFICATION 228.212 & 228.214							
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
EQUIPMENT NOT SUBJECT TO		SDDF # 6228.212-047-068D & 6228.214-059-010D							
SUBMERGENCE OR SPRAY/FROTH		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
CONDITIONS		PAOP DOCUMENT NO. 245.600, REV.0							
		4. CALCULATION NO. 12210-EQS-19							
DOCUMENTATION ACCEPTABILITY:									
ACCEPTABLE TO NUREG 0588, CAT I									
MAINT/SURVEILL - - -									
REFERENCE: 2									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE: 4									

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228212-3
REV 0
DATE 27-NOV-84
SHEET 2A

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBDIR	QUAL. LIFE (YEARS)	OPTIME OC	MOTOR INSUL	MOTOR MAKE
SRN 228212-3						
SPEC 228.212						
E51 REACTOR CORE ISOLATION COOLING SYSTEM						
1E51*HOVF010	SMB-00-10	AB-070-3	2	70 H A	RH	H.K. PORTER
1E51*HOVF013	SMB-0-40	AB-095-4	2	12 HRS A	RH	H.K. PORTER
1E51*HOVF022	SMB-0-70	AB-070-3	2	1 HR A	RH	H.K. PORTER
1E51*HOVF031	SMB-00-10	AB-070-6	2	70 H A	RH	H.K. PORTER
1E51*HOVF045	SMB-0-10	AB-070-3	2	70 H A	RH	H.K. PORTER
1E51*HOVF059	SMB-0-10	AB-070-3	2	1 HR A	RH	H.K. PORTER
1E51*HOVF068	SMB-0-15	AB-095-7	2	1 HR A	RH	H.K. PORTER

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
 SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228214-3
 REV 0
 DATE 27-NOV-84
 SHEET 2B

 MARK NO
 MODEL/CATALOG NO. ENV. ZONE QUAL. LIFE OPTIME MOTOR MOTOR
 REMARKS SUBMRG (YEARS) CC INSUL MAKE

SRN 228214-3

SPEC 228.214

E51 REACTOR CORE ISOLATION COOLING SYSTEM

1E51*MOVF019

SMB-00-10 AB-095-G 2 12 HRS RH H.K. PORTER
 A

1E51*MOVF046

SMB-00-5 AB-070-3 2 70 H RH H.K. PORTER
 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

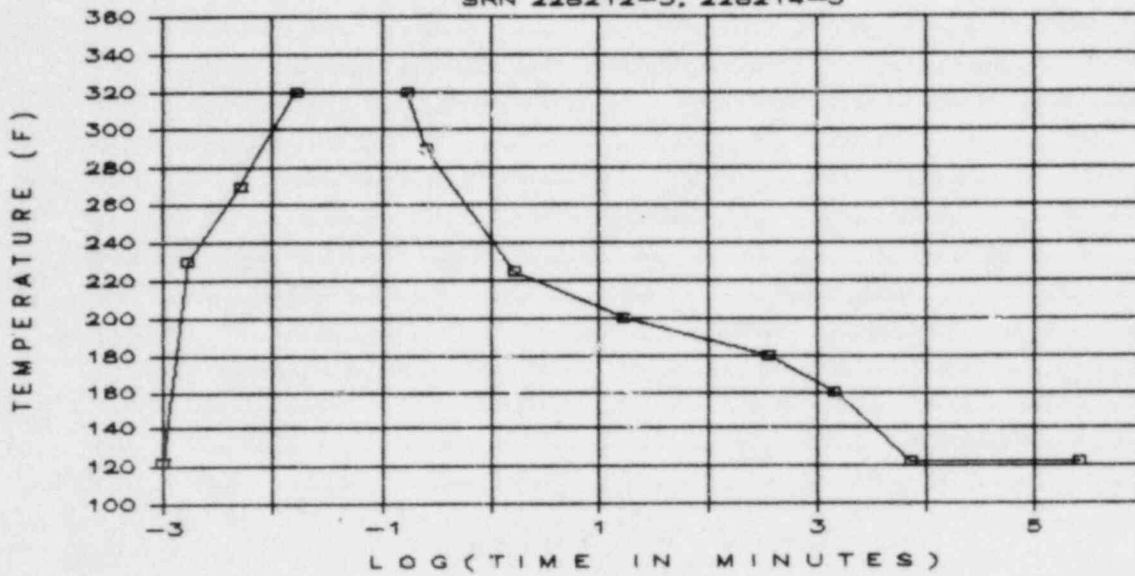
228212-3
SRN 228214-3
REV 0
SHEET NO. 3
DATE 11/27/84

NOTES

-
1. Refer to Sheet No. 2 for motor details.
 2. Operability period extended from 30 days to 100 days by Arrhenius calculation. See Reference 4.
 3. RH insulated dc motor with outside containment switch material was tested to 1E7 rads gamma. Similar switch material on ac/B insulated motors for outside containment was tested to 2E7 rads gamma and RH motor insulation has been tested to 2E8 rads gamma on ac motors.

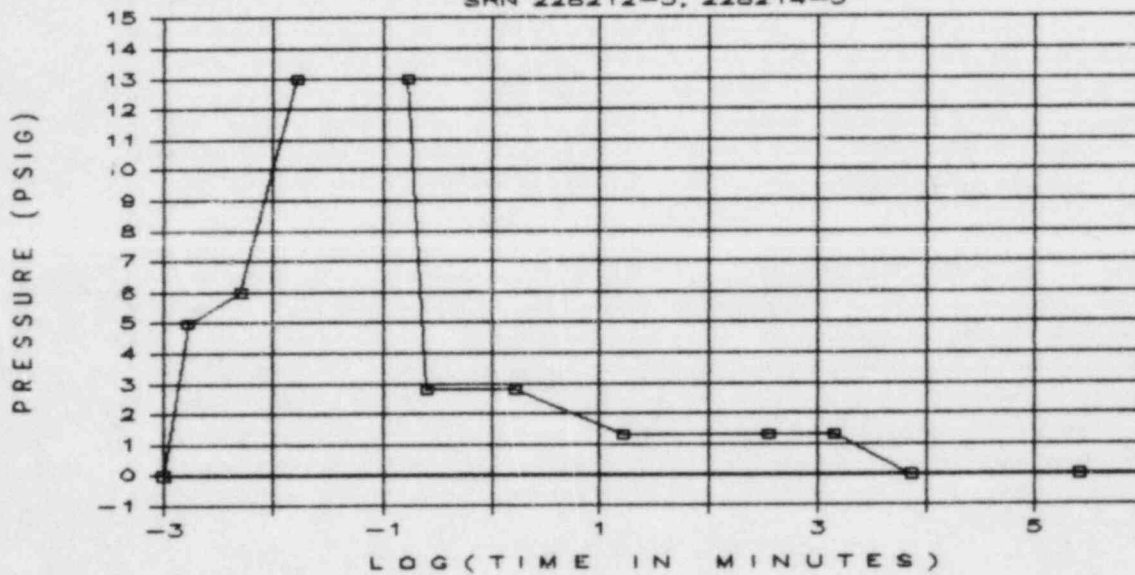
SPECIFIED ACCIDENT PROFILES

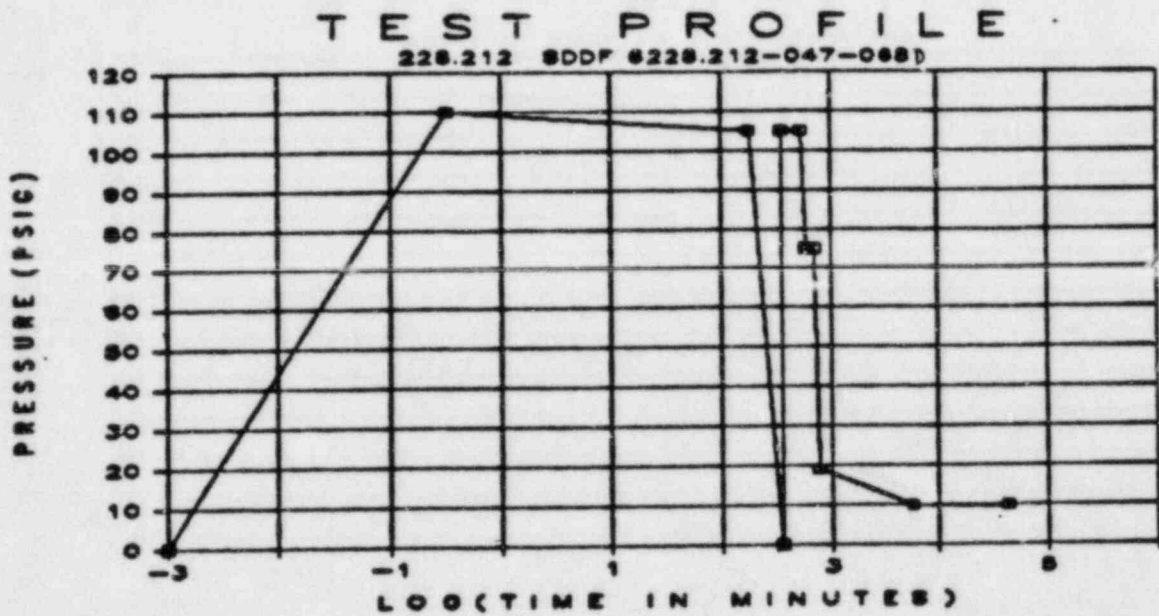
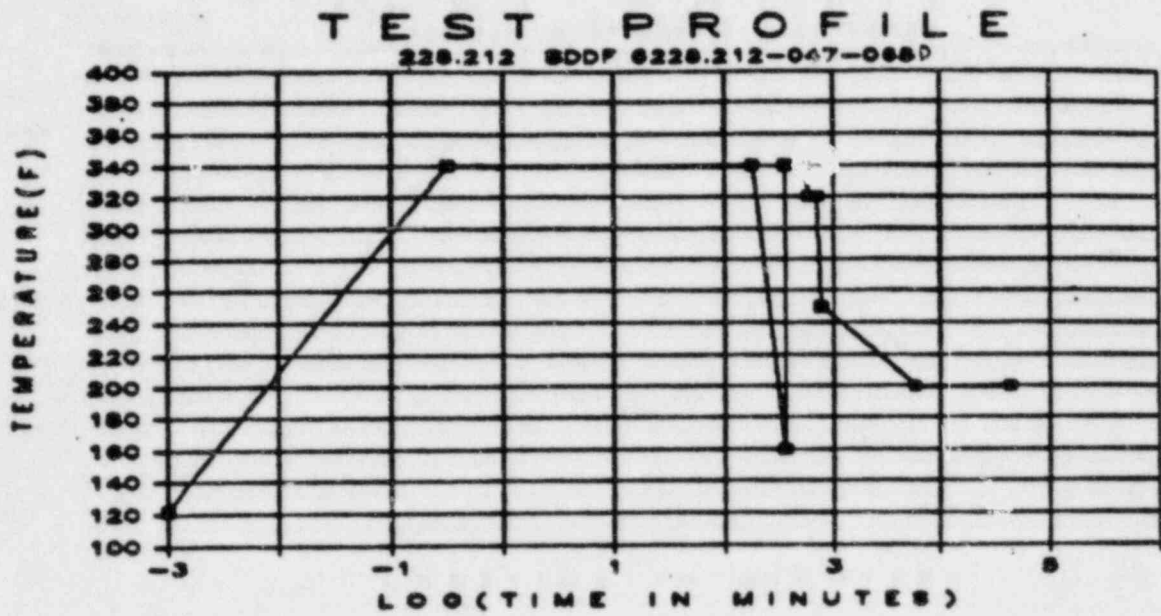
SRN 228212-3, 228214-3



SPECIFIED ACCIDENT PROFILES

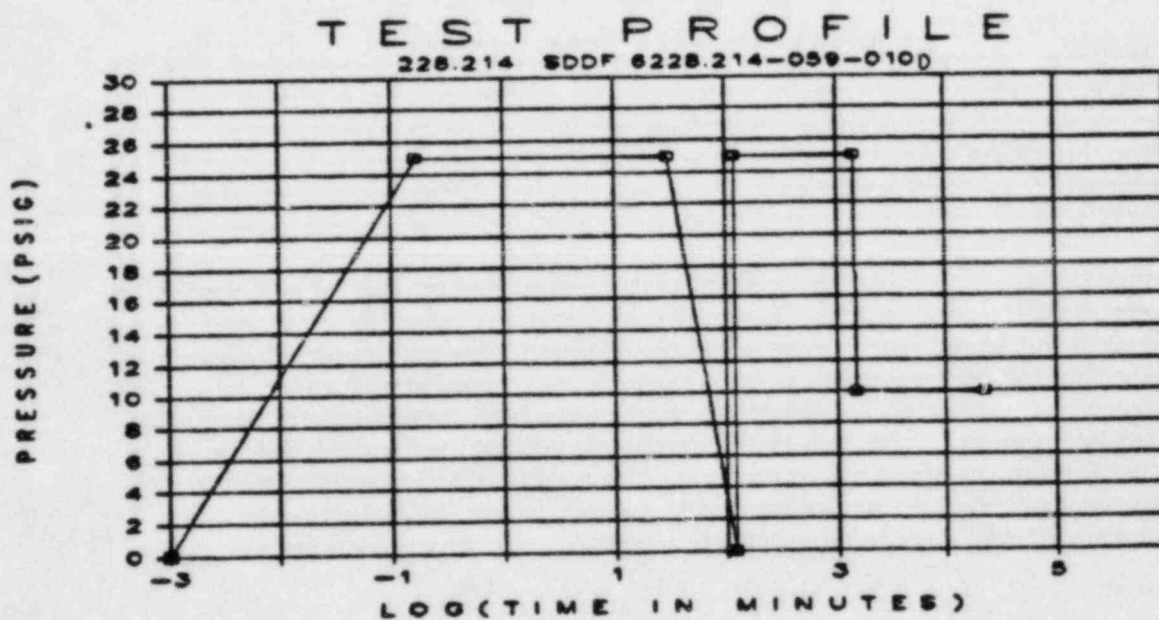
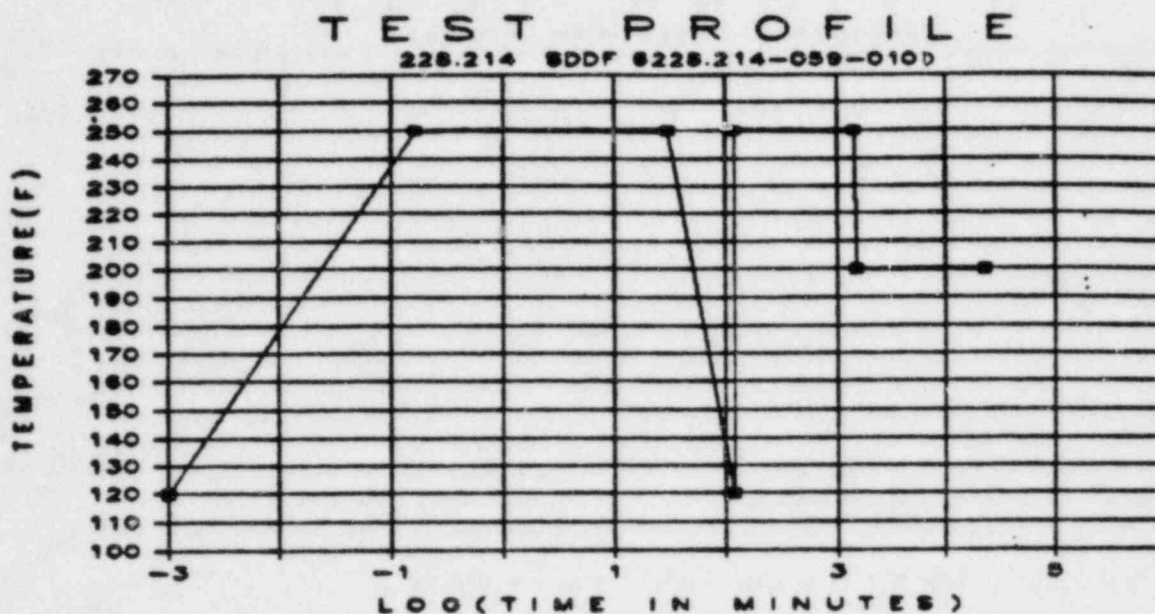
SRN 228212-3, 228214-3





TEST PROFILE DATA FOR 228.212 SDDF 6228.212-047-068D
INSIDE CONTAINMENT

TIME	0	19sec	3hr	6hr	6hr23sec	9hr	10hr	12hr	13hr	4days	30days
LOG(MINUTES)	-3.00	-0.50	2.26	2.56	2.56	2.73	2.78	2.86	2.89	3.76	4.64
TEMP (F)	122	340	340	160	340	340	320	320	250	200	200
PRES(PSIG)	0	110	105	0	105	105	75	75	19	10	10



TEST PROFILE DATA FOR 228.214 SDDF 6228.214-059-0100
OUTSIDE CONTAINMENT

TIME	0	10sec	30min	2hr	2hr10sec	24hr	25hr	16days
LOG (MINUTES)	-3.00	-0.78	1.48	2.08	2.08	3.16	3.18	4.36
TEMP (F)	120	250	250	120	250	250	200	200
PRES (PSIG)	0	25	25	0	25	25	10	10

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

228214_4
SRN 228212_4
REV 0
DATE 05-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION					
PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN: DEMO	REMARKS
			SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2	OP.TIME:	100 DAYS	100 days	3	2,4	TEST - SIM	YES -NOTE 2
SYSTEM: SEE SHEET 2	TEMP (F):	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -
	NORMAL	122	122	1	2	TEST - SIM	NA
	ABNORMAL	NA	NA	1		NA	NA
TYPE: (DESCRIPTION)	ACCIDENT	320	320	1	2,4	TEST - SIM	YES -NOTE 3
MOV-AC/RH INSULATED MOTOR OUT-	PRESS(PSIG)	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -
SIDE CONTAINMENT-SEE NOTE 1	NORMAL	ATMOS	ATMOS	1	2	TEST - SIM	NA
	ABNORMAL	NA	NA	1		NA	NA
MANUFACTURER: LIMITORQUE	ACCIDENT	13	25	1	2	TEST - SIM	YES
	IRH (%)	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -
MODEL: SEE SHEET 2	NORMAL	90	100	1	2	TEST - SIM	NA
	ABNORMAL	NA	NA	1		NA	NA
SAFETY FUNCTION: - - -	ACCIDENT	STEAM	STEAM	1	2	TEST - SIM	NA
VALVES MUST OPEN AND/OR CLOSE AS REQUIRED	RADIATION:	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -
	NORM GAMMA						NA
	ACC GAMMA	1.93E7	2E7	1	2,4	TEST - SIM	YES -NOTE 4
OP. CODE: SEE SHEET 2	NORM BETA						NA
	ACC BETA						NA
	NEUTRON					NA	NA
	SPRAY	NA	NA			NA	NA
ACCURACY - -	SUBMERGENCE	NA	NA			NA	NA
SPEC: NA							
DEMO: NA							
ZONE NO.: SEE SHEET 2							
SURMERGENCE:	DOCUMENT REFERENCE:						
SPRAY/FROTH:	1. SPECIFICATION 228.212 & 228.214						
	2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,						
	SDDF # 6228.212-047-068D & 6228.214-059-010D						
EQUIPMENT NOT SUBJECT TO	3. POST-ACCIDENT OPERABILITY PERIOD: SEE						
SUBMERGENCE OR SPRAY/FROTH	PADP DOCUMENT NO. 245.600, REV.0						
CONDITIONS	4. CALCULATION NO. 12210-ED5-18						
DOCUMENTATION ACCEPTABILITY:							
ACCEPTABLE TO NUREG 0588,CAT I							
MAINT/SURVEILL - - -							
REFERENCE: 2							
QUALIFIED LIFE - - -							
(YEARS): SEE SHEET 2							
REFERENCE: 4							

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228212-4
ES/ O
DATE 27-11-84
SHEET 2 A

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBSTR	QUAL. LIFE (YEARS)	OPTIME OC	MOTOR INSUL	MOTOR MAKE
SRN 228212-4						
SPEC 228.212						
CNS CONDENSATE - MAKE-UP AND DRAOFF						
1CNS#HOV125	SHB-00-10	AB-114-6	20	1HR A	RH	RELIANCE
ES1 REACTOR CORE ISOLATION COOLING SYSTEM						
1E51#HOVF064	SB-1-60	AB-114-2	20	12 HRS A	RH	RELIANCE
SHP SERVICE WATER						
1SHP#HOV73A	SHB-000-5	AB-114-5	20	100D A	RH	RELIANCE
1SHP#HOV73B	SHB-000-5	AB-114-5	20	100D A	RH	RELIANCE
1SHP#HOV74A	SHB-000-5	AB-114-5	20	100D A	RH	RELIANCE
1SHP#HOV74B	SHB-000-5	AB-114-5	20	100D A	RH	RELIANCE
WCS REACTOR WATER CLEAN-UP						
1WCS#HOV172	SHB-000-5	AB-114-2	20	1HR A	RH	RELIANCE

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
 SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228214-4
 REV 0
 DATE 27-NOV-84
 SHEET 2 B

 MARK NO MODEL/CATALOG NO. ENV. ZONE QUAL. LIFE OPTIME MOTOR MOTOR
 REMARKS SUSMRG (YEARS) OC INSUL MAKE

SRN 228214-4

SPEC 228.214

E33 MAIN STEAM ISOLATION VALVE SEALS

1E33#MOV007	SMB-000-5	AB-114-2	20	1000 A	RH	RELIANCE
1E33#MOV008	SMB-000-5	AB-114-2	20	1000 A	RH	RELIANCE

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

228212-4
SRN 228214-4
REV 0
SHEET NO. 3
DATE 11/27/84

NOTES

-
1. Refer to Sheet No. 2 for motor details.
 2. Maximum specified accident temperature duration is 15 seconds. Qualification justification is given in Reference 4.
 3. Operability period extended from 30 days to 100 days by Arrhenius calculation. See Reference 4.
 4. Combined radiation for gamma and beta is for 20 years of qualified life plus accident, including margin for worst-case composite conditions. See Reference 4.

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 228218-1
REV 1
DATE 12-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN: DEMO	REMARKS
EQUIP NO.: SEE SHEET 2		OP. TIME:	N/R	100 DAYS	3	2,4	AN+DATA	YES	NOTE-3
SYSTEM: SEE SHEET 2		TEMP (F):							NOTE-1
TYPE: (DESCRIPTION) LIMIT SWITCH		NORMAL	140	194	1	2	TEST-IDENT	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
		ACCIDENT	330	370	1	2	TEST-IDENT	YES	
MANUFACTURER: NAMCO		PRESS (PSIG)							NOTE-1
		NORMAL	0.50	ATMOS	1	2	TEST-IDENT	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
MODEL: SEE SHEET 2		ACCIDENT	-8 TO 25	100	1	2	AN+DATA	YES	
		RH (%)							NOTE-1
		NORMAL	50	100	1	2	TEST-IDENT	NA	
SAFETY FUNCTION: - - - NOT REQUIRED		ABNORMAL	NA	NA	NA	NA	NA	NA	
		ACCIDENT	100	100	1	2	TEST-IDENT	NA	
		RADIATION:							NOTE-1
OP. CODE: SEE SHEET 2		NORM GAMMA						NA	
		ACC GAMMA	9.56E7 TID	2.04E8	5	2	TEST-IDENT	YES	
		NORM BETA						NA	
ACCURACY - - - SPEC: NA DEMO: NA		ACC BETA						NA	
		NEUTRON						NA	
		SPRAY	NA	NA	NA	NA	NA	NA	
ZONE NO.: SEE SHEET 2		SUBMERGENCE	NA	NA	NA	NA	NA	NA	
		DOCUMENT REFERENCE:							
		1. SPECIFICATION 228.218 REV.0, ADD.11							
SUBMERGENCE: SPRAY/FROTH:		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6228.218-062-006B							
		3. POST-ACCIDENT OPERABILITY PERIOD: SEE PAOP DOCUMENT NO. 245.600, REV.0							
		4. CALCULATION NO. 12210-EQS-28							
EQUIPMENT NOT SUBJECTED TO SUBMERGENCE OR SPRAY/FROTH		5. CALCULATION NO. 12210-EQS-62							
		DOCUMENTATION ACCEPTABILITY:							
		ACCEPTABLE TO NUREG 0588,CAT I							
MAINT/SURVEILL - - - REFERENCE: 2									
QUALIFIED LIFE - - - (YEARS): SEE SHEET 2 REFERENCE: 2 (SEE NOTE-2)									

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228218-1
REV 0
SHEET NO. 2
DATE 11-30-84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUCHRG	QUAL. LIFE	OPTIME OC
SRN 228218-1				
SPEC 228.218				
E12 RESIDUAL HEAT REMOVAL				
1E12*AOVF041A	EA-180 N/R FOR SAFETY FUNCTION	DW-1	40 YEARS	N/R B
1E12*AOVF041B	EA-180 N/R FOR SAFETY FUNCTION	DW-1	40 YEARS	N/R B
1E12*AOVF041C	EA-180 N/R FOR SAFETY FUNCTION	DW-1	40 YEARS	N/R B
E21 CORE SPRAY - LOW PRESSURE				
1E21*AOVF006	EA-180 N/R FOR SAFETY FUNCTION	DW-1	40 YEARS	N/R B
E22 CORE SPRAY - HIGH PRESSURE				
1E22*AOVF005	EA-180 N/R FOR SAFETY FUNCTION	DW-1	40 YEARS	N/R B
E51 REACTOR CORE ISOLATION COOLING SYSTEM				
1E51*AOVF066	EA-180 N/R FOR SAFETY FUNCTION	DW-4	40 YEARS	N/R B

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 228218-1

REV 0

SHEET NO. 3

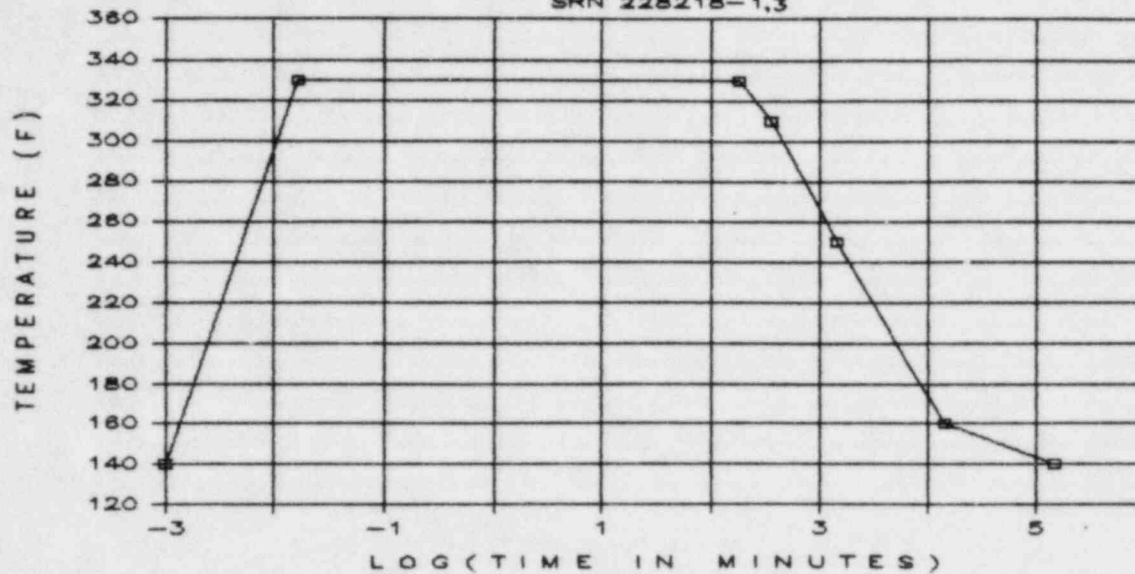
DATE 11/30/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. The EA-180 limit switch has a qualified life of 40 years provided a periodic maintenance schedule is implemented. Reference Maintenance Procedure No. EA 189 90051, Figure 6, of vendor's qualification report.
 3. Operability period extended from 30 days tested value to 100 days plus margin by Arrhenius calculation. See Reference 4.

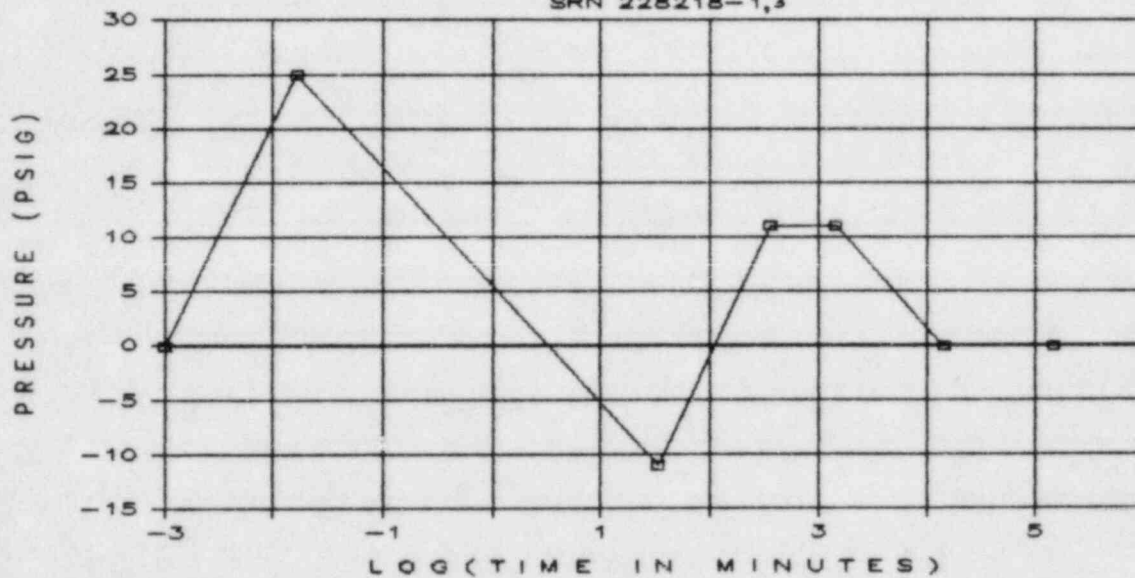
SPECIFIED ACCIDENT PROFILES

SRN 228218-1,3



SPECIFIED ACCIDENT PROFILES

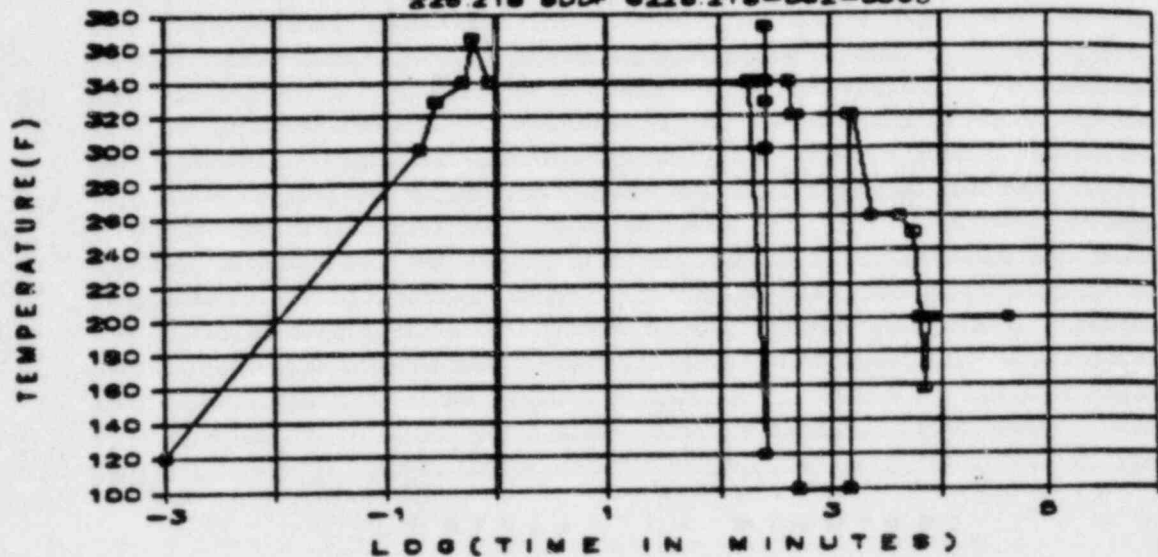
SRN 228218-1,3

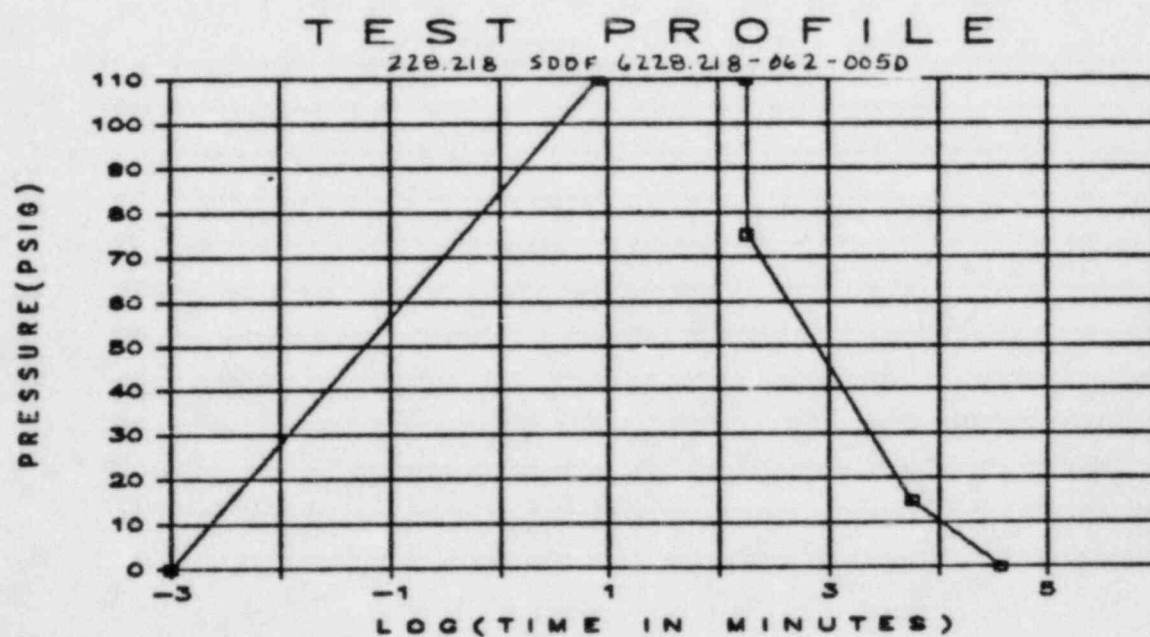
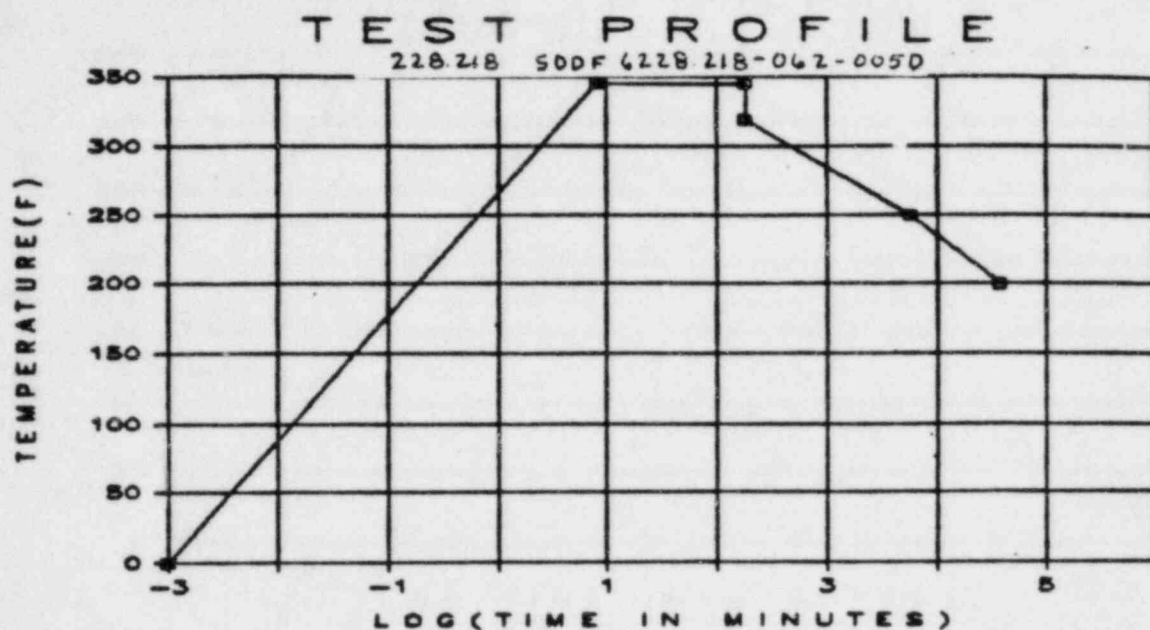


TEMPERATURE							
TIME	0	1sec	3hrs	6hrs	1day	10days	100days
LOG (MINUTES)	-3.00	-1.78	2.26	2.56	3.16	4.16	5.16
TEMP(F)	140	330	330	310	250	160	140
TIME(MIN)	0.001	0.0167	180	360	1440	14400	144000
PRESSURE							
TIME	0	1sec	2000sec	3hrs	1day	10days	100days
LOG(MINUTES)	-3.00	-1.78	1.52	2.56	3.16	4.16	5.16
PRES(PSIG)	0	25	-11	11	11	0	0
TIME(MIN)	0.001	0.0167	33	360	1440	14400	144000

TEST PROFILE

228.218 SDDF 6228.218-062-006B





TEST PROFILE DATA FOR 228.218 SDDF 6228.218-062-0050
SOLENOID VALVES

TIME	0	8min	3hr	3hr	4days	26days
LOG(MINUTES)	-3.00	0.90	2.26	2.26	3.76	4.57
TEMP(F)	0	346	346	320	250	200
PRES(PSIG)	0	110	110	75	15	0

SRN 228218-2
REV 1
DATE 12-Dec-84
SHEET 1

		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						REV 1	DATE	12-Dec-84
EQUIPMENT DESCRIPTION								SHEET 1		
		PARAMETER		SPECIFIED	QUALIFIED	DOCUMENT REFERENCE		DUAL	MARGIN	REMARKS
		VALUE		VALUE		SPECIFIED	QUALIFIED	METHOD	DEMO	
EQUIP NO.: SEE SHEET 2		OP.TIME:		N/R	100 DAYS	3	2,4	AN+DATA	YES	NOTE-3
SYSTEM: SEE SHEET 2		TEMP (F):								NOTE-1
		NORMAL		122	194	1	2	TEST-IDENT	NA	
		ABNORMAL		NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)		ACCIDENT		320	370	1	2	TEST-IDENT	YES	
LIMIT SWITCH		PRESS (PSI6)								NOTE-1
		NORMAL		-0.50" H2O	ATMOS	1	2	AN+DATA	NA	
		ABNORMAL		NA	NA	NA	NA	NA	NA	
MANUFACTURER: NAMCO		ACCIDENT		13	100	1	2	AN+DATA	YES	
		RH (%)								NOTE-1
		NORMAL		90	100	1	2	TEST-IDENT	NA	
		ABNORMAL		NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -		ACCIDENT		100	100	1	2	TEST-IDENT	NA	
NOT REQUIRED		RADIATION:								NOTE-1
		NORM GAMMA		3.2E7		1			NA	
		ACC GAMMA		1.2E7	2.04E8	1	2	TEST-IDENT	YES	
OP. CODE: SEE SHEET 2		NORM BETA		0		1			NA	
		ACC BETA		500		1			NA	
		NEUTRON		0		1			NA	
		SPRAY		NA	NA	NA	NA	NA	NA	
ACCURACY - -		SUBMERGENCE		NA	NA	NA	NA	NA	NA	
SPEC: NA										
DEMO: NA										
ZONE NO.: SEE SHEET 2										
SUBMERGENCE:		DOCUMENT REFERENCE:								
SPRAY/FROTH:		1. SPECIFICATION 228.218 REV.0, ADD.11								
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,								
		SDDF # 6228.218-062-006B								
EQUIPMENT NOT SUBJECTED TO		3. POST-ACCIDENT OPERABILITY PERIOD: SEE								
SUBMEREGENCE OR SPRAY/FROTH		PAQP DOCUMENT NO. 245.600, REV.0								
		4. CALCULATION NO.12210-EQS-28								
DOCUMENTATION ACCEPTABILITY:										
ACCEPTABLE TO NUREG 0588,CAT I										
MAINT/SURVEILL - - -										
REFERENCE: 2										
QUALIFIED LIFE - - -										
(YEARS): SEE SHEET 2										
REFERENCE: 2 (SEE NOTE-2)										

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228218-2
REV 0
SHEET NO. 2
DATE 11-30-84

MARK NO

MODEL/CATALOG NO.
REMARKS

ENV. ZONE
SUBNRG

QUAL. LIFE

OPTIME
CC

SRN 228218-2

SPEC 228.218

B21 NUCLEAR BOILER SYSTEM

1B21*AOVF032A

EA-180
N/R FOR SAFETY FUNCTION

AB-114-2

40 YEARS

N/R
B

1B21*AOVF032B

EA-180
N/R FOR SAFETY FUNCTION

AB-114-2

40 YEARS

N/R
B

E12 RESIDUAL HEAT REMOVAL

1E12*AOVF098

EA-180
N/R FOR SAFETY FUNCTION

AB-095-5

40 YEARS

N/R
B

E51 REACTOR CORE ISOLATION COOLING SYSTEM

1E51*AOVF065

EA-180
N/R FOR SAFETY FUNCTION

AB-114-2

40 YEARS

N/R
B

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 228218-2

REV 0

SHEET NO. 3

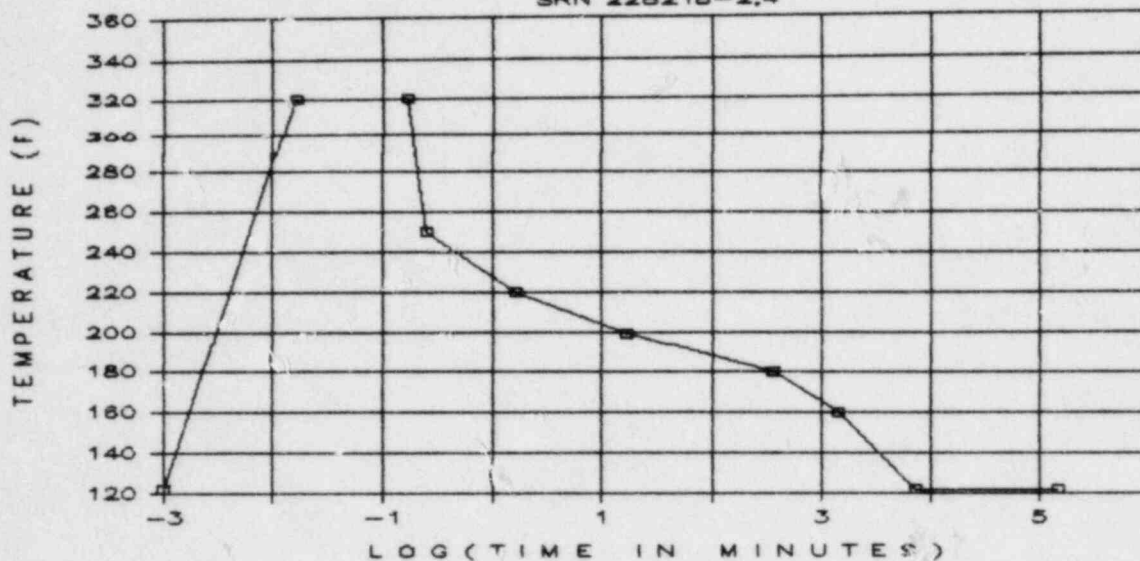
DATE 11/30/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. The EA-180 limit switch has a qualified life of 40 years provided a periodic maintenance/replacement schedule is implemented. Reference Maintenance Procedure No. EA 189 90051, Figure 6, of the vendor's qualification report.
 3. Operability period extended from 30 days tested value to 100 days plus margin by Arrhenius calculation. See Reference 4.

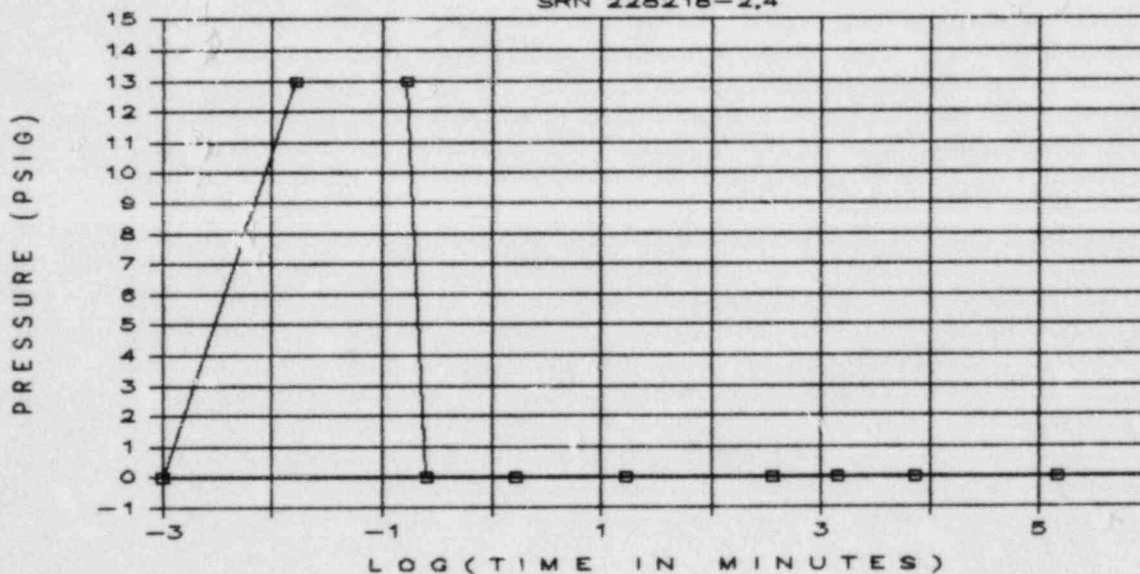
SPECIFIED ACCIDENT PROFILES

SRN 228218-2,4



SPECIFIED ACCIDENT PROFILES

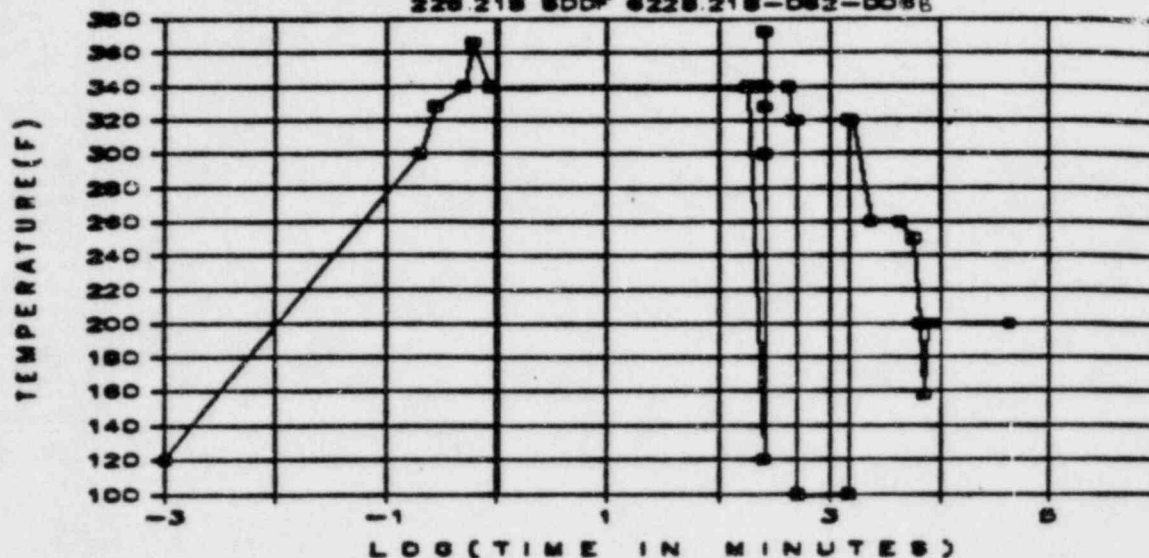
SRN 228218-2,4



TEMPERATURE										
TIME	0	1sec	10sec	15sec	100sec	1000sec	3hrs	1day	5days	100days
LOG (MINUTES)	-3.00	-1.78	-0.78	-0.60	0.22	1.22	2.56	3.16	3.86	5.16
TEMP(F)	122	320	320	250	220	200	180	160	122	122
TIME(MIN)	0.001	0.0167	0.167	0.25	1.65	16.7	360	1440	7200	144000
PRESSURE										
TIME	0	1sec	10sec	15sec	100sec	1000sec	3hrs	1day	5days	100days
LOG(MINUTES)	-3.00	-1.78	-0.78	-0.60	0.22	1.22	2.56	3.16	3.86	5.16
PRES(PSIG)	0	13	13	0	0	0	0	0	0	0
TIME(MIN)	0.001	0.0167	0.167	0.25	1.65	16.7	360	1440	7200	144000

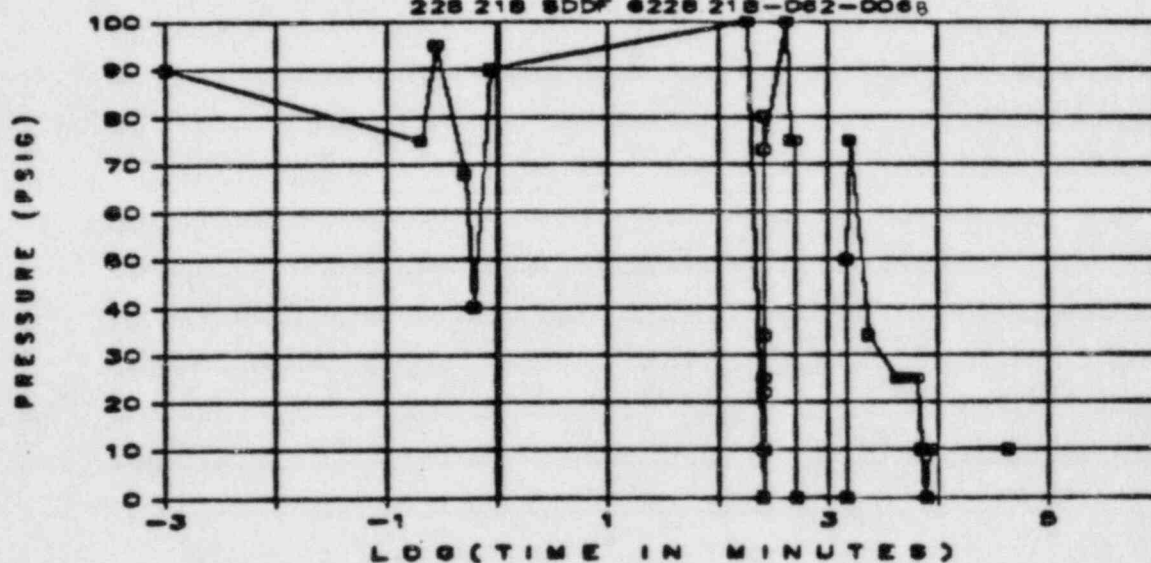
TEST PROFILE

228 218 SDDF 6228.218-062-006B



TEST PROFILE

228 218 SDDF 6228.218-062-006B



TEST PROFILE DATA FOR 228.218 SDDF 6228.218-062-006A & 6228.218-062-006B
MANUFACTURER - MARCO

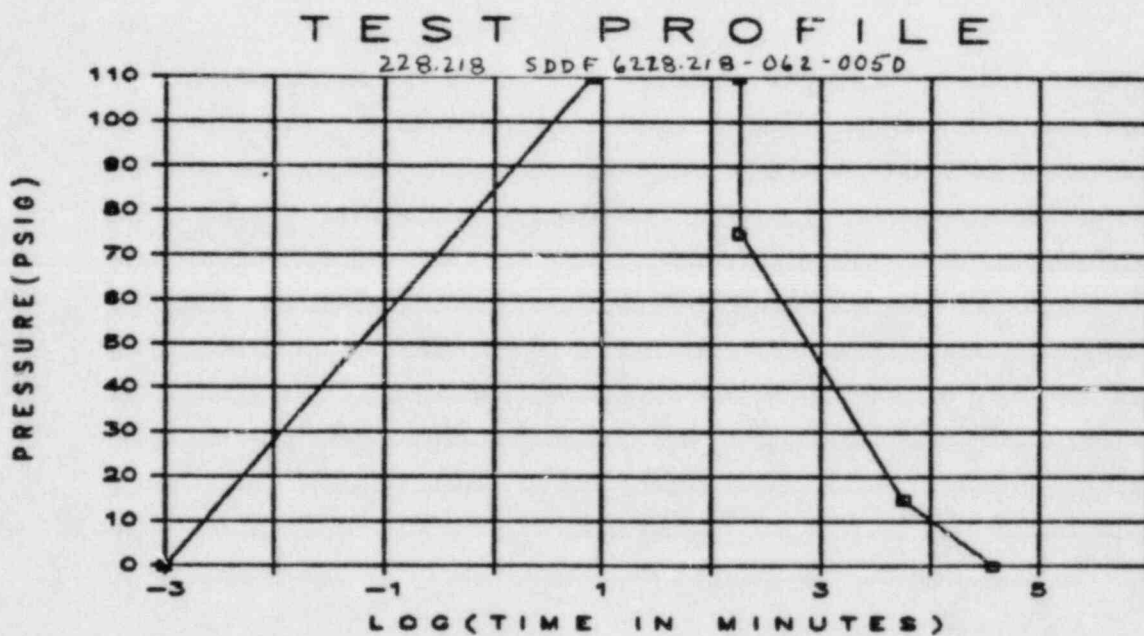
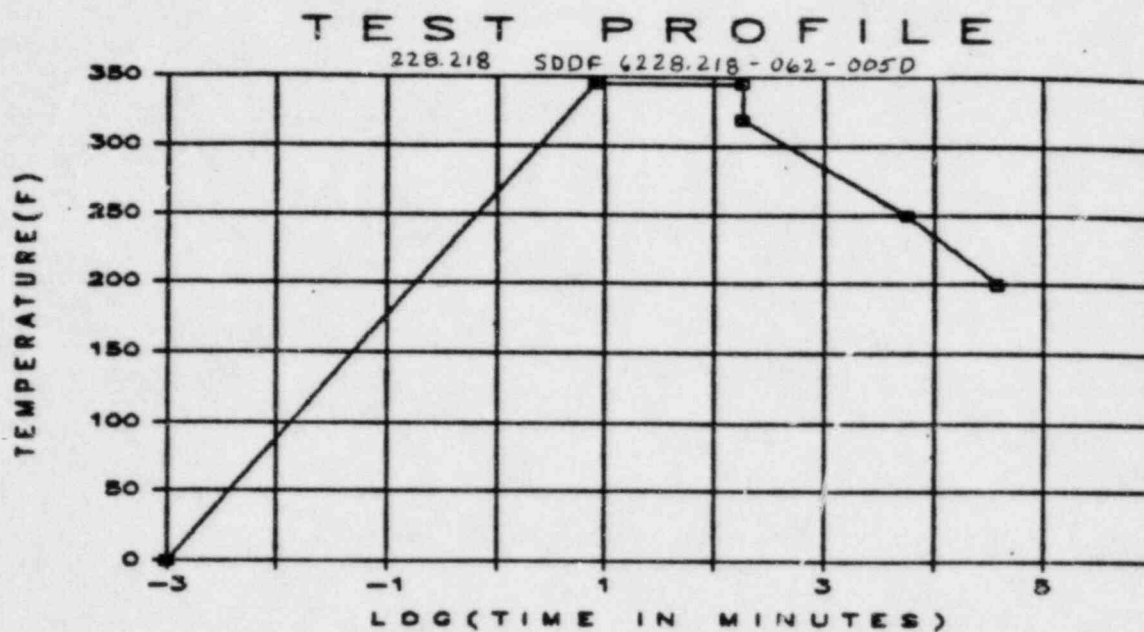
TIME	0	12sec	16.7sec	30sec	36.7sec	50.6sec	3hr6min	4hr20min	4h21m11.7s	4h21m23.4s	4h21m25s
LOG(MINUTES)	-3.00	-0.70	-0.56	-0.30	-0.21	-0.07	2.27	2.41	2.42	2.42	2.42
TEMP (F)	120	300	328	340	366	340	340	120	300	328	340
PRES(PSIG)	90	75	95	68	40	90	100	0	25	34	22

CONT'D

TIME	4h21m34s	4h23m18.2s	4h23m33.8s	7hr5min	7hr35min	8hr35min	8hr36min	24hr35min	24hr56min	26hr55min	39.5hr
LOG(MINUTES)	2.42	2.42	2.42	2.63	2.66	2.71	2.71	3.17	3.17	3.21	3.37
TEMP (F)	373	328	340	340	320	320	100	100	320	320	260
PRES(PSIG)	10	80	73	100	75	75	0	0	50	75	34

CONT'D

TIME	34days	4days	4.5days	5days	5.5days	6days	30days
LOG(MINUTES)	3.64	3.76	3.81	3.86	3.90	3.94	4.64
TEMP (F)	260	250	200	158	200	200	200
PRES(PSIG)	25	25	25	10	0	10	10



TEST PROFILE DATA FOR 228.218 SDDF 6228.218-062-005D
SOLENOID VALVES

TIME	0	8min	3hr	3hr	4days	26days
LOG(MINUTES)	-3.00	0.90	2.26	2.26	3.76	4.57
TEMP(F)	0	346	346	320	250	200
PRES(PSIG)	0	110	110	75	15	0

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 228218-3
REV 0
DATE 05-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE SPECIFIED QUALIFIED		DUAL METHOD	MARGIN: DEMO	REMARKS
EQUIP NO.: SEE SHEET 2		OP.TIME:	N/R	100 DAYS	3	2,4	AN+DATA	YES	NOTE-3
SYSTEM: SEE SHEET 2		TEMP (F):							NOTE-1
		NORMAL	140	140	1	2	TEST-IDENT	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)		ACCIDENT	330	346	1	2	TEST-IDENT	YES	
SOLENOID OPERATED		PRESS (PSIG)							NOTE-1
VALVE		NORMAL	0.5	ATMOS	1	2	TEST-IDENT	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: ASCO		ACCIDENT	-8 TO 25	110	1	2	TEST-IDENT	YES	
		RH (%)							NOTE-1
		NORMAL	50	100	1	2	TEST-IDENT	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -		ACCIDENT	100	100	1	2	TEST-IDENT	NA	
NOTE REQUIRED		RADIATION:							NOTE-1
		NORM GAMMA		5E7		2	TEST-IDENT	NA	
		ACC GAMMA	1.28E8 TID	1.5E8	4	2	TEST-IDENT	YES	NOTE-4
		NORM BETA						NA	
		ACC BETA						NA	
		NEUTRON						NA	
		SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -		SUBMERGENCE	NA	NA	NA	NA	NA	NA	
ZONE NO.: SEE SHEET 2									
SUBMERGENCE:		DOCUMENT REFERENCE:							
SPRAY/FROTH:		1. SPECIFICATION 228.218 REV.0, ADD.11							
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
		SDDF # 6228.218-062-005D							
EQUIPMENT NOT SUBJECTED TO		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
SUBMERGENCE OR SPRAY/FROTH		PAOP DOCUMENT NO. 245.600, REV.0							
		4. CALCULATION NO. 12210-EOS-42							
DOCUMENTATION ACCEPTABILITY:		5. ASCO INSTALLATION AND MAINTENANCE INSTRUCTIONS,							
ACCEPTABLE TO NUREG 0588,CAT I		FORM NO. V-5968							
MAINT/SURVEILL - - -									
REFERENCE: 4,5									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE: 2,4 (SEE NOTE-2)									

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228218-3
REV 0
SHEET NO. 1
DATE 11-30-84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME CC
SRN 228218-3				
SPEC 228.218				
CSH CORE SPRAY - HIGH PRESSURE				
1CSH*SOV103	WITH 1EC2*AOVF005 N/R FOR SAFETY FUNCTION	DH-1	11.4 YEARS	N/R B
CSL CORE SPRAY - LOW PRESSURE				
1CSL*SOV103	WITH 1E21*AOVF006 N/R FOR SAFETY FUNCTION	DH-1	11.4 YEARS	N/R B
ICS REACTOR CORE ISOLATION COOLING				
1ICS*SOV103	WITH 1E51*AOVF066 N/R FOR SAFETY FUNCTION	DH-4	11.4 YEARS	N/R B
RHS RESIDUAL HEAT REMOVAL SYSTEM				
1RHS*SOV5A	WITH 1E12*AOVF041A N/R FOR SAFETY FUNCTION	DH1	11.4 YEARS	N/R B
1RHS*SOV5B	WITH 1E12*AOVF041B N/R FOR SAFETY FUNCTION	DH1	11.4 YEARS	N/R B
1RHS*SOV5C	WITH 1E12*AOVF041C N/R FOR SAFETY FUNCTION	DH1	11.4 YEARS	N/R B

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 228218-3

REV 0

SHEET NO. 3

DATE 11/30/84

NOTES

1. For complete environmental conditions, see the document referenced.
2. The ASCO NP-1 valves have a qualified life of 40 years provided a periodic maintenance schedule is implemented. See References 4 and 5.
3. Operability period extended from 30 days tested value to 100 days plus margin by Arrhenius calculation. See Reference 4.
4. RBS worst case combined radiation for gamma, beta, and neutron for 40 years of qualified life plus accident, including applicable beta and neutron reduction to coil and EPDM, is as follows:

Combined radiation in DW-1 to solenoid coil is 1.21E8 rads equivalent gamma.

Combined radiation in DW-1 to EPDM is 1.28E8 rads equivalent gamma (9.9E7 rads gamma, 1.087E7 rads beta, 1.76E7 rads neutron).

See Reference 4.

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 228218-4
REV 1
DATE 10-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	REMARKS
					SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2		OP. TIME:	N/R	100 DAYS	3	2,4	AN+DATA	YES	NOTE-3
SYSTEM: SEE SHEET 2		TEMP (F):							NOTE-1
		NORMAL	122	140	1	2,4	TEST-IDENT	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)		ACCIDENT	320	346	1	2	TEST-IDENT	YES	
SOLENOID VALVE		PRESS (PSIG)							NOTE-1
		NORMAL	ATMOS	ATMOS	1	2	TEST-IDENT	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: ASCO		ACCIDENT	13	110	1	2	TEST-IDENT	YES	
		RH (%):							NOTE-1
MODEL: SEE SHEET 2		NORMAL	50	100	1	2	TEST-IDENT	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -		ACCIDENT	100	100	1	2	TEST-IDENT	NA	
NOT REQUIRED		RADIATION:							NOTE-1
		NORM GAMMA	3.2E7	5E7	1		TEST-IDENT	NA	
		ACC GAMMA	4E6	1.5E8	1	2	TEST-IDENT	YES	
OP. CODE: SEE SHEET 2		NORM BETA	0		1			NA	
		ACC BETA	500		1			NA	
		NEUTRON	0		1			NA	
		SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -		SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA									
DEMO: NA									
ZONE NO.: SEE SHEET 2									
SUBMERGENCE:		DOCUMENT REFERENCE:							
SPRAY/FROTH:		1. SPECIFICATION 228.218 REV.0, ADD.11							
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6228.218-062-006B							
EQUIPMENT NOT SUBJECTED TO		3. POST-ACCIDENT OPERABILITY PERIOD: SEE PAOP DOCUMENT NO. 245.600, REV.0							
SUBMERGENCE OR SPRAY/FROTH		4. CALCULATION NO.12210-EOS-42							
		5. ASCO INSTALLATION AND MAINTENANCE INSTRUCTIONS, FORM NO. V-596B							
DOCUMENTATION ACCEPTABILITY:									
ACCEPTABLE TO NUREG 0588,CAT I									
MAINT/SURVEILL - - -									
REFERENCE: 4,5									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE: 2,4 (SEE NOTE-2)									

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228218-4
REV 1
SHEET NO. 2
DATE 12-12-84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBNO	QUAL. LIFE	OPTIME CC
SRN 228218-4				
SPEC 228.218				
ICS REACTOR CORE ISOLATION COOLING				
1ICS*SOV102	WITH 1ES1*AOVF066 N/R FOR SAFETY FUNCTION	AB-114-2		N/R B
ISC				
1ISC*SOVX38A	WITH 1EC1*AOVF032A N/R FOR SAFETY FUNCTION	AB-114-2		N/R C
1ISC*SOVX38B	WITH 1EC1*AOVF032B N/R FOR SAFETY FUNCTION	AB-114-2		N/R
1ISC*SOVY38A	WITH 1EC1*AOVF032A N/R FOR SAFETY FUNCTION	AB-114-2		N/R
1ISC*SOVY38B	WITH 1EC1*AOVF032B N/R FOR SAFETY FUNCTION	AB-114-2		N/R

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 228218-4

REV 0

SHEET NO. 3

DATE 11/30/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. The ASCO NP-1 valves have a qualified life of 40 years provided a periodic maintenance schedule is implemented. See References 4 and 5.
 3. Operability period extended from 30 days tested value to 100 days plus margin by Arrhenius calculation. See Reference 4.

SRN 228241-1
REV 0
DATE 05-DEC-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						DATE	05-Dec-84
		SHEET 1							
		DOCUMENT REFERENCE							
		PARAMETER	SPECIFIED	QUALIFIED	SPECIFIED		QUAL	MARGIN	REMARKS
		VALUE	VALUE	SPECIFIED	QUALIFIED	METHOD	DEMO		
EQUIP NO.: SEE SHEET 2		OP.TIME:	1 HR	100 DAYS	3	2,4	AN+DATA	YES	NOTE-4
SYSTEM: SEE SHEET 2		TEMP (F):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	NOTE-1
		NORMAL	90	194	1	2	TEST-SIM	NA	
		ABNORMAL	140	194	1	2	TEST-SIM	NA	
TYPE: (DESCRIPTION)		ACCIDENT	165	340	1	2	TEST-SIM	YES	
LIMIT SWITCH		PRESS(PSIG)	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	NOTE-1
		NORMAL	-1.0" W.C.	ATMOS	1	2	TEST-SIM	NA	
		ABNORMAL	2.3	70	1	2	AN+DATA	NA	NOTE-3
MANUFACTURER: NAMCO		ACCIDENT	9.0	70	1	2	TEST-SIM	YES	
		R. (%)	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	NOTE-1
MODEL: SEE SHEET 2		NORMAL	50	100	1	2	TEST-SIM	NA	
		ABNORMAL	100	100	1	2	TEST-SIM	NA	
SAFETY FUNCTION: - - -		ACCIDENT	100	100	1	2	TEST-SIM	NA	
POSITION INDICATION OF DRYWELL		RADIATION:	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	NOTE-1
CONTAINMENT ISOLATION VALVES		NORM GAMMA:						NA	
		ACC GAMMA	3.3E7 TID	2.04E8	5	2	TEST-SIM	YES	
OP. CODE: SEE SHEET 2		NORM BETA						NA	
		ACC BETA						NA	
		NEUTRON						NA	
ACCURACY - -		SPRAY	NA	NA	NA	NA	NA	NA	
		SUBMERGENCE:	NA	NA	NA	NA	NA	NA	
ZONE NO.: SEE SHEET 2		DOCUMENT REFERENCE:							
SUBMERGENCE:		1. SPECIFICATION 228.241 REV.0, ADD.5							
SPRAY/FROTH:		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
		SDDF # 6228.241-092-008B							
EQUIPMENT NOT SUBJECTED TO		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
SUBMERGENCE OR SPRAY/FROTH		PAOF DOCUMENT NO. 245.600, REV.0							
		4. CALCULATION NO. 12210-E0S-48							
DOCUMENTATION ACCEPTABILITY:		5. CALCULATION NO. 12210-E0S-62							
ACCEPTABLE TO NUREG 0588,CAT I									
MAINT/SURVEILL - - -									
REFERENCE: 2									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE: 2 (SEE NOTE-2)									

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 778241-1
REV 0
SHEET NO 7A
DATE 11-30-84

MARK NO
MODEL/CATALOG NO. ENV. ZONE QUAL. LIFE OPTIME
REMARKS SUBMRG OC

SRN 226241-1

SPEC 228.241

HVR VENTILATION - REACTOR PLANT

1HVR*AOV123	EA740-50100	CT-G	40 YEARS	1 HR A
1HVR*AOV125	EA740-50100	CT-G	40 YEARS	1 HR A
1HVR*AOV126	EA740-50100	CT-5A	40 YEARS	1 HR A
1HVR*AOV128	EA740-50100	CT-5A	40 YEARS	1 HR A

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228241-1
REV 0
SHEET NO. 28
DATE 11-30-84

MARK NO	MODEL/CATALOG NO.	ENV. ZONE	QUAL. LIFE	OPTIME
	REMARKS	SUDMRG		OC

SRN 228241-1

HVR VENTILATION - REACTOR PLANT

1HVR*AOV147	EA740-50100	CT-G	40 YEARS	1 HR A
1HVR*AOV148	EA740-50100	CT-5A	40 YEARS	1 HR A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 228241-1

REV 0

SHEET NO. 3

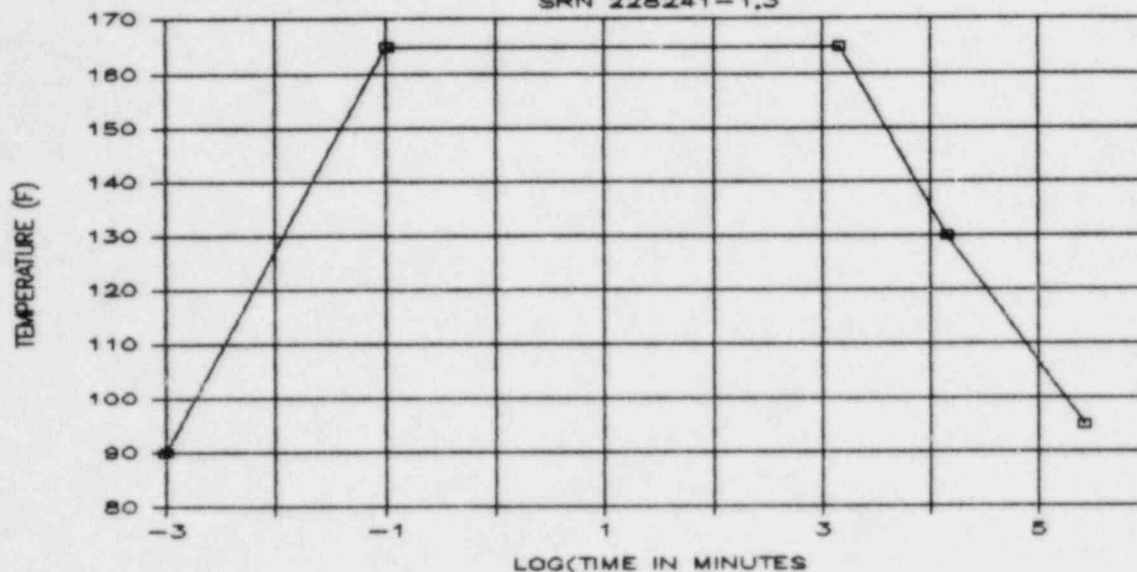
DATE 11/30/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. The EA 740 has a 40-year qualified life provided a periodic maintenance/replacement schedule is implemented. See Reference 2.
 3. Limit switches are qualified for operation at 70 psig; therefore, 2.3 psig will not have any effect on them.
 4. Operability period extended from 30 days to 100 days plus margin by Arrhenius calculation. See Reference 4.

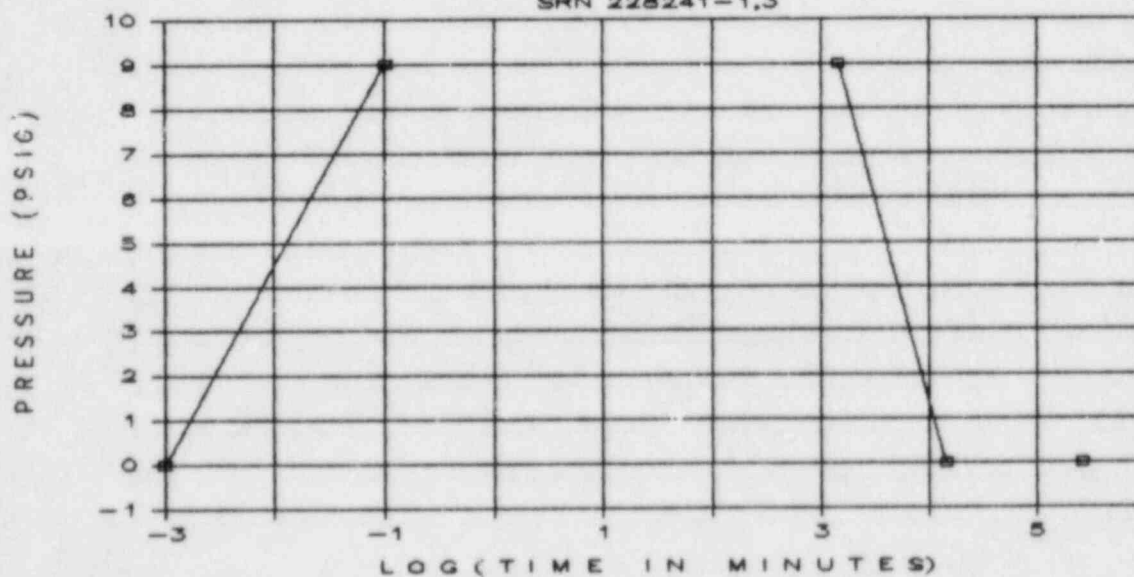
SPECIFIED ACCIDENT PROFILES

SRN 228241-1,3



SPECIFIED ACCIDENT PROFILES

SRN 228241-1,3



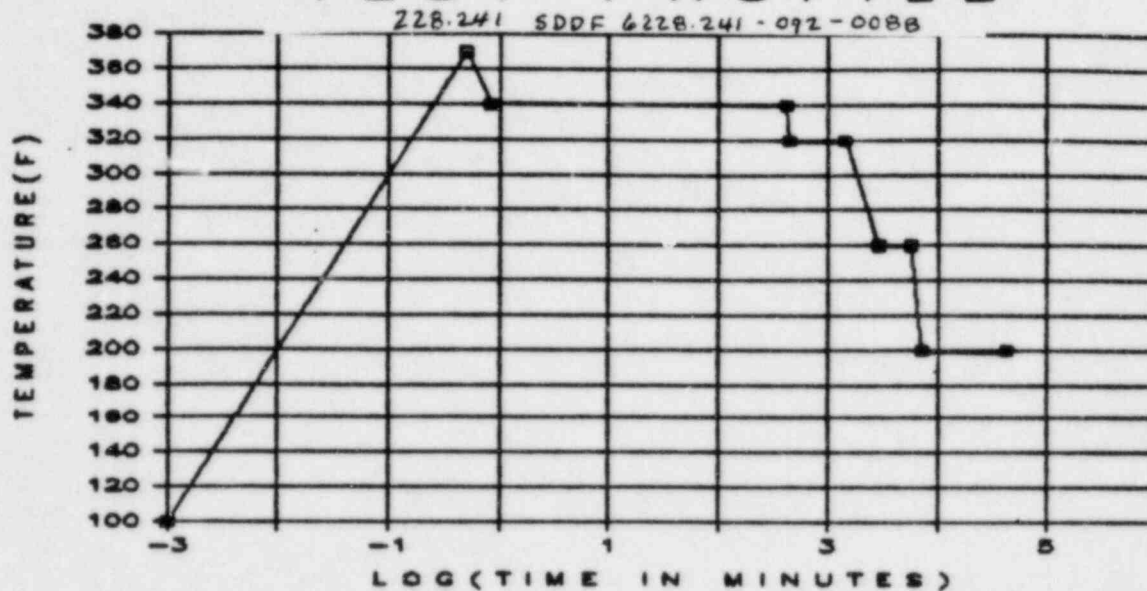
TEMPERATURE

TIME	0	6sec	1day	10days	180days
LOG (MINUTES)	-3.00	-1.00	3.16	4.16	5.41
TEMP (F)	90	165	165	130	95
TIME (MIN)	0.001	0.099	1440	14400	259200

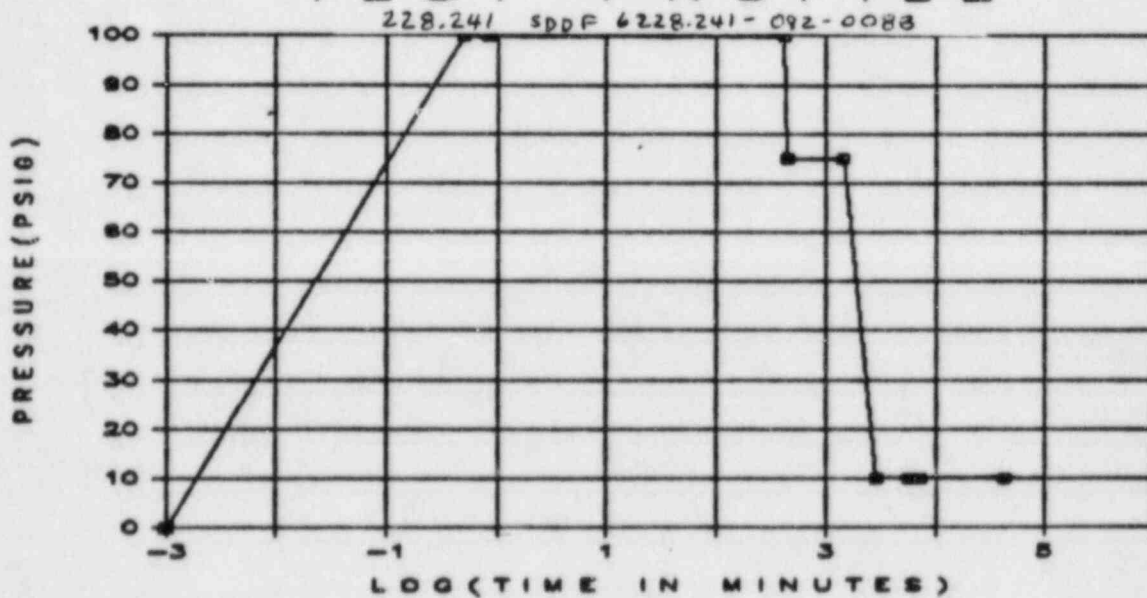
PRESSURE

TIME	0	6sec	1day	10days	180days
LOG (MINUTES)	-3.00	-1.00	3.16	4.16	5.41
PRES (PSIG)	0	9	9	0	0
TIME (MIN)	0.001	0.099	1440	14400	259200

TEST PROFILE

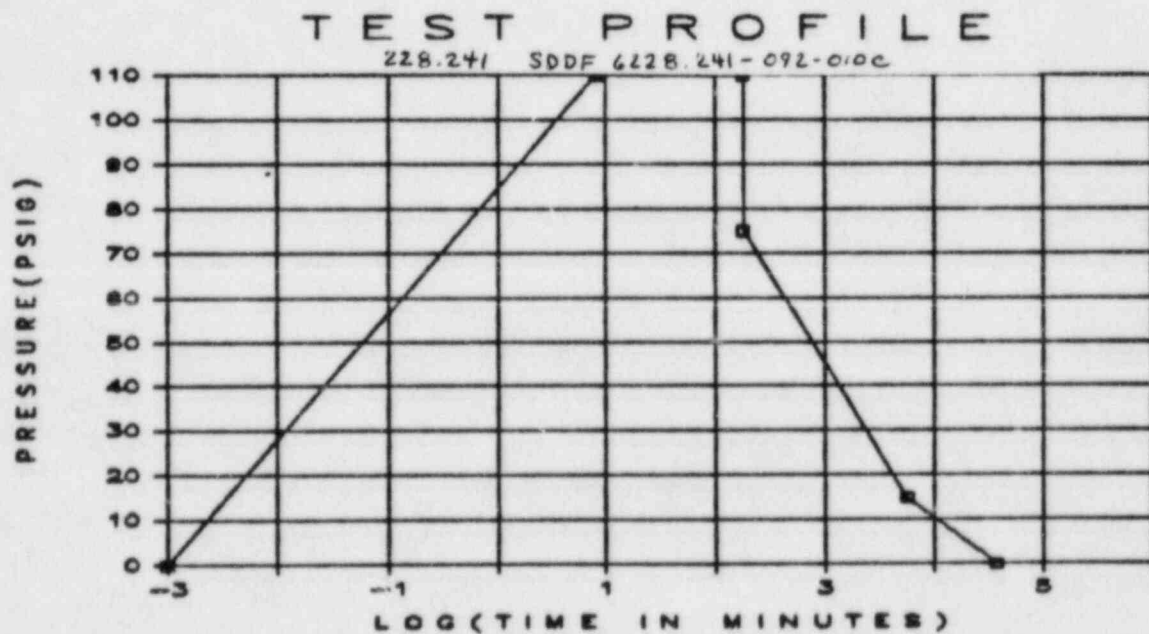
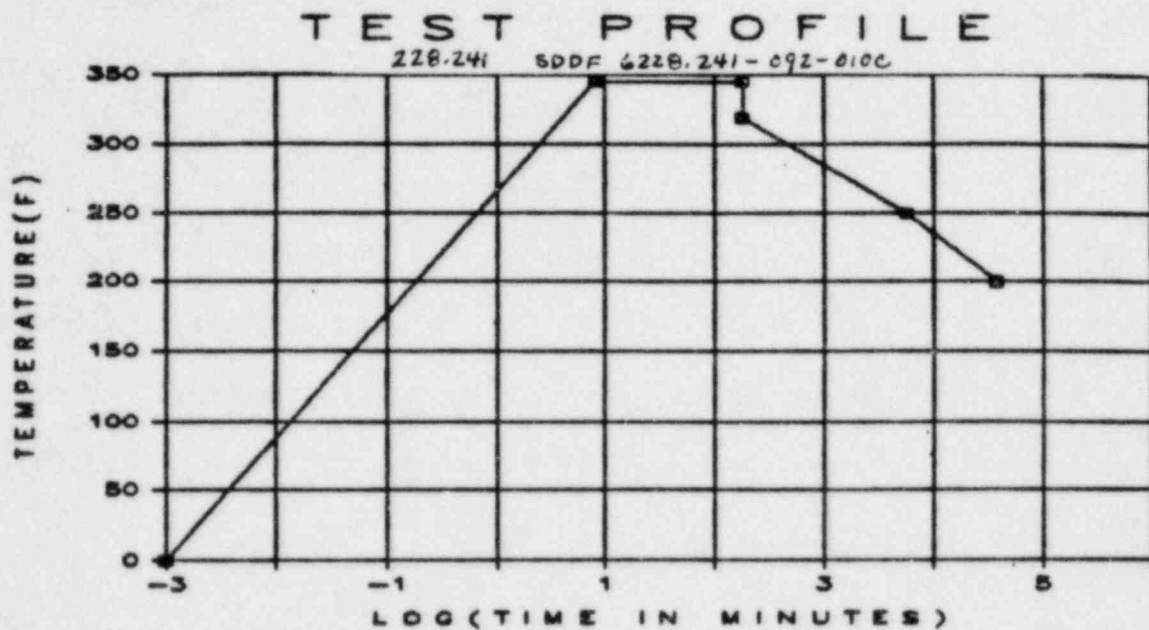


TEST PROFILE



TEST PROFILE DATA FOR 228.241 SDDF 6228.241-092-0088
LIMIT SWITCHES

TIME	0	30sec	50sec	7hr	7.5hr	1day	2days	4days	5days	30days
LOG(MINUTES)	0	-0.30	-0.08	2.62	2.65	3.16	3.46	3.76	3.86	4.64
TEMP(F)	00	370	340	340	320	320	260	260	200	200
PRES(PSIG)	0	100	100	100	75	75	10	10	10	10



TEST PROFILE DATA FOR 228.241 SDDF 6228.241-092-010C
SOLENOID VALVES

TIME	0	8min	3hr	3hr	4days	26days
LOG (MINUTES)	-3.00	0.90	2.26	2.26	3.76	4.57
TEMP (F)	0	346	346	320	250	200
PRES (PSIG)	0	110	110	75	15	0

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 228241-2

REV 0

DATE 05-Dec-84

SHEET 1

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

	ENVIRONMENTAL CONDITIONS AND QUALIFICATION							DATE	05-Dec-84
EQUIPMENT DESCRIPTION								SHEET 1	
	PARAMETER	SPECIFIED	QUALIFIED	DOCUMENT REFERENCE		DUAL	MARGIN	REMARKS	
		VALUE	VALUE	SPECIFIED	QUALIFIED	METHOD	DEMO		
EQUIP NO.: SEE SHEET 2	OP.TIME:	1 HR	100 DAYS	3	2,4	AN+DATA	YES	NOTE-3	
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE-1	
	NORMAL	114	194	1	2	TEST-SIM	NA		
	ABNORMAL	NA	NA	NA	NA	NA	NA		
TYPE: (DESCRIPTION)	ACCIDENT	135	340	1	2	TEST-SIM	YES		
LIMIT SWITCH	PRESS (PSIG)							NOTE-1	
	NORMAL	0	0	1	2	TEST-SIM	NA		
	ABNORMAL	NA	NA	NA	NA	NA	NA		
MANUFACTURER: NAMCO	ACCIDENT	2.1	70	1	2	TEST-SIM	YES		
	RH (%):							NOTE-1	
MODEL: SEE SHEET 2	NORMAL	90	100	1	2	TEST-SIM	NA		
	ABNORMAL	NA	NA	NA	NA	NA	NA		
SAFETY FUNCTION: - - -	ACCIDENT	100	100	1	2	TEST-SIM	NA		
POSITION INDICATION OF	RADIATION:							NOTE-1	
CONTAINMENT ISOLATION VALVES	NORM GAMMA	700		1					
	ACC GAMMA	2E6	2.04E8	1	2	TEST-SIM	YES		
OP. CODE: SEE SHEET 2	NORM BETA	0		1					
	ACC BETA	500		1					
	NEUTRON	0		1					
	SPRAY	NA	NA	NA	NA	NA	NA		
ACCURACY - -	SUBMERGENCE:	NA	NA	NA	NA	NA	NA		
SPEC: NA									
DEMO: NA									
ZONE NO.: SEE SHEET 2									
SUBMERGENCE:	DOCUMENT REFERENCE:								
SPRAY/FROTH:	1. SPECIFICATION 228.241 REV.0, ADD.5								
	2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,								
	SDDF # 6228.241-092-00BB								
EQUIPMENT NOT SUBJECTED TO	3. POST-ACCIDENT OPERABILITY PERIOD: SEE								
SUBMERGENCE OR SPRAY/FROTH	PAOP DOCUMENT NO. 245.600, REV.0								
	4. CALCULATION NO. 12210-E05-48								
DOCUMENTATION ACCEPTABILITY:									
ACCEPTABLE TO NUREG 0588,CAT I									
MAINT/SURVEILL - - -									
REFERENCE: 2									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE: 2 (SEE NOTE-2)									

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228241-2
REV 0
SHEET NO. 2
DATE 11-30-84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME CC
SRN 228241-2				
SPEC 228.241				
HVR VENTILATION - REACTOR PLANT				
IHVR#AOV165	EA740-50100	AB-141-4	40 YEARS	1 HR A
IHVR#AOV166	EA740-50100	AB-141-3	40 YEARS	1 HR A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 228241-2

REV 0

SHEET NO. 3

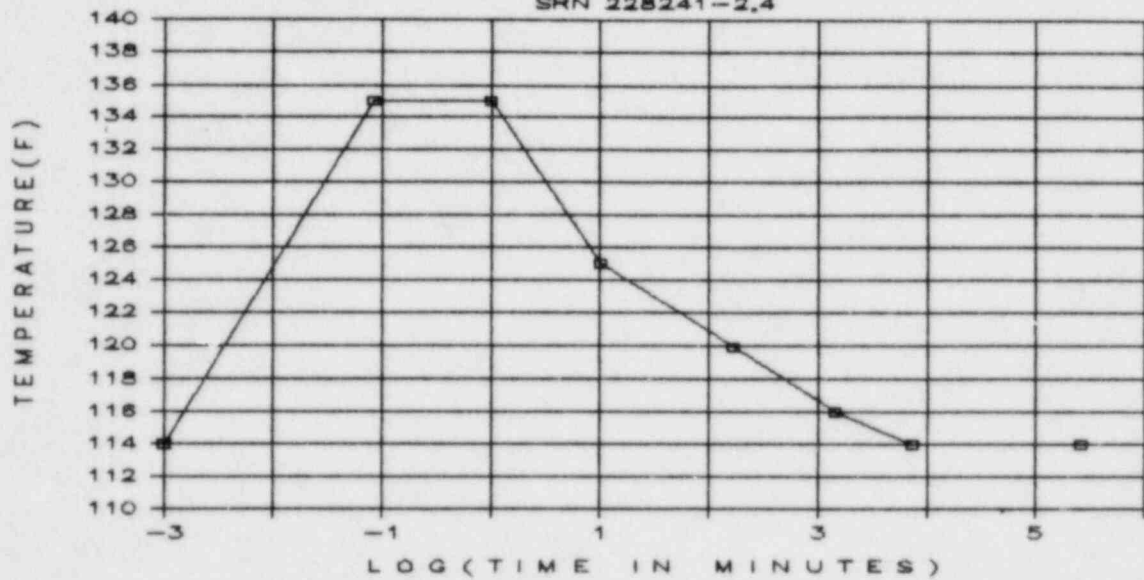
DATE 11/30/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. The EA 740 has a 40-year qualified life provided a periodic maintenance/replacement schedule is implemented. See Reference 2.
 3. Operability period extended from 30 days to 100 days plus margin by Arrhenius calculation. See Reference 4.

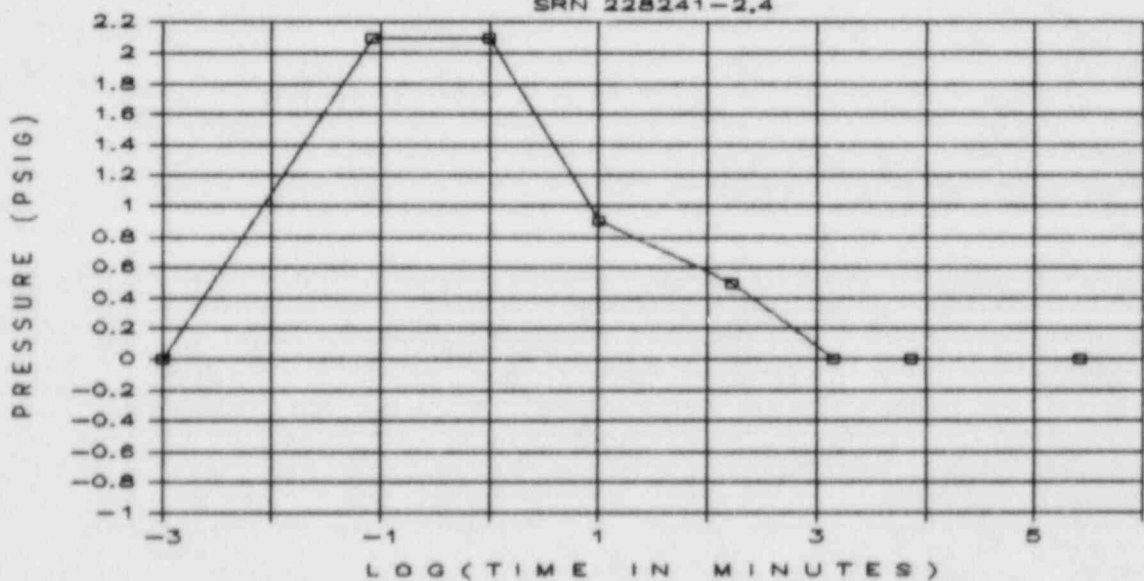
SPECIFIED ACCIDENT PROFILE

SRN 228241-2,4



SPECIFIED ACCIDENT PROFILE

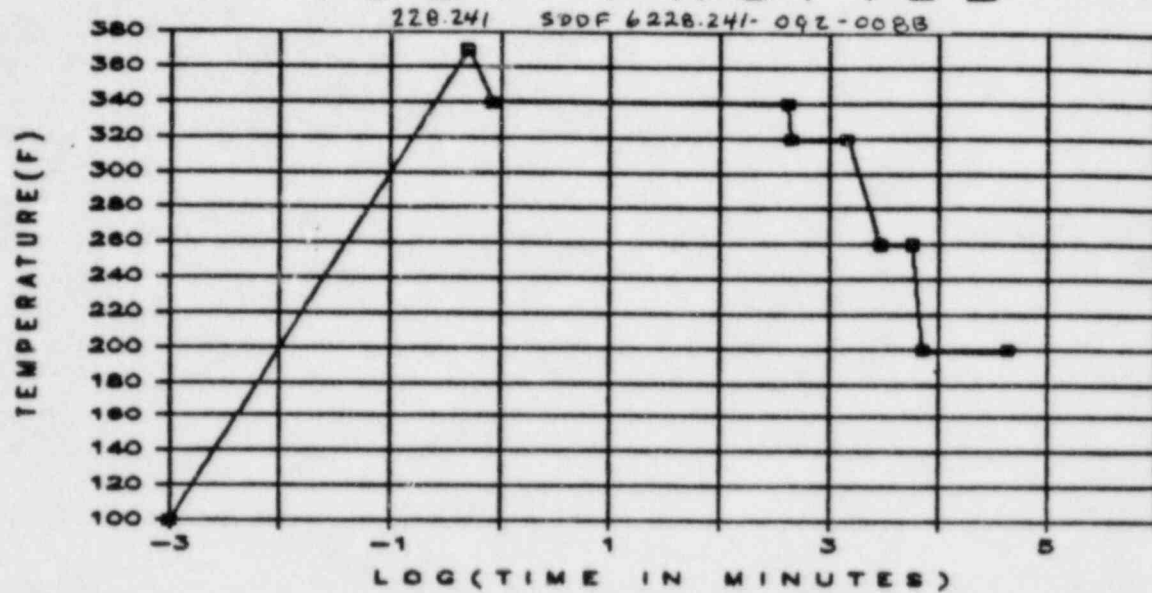
SRN 228241-2,4



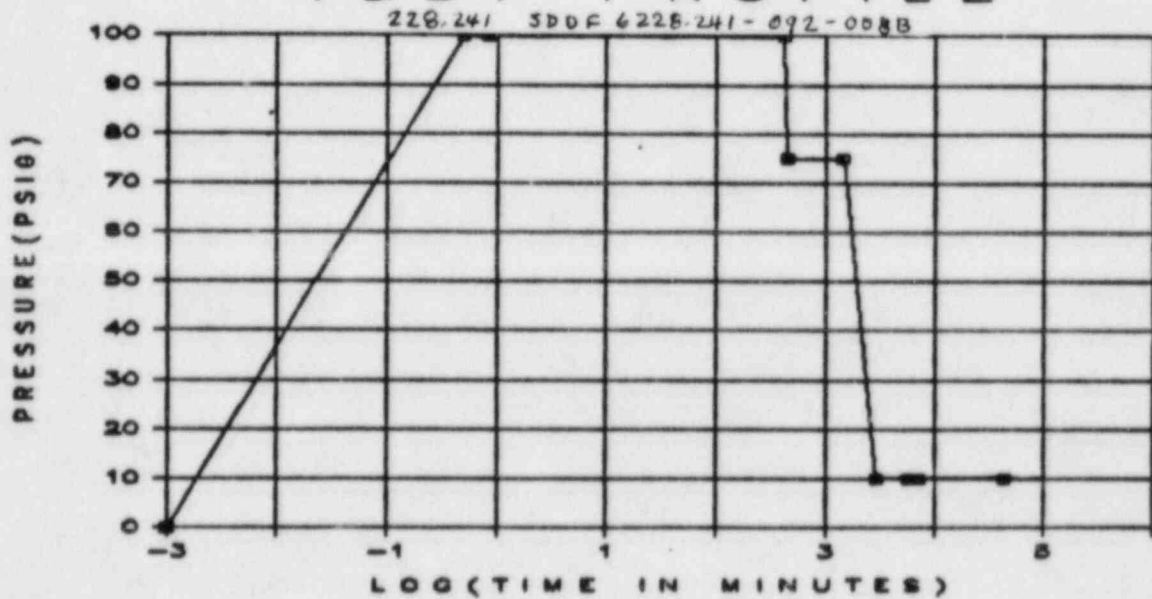
SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION:228241

TEMPERATURE								
TIME	0	5sec	60sec	600sec	2.8hr	1day	5days	180days
LOG (MINUTES)	-3.00	-1.08	0.00	1.00	2.23	3.16	3.86	5.41
TEMP (F)	114	135	135	125	120	116	114	114
TIME (MIN)	0.001	0.083	1	10	168	1440	7200	759200
PRESSURE								
TIME	0	5sec	60sec	600sec	2.8hr	1day	5days	180days
LOG (MINUTES)	-3.00	-1.08	0.00	1.00	2.23	3.16	3.86	5.41
PRES (PSIG)	0	2.1	2.1	0.9	0.5	0	0	0
TIME (MIN)	0.001	0.083	1	10	168	1440	7200	259200

TEST PROFILE



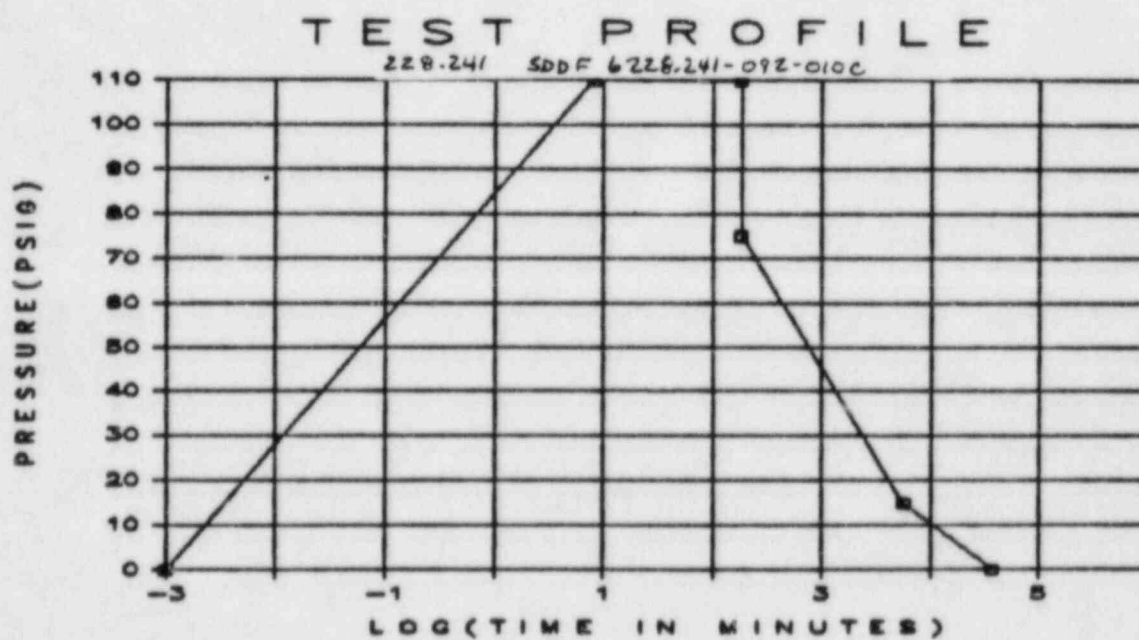
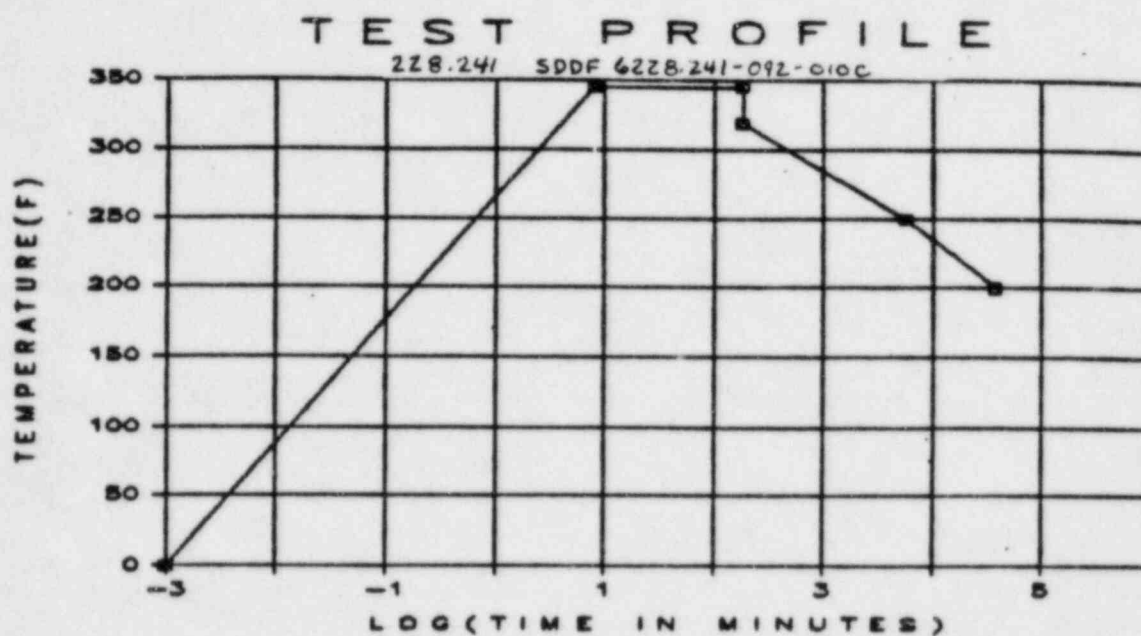
TEST PROFILE



TEST PROFILE DATA FOR 228.241 SDDF 6228.241-092-008B

LIMIT SWITCHES

TIME	0	30sec	50sec	7hr	7.5hr	1day	2days	4days	5days	30days
LOG(MINUTES)	-3.00	-0.30	-0.08	2.62	2.65	3.16	3.46	3.76	3.86	4.64
TEMP(F)	100	370	340	340	320	320	260	260	200	200
PRES(PSIG)	0	100	100	100	75	75	10	10	10	10



TEST PROFILE DATA FOR 228.241 SDDF 6228.241-092-010C
SOLENOID VALVES

TIME	0	8min	3hr	3hr	4days	26days
LOG (MINUTES)	-3.00	0.90	2.26	2.26	3.76	4.57
TEMP (F)	0	346	346	320	250	200
PRES (PSIG)	0	110	110	75	15	0

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 228241-3
REV 0
DATE 05-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
	PARAMETER	SPECIFIED	DUALIFIED	DOCUMENT REFERENCE		DUAL METHOD	MARGIN	REMARKS
		VALUE	VALUE	SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2	OP.TIME:	1 HR	100 DAYS	3	2,4	AN+DATA	YES	NOTE-4
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE-1
	NORMAL	90	140	1	2,4	TEST-SIM	NA	
	ABNORMAL	140	140	1	2,4	TEST-SIM	NA	
TYPE: (DESCRIPTION)	ACCIDENT	165	346	1	2	TEST-SIM	YES	
SOLENOID OPERATED VALVE	PRESS (PSIG)							NOTE-1
	NORMAL	-1.0" H2O	ATMOS	1	2	TEST-SIM	NA	
	ABNORMAL	2.3	110	1	2	TEST-SIM	NA	NOTE-3
MANUFACTURER: ASCO	ACCIDENT	9	110	1	2	TEST-SIM	YES	
	RH (%)							NOTE-1
MODEL: SEE SHEET 2	NORMAL	50	90	1	2	TEST-SIM	NA	
	ABNORMAL	100	100	1	2	TEST-SIM	NA	
SAFETY FUNCTION: - - -	ACCIDENT	100	100	1	2	TEST-SIM	NA	
ISOLATE CONTAINMENT OR DRYWELL	RADIATION:							NOTE-1
FOLLOWING INITIATION OF A	NORM GAMMA		SE7		2	TEST-SIM	NA	
LOCA SIGNAL	ACC GAMMA	1.28EB TID	1.5EB	4	2	TEST-SIM	YES	NOTE-5
OP. CODE: SEE SHEET 2	NORM BETA							
	ACC BETA							
	NEUTRON							
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:	DOCUMENT REFERENCE:							
SPRAY/FROTH:	1. SPECIFICATION 228.241 REV.0, ADD.5							
	2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
EQUIPMENT NOT SUBJECTED TO	SDDF # 6228.241-092-010C							
SUBMERGENCE OR SPRAY/FROTH	3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
	PAOP DOCUMENT NO. 245.600, REV.0							
	4. CALCULATION NO. 12210-EDS-42							
DOCUMENTATION ACCEPTABILITY:	5. ASCO INSTALLATION AND MAINTENANCE INSTRUCTIONS, FORM NO. 5999							
ACCEPTABLE TO NUREG 0588,CAT I								
MAINT/SURVEILL - - -								
REFERENCE: 4,5								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 2,4 (SEE NOTE-2)								

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 228241-3

REV 0

SHEET NO. 3

DATE 11/30/84

NOTES

1. For complete environmental conditions, see the document referenced.
2. The solenoid valve has a qualified life of 40 years provided a periodic maintenance surveillance schedule is implemented. See References 4 and 5.
3. Solenoids are qualified for operation at 110 psig; therefore, 2.3 psig will have no effect on them.
4. Operability period extended from 30 days tested value to 100 days plus margin by Arrhenius calculation. See Reference 4.
5. RBS worst case combined radiation for gamma, beta, and neutron for 40 years of qualified life plus accident, including applicable beta and neutron reduction to coil and EPDM, is as follows:

Combined radiation in DW-1 to solenoid coil is 1.21E8 rads equivalent gamma.

Combined radiation in DW-1 to EPDM is 1.28E8 rads equivalent gamma (9.9E7 rads gamma, 1.087E7 rads beta, 1.76E7 rads neutron).

See Reference 4.

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 228241-3
REV 0
SHEET NO. 2
DATE 11-30-84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBPRG	QUAL. LIFE	OPTIME OC
SRN 228241-3				
SPEC 228.241				
HVR VENTILATION - REACTOR PLANT				
1HVR*SOV123	HV-206-832-6F	CT-G	4.1 YEARS	1 HR A
1HVR*SOV125	HV-206-832-6F	CT-G	40 YEARS	1 HR C
1HVR*SOV126	HV-206-832-6F	CT-SA	40 YEARS	1 HR A
1HVR*SOV128	HV-206-832-6F	CT-SA	4.1 YEARS	1 HR A
1HVR*SOV147	HV-206-832-6F	CT-G	40 YEARS	1 HR A
1HVR*SOV148	HV-206-832-6F	CT-SA	40 YEARS	1 HR A

SRN 228241-4
REV 0
DATE 05-Dec-84
SHEET 1

		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						DATE	05-Dec-84
EQUIPMENT DESCRIPTION								SHEET 1	
		PARAMETER	SPECIFIED	QUALIFIED	DOCUMENT REFERENCE		DUAL	MARGIN	REMARKS
			VALUE	VALUE	SPECIFIED	QUALIFIED	METHOD	DEMO	
EQUIP NO.: SEE SHEET 2		OP. TIME:	1 HR	100 DAYS	3	2,4	AN+DATA	YES	NOTE-3
SYSTEM: SEE SHEET 2		TEMP (F):							NOTE-1
		NORMAL	114	140	1	2,4	TEST-SIM	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)		ACCIDENT	135	346	1	2	TEST-SIM	YES	
SOLENOID OPERATED VALVE		PRESS (PSIG)							NOTE-1
		NORMAL	ATMOS	ATMOS	1	2	TEST-SIM	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: ASCO		ACCIDENT	2.1	110	1	2	TEST-SIM	YES	
		RH (%):							NOTE-1
MODEL: SEE SHEET 2		NORMAL	90	90	1	2	TEST-SIM	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -		ACCIDENT	100	100	1	2	TEST-SIM	NA	
ISOLATE CONTAINMENT OR DRYWELL		RADIATION:							NOTE-1
FOLLOWING INITIATION OF A		NORM GAMMA	700	5E7	1	2	TEST-SIM	NA	
LOCA SIGNAL		ACC GAMMA	2E6	1.5E8	1	2	TEST-SIM	YES	
OP. CODE: SEE SHEET 2		NORM BETA	0		1				
		ACC BETA	500		1				
		NEUTRON	0		1				
ACCURACY - -		SPRAY	NA	NA	NA	NA	NA	NA	
		SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA									
DEMO: NA									
ZONE NO.: SEE SHEET 2									
SUBMERGENCE:		DOCUMENT REFERENCE:							
SPRAY/FROTH:		1. SPECIFICATION 228.241 REV.0, ADD.5							
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
EQUIPMENT NOT SUBJECTED TO		SDDF # 6228.241-092-010C							
SUBMERGENCE OR SPRAY/FROTH		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
		PAOP DOCUMENT NO. 245.600, REV.0							
		4. CALCULATION NO. 12210-EQS-42							
DOCUMENTATION ACCEPTABILITY:		5. ASCO INSTALLATION AND MAINTENANCE INSTRUCTIONS, FORM NO. 5999							
ACCEPTABLE TO NUREG 0588,CAT I									
MAINT/SURVEILL - - -									
REFERENCE: 4,5									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE: 2,4 (SEE NOTE-2)									

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 378741-4
REV 0
SHEET NO. 2
DATE 11-30-89

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUDMRG	QUAL. LIFE	OPTIME OC
SRN 228241-4				
SPEC 228.241				
HVR VENTILATION - REACTOR PLANT				
1HVR#SOV165	HV-206-832-6F	AB-141-4	2.5 YEARS	1 HR A
1HVR#SOV166	HV-206-832-6F	AB-141-3	2.5 YEARS	1 HR A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 228241-4

REV 0

SHEET NO. 3

DATE 11/30/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. The solenoid valve has a qualified life of 40 years provided a periodic maintenance surveillance schedule is implemented. See References 4 and 5.
 3. Operability period extended from 30 days tested value to 100 days plus margin by Arrhenius calculation. See Reference 4.

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 237160-1

REV 0

DATE 03-Dec-84

SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						DATE	03-Dec-84
		SHEET 1							
		PARAMETER	SPECIFIED	QUALIFIED	DOCUMENT REFERENCE		QUAL	MARGIN	REMARKS
			VALUE	VALUE	SPECIFIED	QUALIFIED	METHOD	DEMO	
EQUIP NO.: SEE SHEET 2		OP.TIME:	100 DAYS	>100 DAYS	3	2	TEST-IDENT	YES	
SYSTEM: SEE SHEET 2		TEMP (F):							NOTE-1
		NORMAL	122	266	1	2	TEST-IDENT	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)		ACCIDENT	280	356	1	2,4	TEST-IDENT	YES	NOTE-2
PUMP MOTOR		PRESS (PSIG):							NOTE-1
		NORMAL	ATMOS	ATMOS	1	2	TEST-IDENT	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: WESTINGHOUSE		ACCIDENT	ATMOS	ATMOS	1	2	TEST-IDENT	-	NOTE-3
		RR (%):							NOTE-1
MODEL: SEE SHEET 2		NORMAL	90	100	1	2	TEST-IDENT	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -		ACCIDENT	100	100	1	2	TEST-IDENT	NA	
TO FILL SYSTEM PUMPS &		RADIATION:							NOTE-1
DISCHARGE PIPING TO AVOID		NORM GAMMA:	6E3						
WATER HAMMER EFFECTS		ACC GAMMA:	1E7 T1D	2EB	1	2	TEST-SIM	YES	NOTE-4
OP. CODE: SEE SHEET 2		NORM BETA:							
		ACC BETA:							
		NEUTRON:							
ACCURACY - -		SPRAY	NA	NA	NA	NA	NA	NA	
SPEC: NA		SUBMERGENCE:	NA	NA	NA	NA	NA	NA	
DEMO: NA									
ZONE NO.: SEE SHEET 2		DOCUMENT REFERENCE:							
SUBMERGENCE:		1. SPECIFICATION 237.160 ADD.6 / E&DCR P12,967							
SPRAY/FROTH:		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
		SDDF # 6237.160-108-001F							
EQUIPMENT NOT SUBJECT TO		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
SUBMERGENCE OR SPRAY/FROTH		PAOP DOCUMENT NO. 245.600, REV.0							
		4. CALCULATION NO. 12210-EDS-44							
DOCUMENTATION ACCEPTABILITY:									
ACCEPTABLE TO NUREG 0588,CAT I									
MAINT/SURVEILL - - -									
REFERENCE: 2									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE: 2									

DOCUMENT REFERENCE:

1. SPECIFICATION 237.160 ADD.6 / E&DCR P12,967
2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6237.160-108-001F
3. POST-ACCIDENT OPERABILITY PERIOD: SEE PAOP DOCUMENT NO. 245.600, REV.0
4. CALCULATION NO. 12210-EDS-44

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 237160-1
REV 0
SHEET NO 2
DATE 12/3/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBIRG	QUAL. LIFE	OPTIME OC
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SRN 237160-1

SPEC 237.160

E12 RESIDUAL HEAT REMOVAL

1E12*PC003

FRAME 184T - TEFC

AB-070-4

40YRS

1000
A

E21 CORE SPRAY - LOW PRESSURE

1E21*PC002

FRAME 184T - TEFC

AB-070-1

40YRS

1000
A

E22 CORE SPRAY - HIGH PRESSURE

1E22*PC003

FRAME 213T - TEFC

AB-070-6

40 YRS

1000
A

E51 REACTOR CORE ISOLATION COOLING SYSTEM

1E51*PC003

FRAME 213T - TEFC

AB-070-3

40 YRS

12 HR
A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 237160-1

REV

SHEET NO. 3

DATE 11/30/84

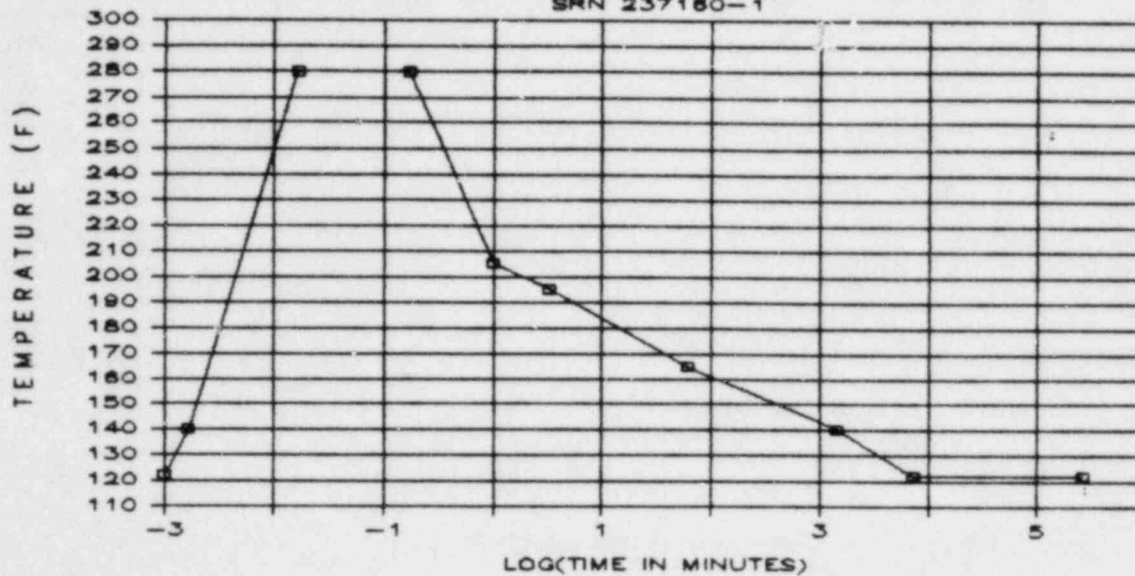
NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. Motor is qualified to operate for more than 40 years at a normal temperature, which exceeds the specified accident conditions.

Motor insulation qualified for 180°C (356°F). See Reference 4 on Sheet 1.
 3. Specified pressure change has no effect on motor operation.
 4. Qualified radiation value includes both gamma and beta.

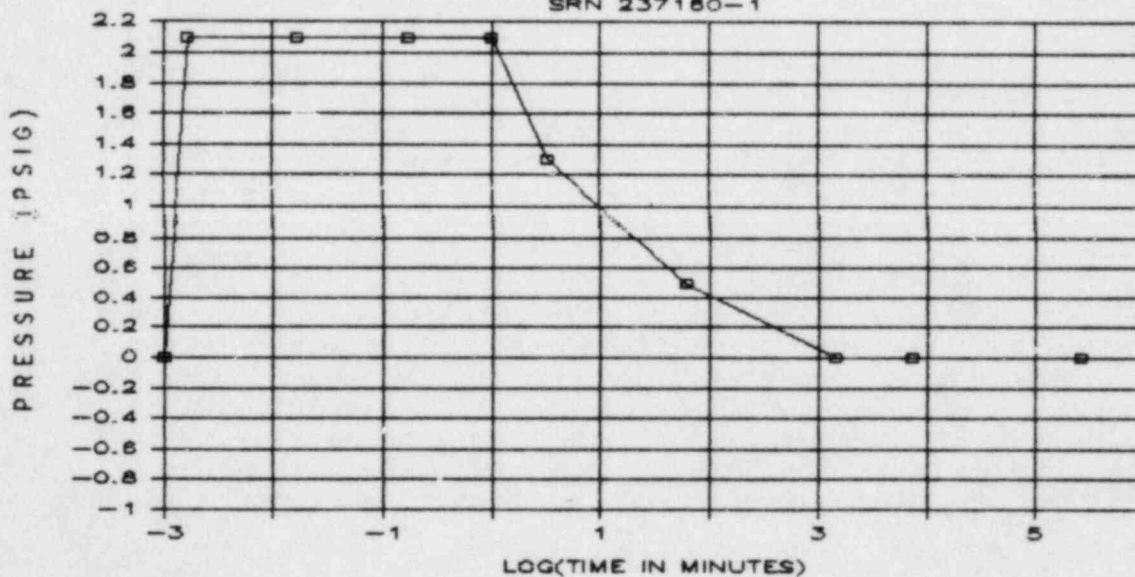
SPECIFIED ACCIDENT PROFILES

SRN 237160-1

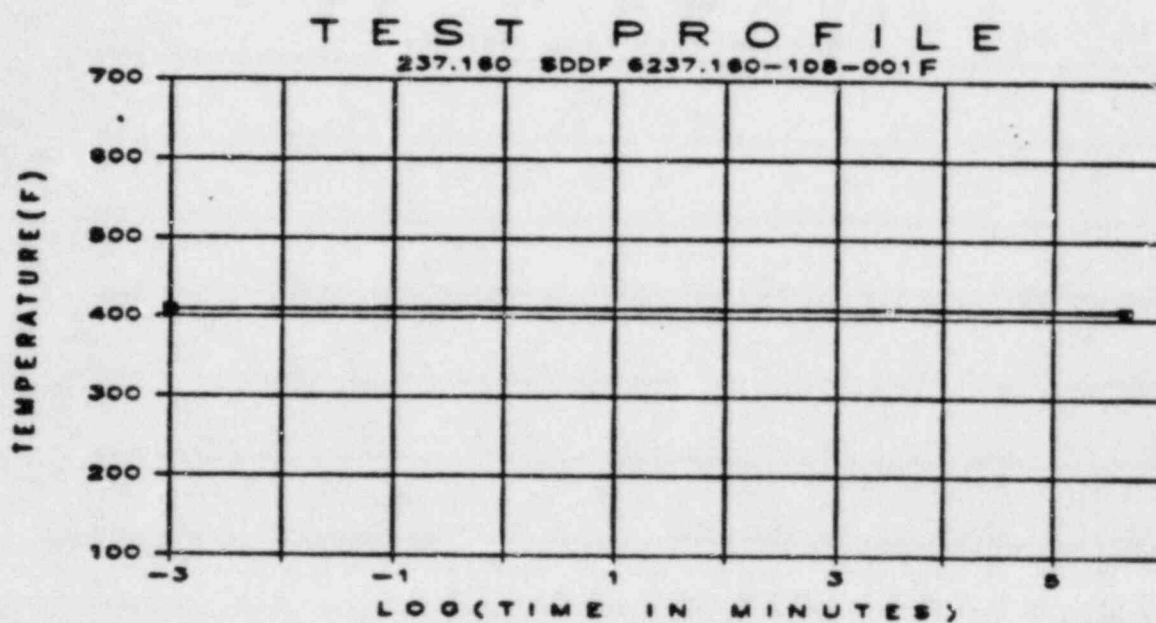


SPECIFIED ACCIDENT PROFILES

SRN 237160-1



TEMPERATURE										
TIME	0	0.1sec	1sec	10sec	60sec	200sec	1hr	1day	5days	180days
LOG (MINUTES)	-3.00	-2.78	-1.78	-0.78	0.00	0.52	1.78	3.16	3.86	5.41
TEMP(F)	122	140	280	280	205	195	165	140	122	122
TIME(MIN)	0.001	0.00167	0.0167	0.167	1	3.3	60	1440	7200	259200
PRESSURE										
TIME	0	0.1sec	1sec	10sec	60sec	200sec	1hr	1day	5days	180days
LOG(MINUTES)	-3.00	-2.78	-1.78	-0.78	0.00	0.52	1.78	3.16	3.86	5.41
PRES(PSIG)	0	2.1	2.1	2.1	2.1	1.3	0.5	0	0	0
TIME(MIN)	0.001	0.00167	0.0167	0.167	1	3.3	60	1440	7200	259200



TEST PROFILE DATA FOR 237.160 SDDF 6237.160-108-001F

TIME	0 313.8 days	
LOG(MINUTES)	-3.00	5.66
TEMP(F)	410	410

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 241211-1
REV 0
DATE 30-Nov-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN: DEMO	REMARKS
					SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2		OP.TIME:	100 DAYS	100 DAYS	3	2	AN+DATA		NOTE-2
SYSTEM: SEE SHEET 2		TEMP (F):							NOTE-1
		NORMAL	120	248	1	2	TEST-SIM	NA	
		ABNORMAL	140	248	1	2	TEST-SIM	NA	
TYPE: (DESCRIPTION)		ACCIDENT	165	370	1	2	TEST-SIM	YES	
ELECTRICAL PENETRATION		PRESS (PSIG)							NOTE-1
		NORMAL	-3" H2O	14	1	2	TEST-SIM	NA	
		ABNORMAL	2.3	14	1	2	TEST-SIM	NA	
MANUFACTURER: CONAX		ACCIDENT	9	75	1	2	TEST-SIM	YES	
		RH (%)							NOTE-1
MODEL: SEE SHEET 2		NORMAL	100	100	1	2	TEST-SIM	NA	
		ABNORMAL	100	100	1	2	TEST-SIM	NA	
SAFETY FUNCTION: - - -		ACCIDENT	100	100	1	2	TEST-SIM	NA	
CONTAINMENT INTEGRITY & CIRCUIT AVAILABILITY		RADIATION:							NOTE-1
		NORM GAMMA	3.2E7		1	2	TEST-SIM	NA	
		ACC GAMMA	1.68E8 TID	2.2E8	1	2	TEST-SIM	YES	
		NORM BETA						NA	
		ACC BETA						NA	
		NEUTRON						NA	
		SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -		SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA									
DEMO: NA									
ZONE NO.: SEE SHEET 2									
SUBMERGENCE:		DOCUMENT REFERENCE:							
SPRAY/FROTH:		1. SPECIFICATION 241.211, REV.1, ADD.2 / E&DCR P21,756A							
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6241.211-156-003B & 003C							
EQUIPMENT NOT SUBJECTED TO SUBMERGENCE OR SPRAY/FROTH		3. POST-ACCIDENT OPERABILITY PERIOD: SEE PADP DOCUMENT NO. 245.600, REV.0							
DOCUMENTATION ACCEPTABILITY:									
ACCEPTABLE TO NUREG 0588,CAT I									
MAINT/SURVEILL - - -									
REFERENCE: NOT REQUIRED									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE: 2									

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 241211-1

REV 0

DATE 12-3-84

SHEET NO. 2A

MARK NO

MODEL/CATALOG NO.
REMARKS

ENV. ZONE
SUBMRG

QUAL. LIFE

OPTIME
CC

SRN 241211-1

SPEC 241.211

RCP ELECTRICAL PENETRATIONS

1RCP*LVC05

CT-G

40 YRS

1000
A

7437-10002

HLBI FOR INBOARD END, REMAINDER TRNS

1RCP*LVC06

CT-SA

40 YRS

1000
A

7437-10002

HLBI FOR INBOARD END, REMAINDER TRNS

1RCP*LVC10A

CT-G

40 YRS

1000
A

7437-10002

HLBI FOR INBOARD END, REMAINDER TRANS

1RCP*LVC11A

CT-G

40 YRS

1000
A

7437-10002

HLBI FOR INBOARD END, REMAINDER TRANS

1RCP*LVC13A

CT-G

40 YRS

1000
A

7437-10002

HLBI FOR INBOARD END, REMAINDER TRNS

1RCP*LVC18

CT-G

40 YRS

1000
A

7437-10002

HLBI FOR INBOARD END, REMAINDER TRNS

1RCP*LVC18A

CT-G

40 YRS

1000
A

7437-10005

HLBI FOR INBOARD END, REMAINDER TRNS

1RCP*LVC19A

CT-G

40 YRS

1000
A

7437-10002

HLBI FOR INBOARD END, REMAINDER TRANS

1RCP*LVC20A

CT-G

40 YRS

1000
A

7437-10002

HLBI FOR INBOARD END, REMAINDER TRNS

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 241211-1
REV 0
DATE 12-3-84
SHEET NO. 28

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUDMRG	QUAL. LIFE	OPTIME OC
SRN 241211-1				
SPEC 241.211				
RCP ELECTRICAL PENETRATIONS				
1RCP*LVC21	7437-1000L HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	1000 A
1RCP*LVP03	7437-10001 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	1000 A
1RCP*LVP03A	7437-10001 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	1000 A
1RCP*LVP04	7437-10001 HLBI FOR INBOARD END, REMAINDER TRNS	CT-SA	40 YRS	1000 A
1RCP*LVP04A	7437-10001 HLBI FOR INBOARD END, REMAINDER TRNS	CT-SA	40 YRS	1000 A
1RCP*LVP07	7437-10001 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	1000 A
1RCP*LVP07A	7437-10001 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	1000 A
1RCP*LVP08	7437-10001 HLBI FOR INBOARD END, REMAINDER TRNS	CT-SA	40 YRS	1000 A
1RCP*LVP08A	7437-10001 HLBI FOR INBOARD END, REMAINDER TRNS	CT-SA	40 YRS	1000 A

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 241211-1

REV 0

DATE 12-3-84

SHEET NO. 22

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME OC
SRN 241211-1				
SPEC 241.211				
RCP ELECTRICAL PENETRATIONS				
1RCP*LVP09	7437-10001 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	1000 A
1RCP*LVP09A	7437-10005 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	1000 A
1RCP*LVP16	7437-10001 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	1000 A
1RCP*LVP16A	7437-10001 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	1000 A
1RCP*LVP22	7437-10001 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	1000 A
1RCP*LVP22A	7437-10001 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 241211-1

REV 0

SHEET NO. 3

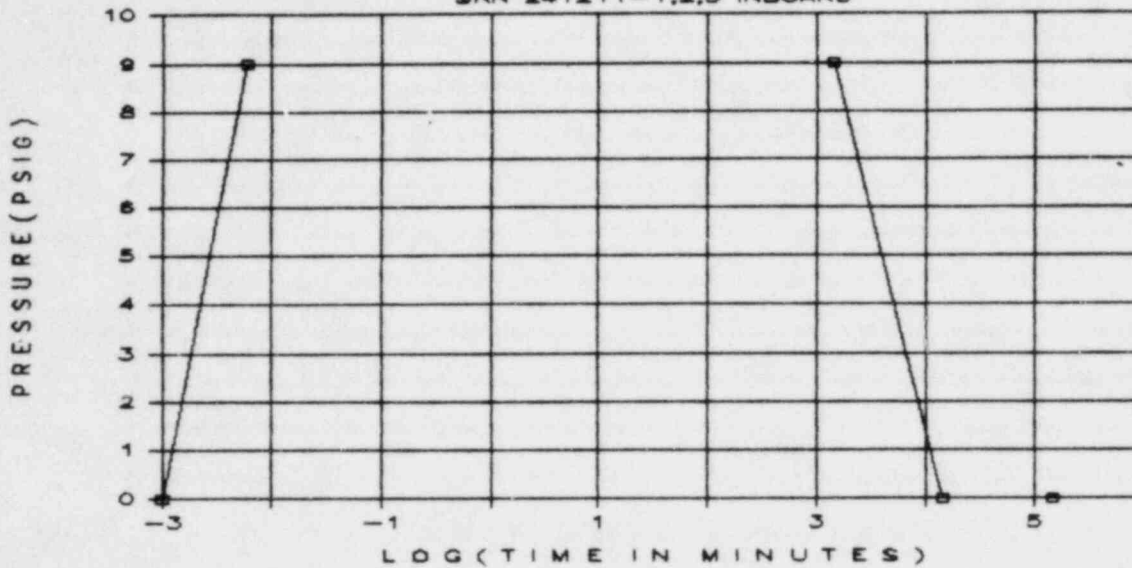
DATE 11/27/84

NOTES

-
1. Specified values are worst case from both outboard end and inboard end as given separately in E&DCR No. P-21,756A.
 2. Vendor truncated post-accident operability Arrhenius extension at 100 days. It can be extended to a longer period to cover margin. Also, conditions of temperature and pressure return to normal well before 100 days, eliminating the cause of common mode failure due to these environmental extremes.

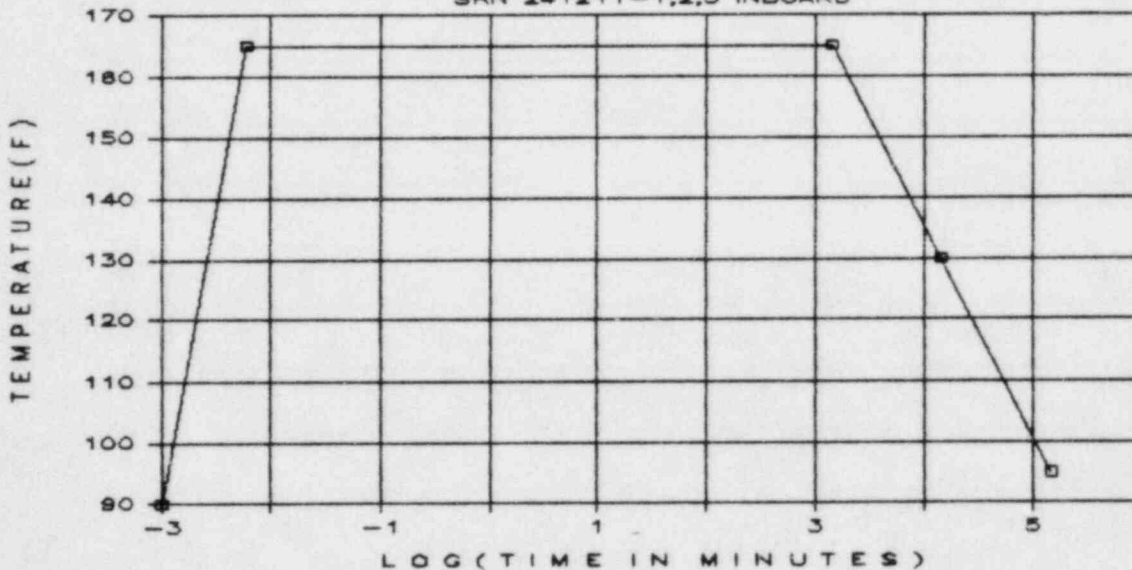
SPECIFIED ACCIDENT PROFILES

SRN 241211-1,2,3 INBOARD



SPECIFIED ACCIDENT PROFILES

SRN 241211-1,2,3 INBOARD



SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION: 241211

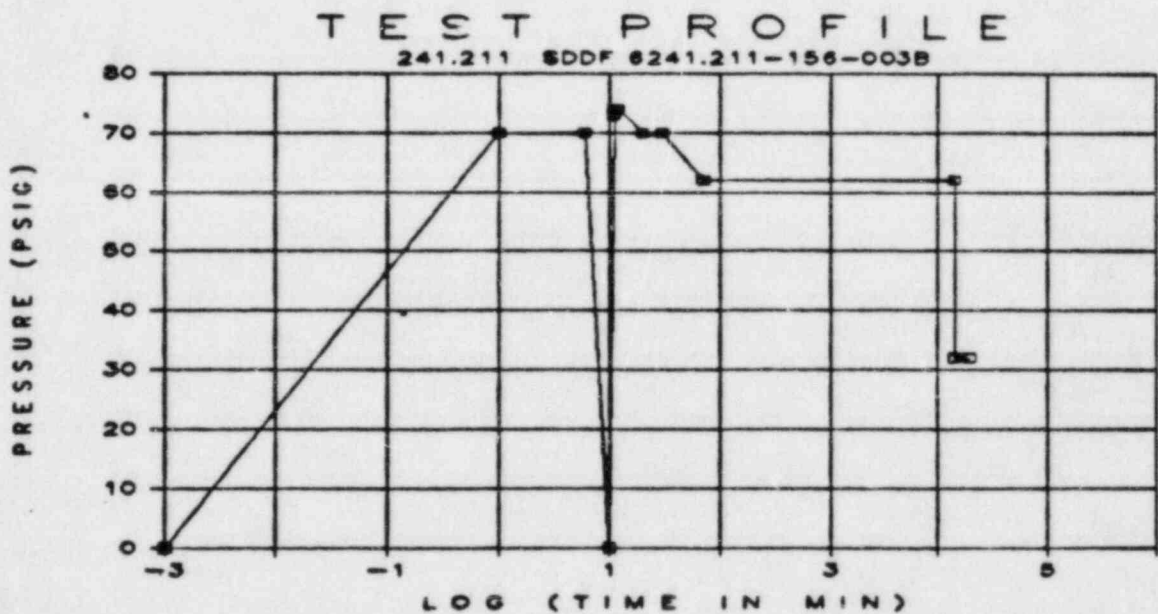
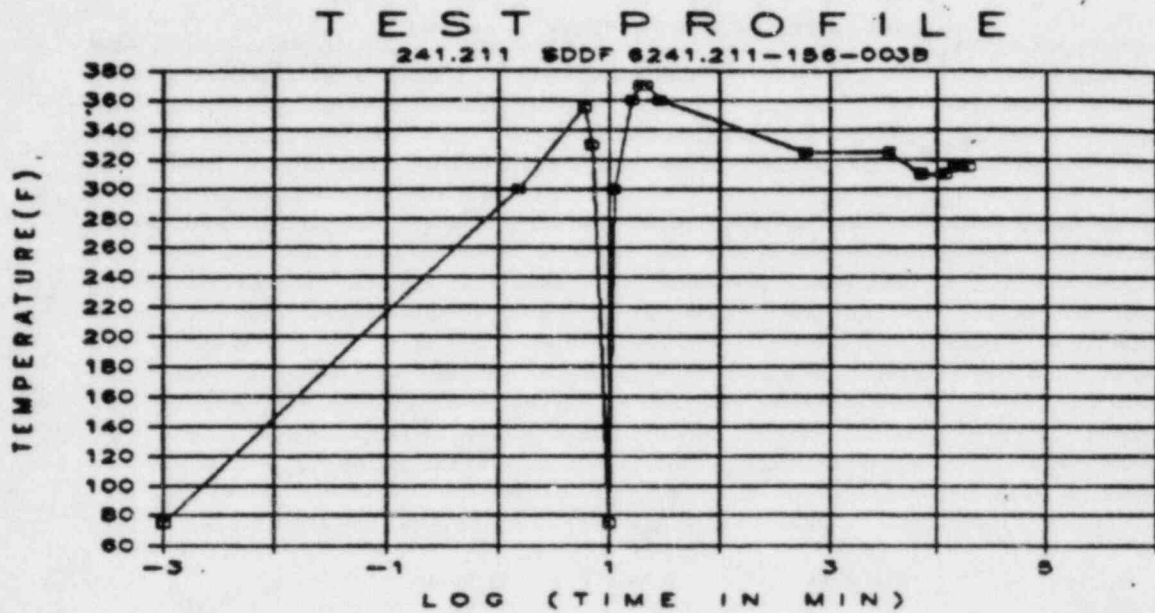
INBOARD END

TEMPERATURE -----

TIME	0	6sec	1day	10days	100days
LOG (MINUTES)	-3.00	-2.22	3.16	4.16	5.16
TEMP (F)	90	165	165	130	95
TIME (MIN)	0.001	0.006	1440	14400	144000

PRESSURE -----

TIME	0	6sec	1day	10days	100days
LOG (MINUTES)	-3.00	-2.22	3.16	4.16	5.16
PRES (PSIG)	0	9	9	0	0
TIME (MIN)	0.001	0.006	1440	14400	144000

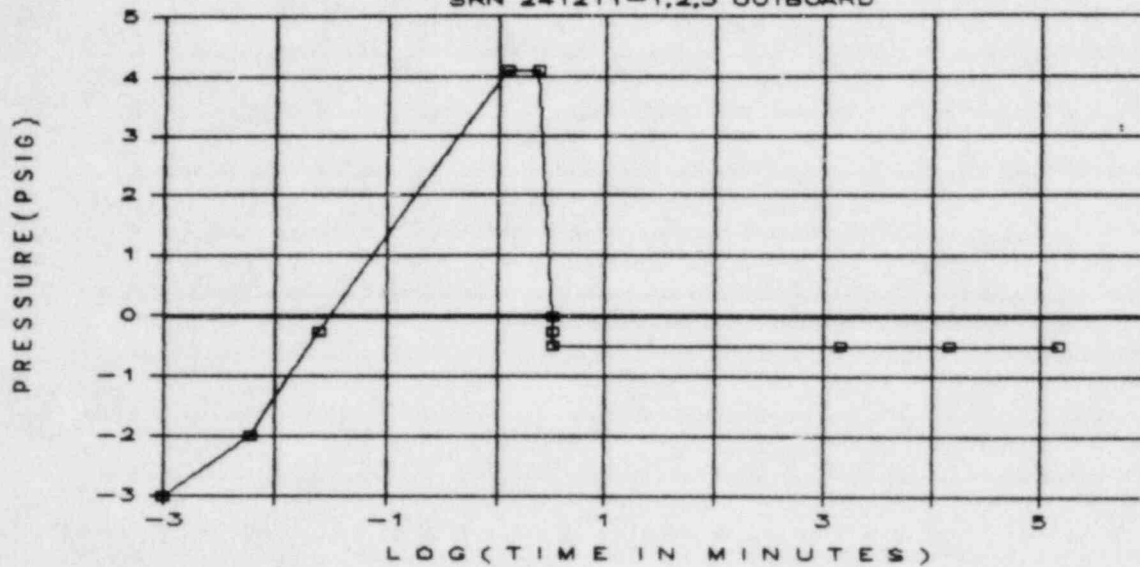


TEST PROFILE DATA FOR 241.211 - SDDF 6-241.211-156-003B

TEMPERATURE																
TIME	0	1.5min	6min	7min	10min	11min	16min	19min	22min	29min	10hr10min	2.5days	5days	8.34days	10days	13.76days
LOG(MINUTES)	-3.00	0.18	0.78	0.85	1.00	1.04	1.20	1.28	1.34	1.46	2.79	3.56	3.86	4.08	4.16	4.30
TEMP (F)	75	300	355	330	75	300	360	370	370	360	325	325	310	310	315	315
PRESSURE																
TIME	0	1min	6min	10min	11min	12min	20min	30min	70min	10days	10days	13.76days				
LOG(MINUTES)	-3.00	0.00	0.78	1.00	1.04	1.08	1.30	1.48	1.85	4.16	4.16	4.30				
PRES(PSIG)	0	70	70	0	73	74	70	70	62	62	32	32				

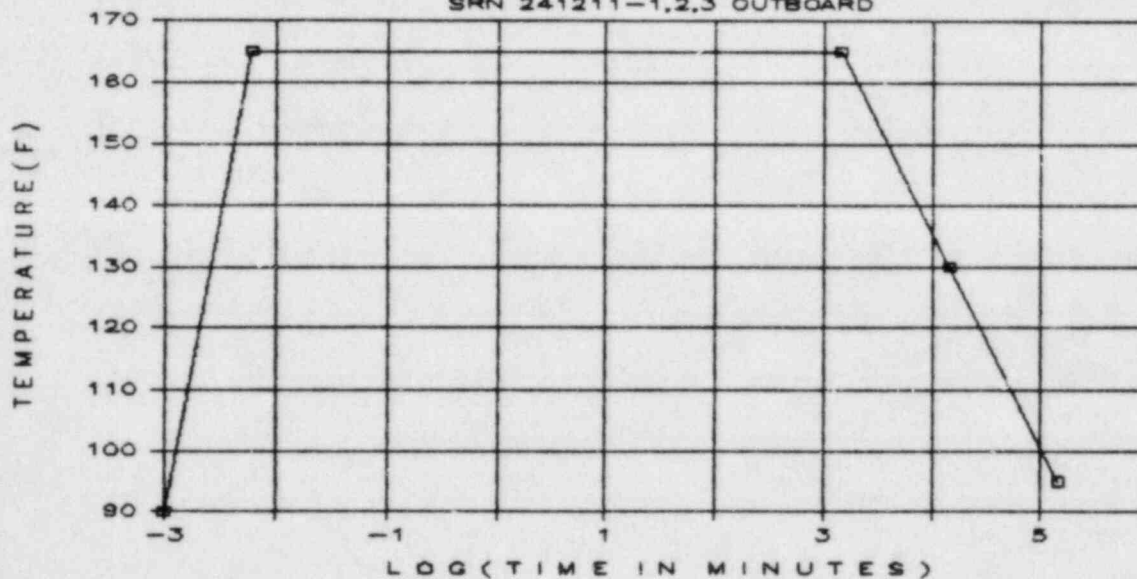
SPECIFIED ACCIDENT PROFILES

SRN 241211-1,2,3 OUTBOARD



SPECIFIED ACCIDENT PROFILES

SRN 241211-1,2,3 OUTBOARD



SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION:241211

OUTBOARD END

TEMPERATURE

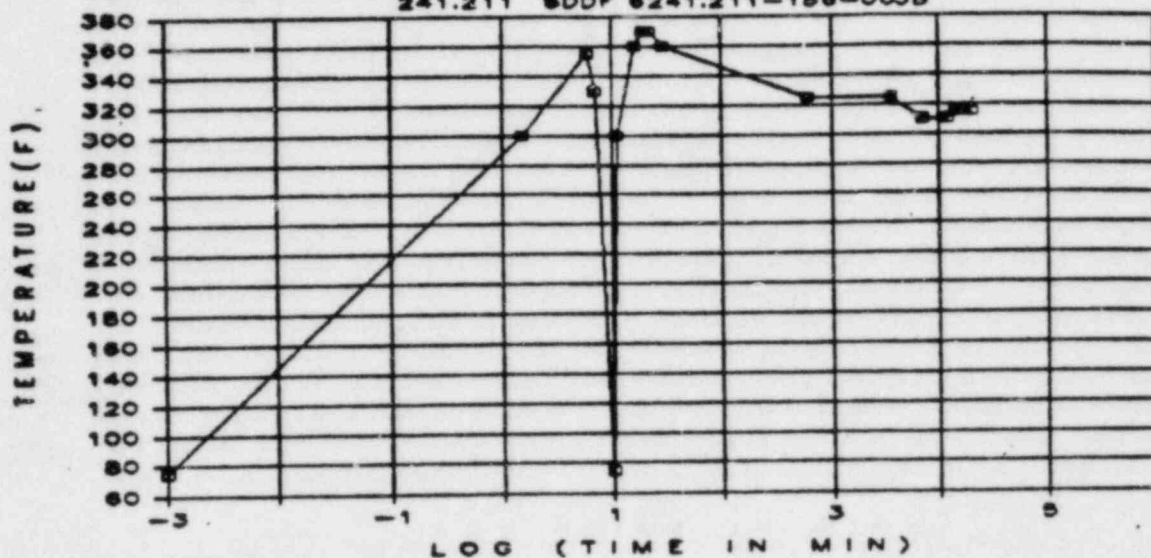
TIME	0	6sec	1day	10days	100days
LOG (MINUTES)	-3.00	-2.22	3.16	4.16	5.16
TEMP (F)	90	165	165	130	95
TIME (MIN)	0.001	0.006	1440	14400	144000

PRESSURE

TIME	0	6sec	24sec	80sec	150sec	200sec	203sec	210sec	1day	10days	100days
LOG (MINUTES)	-3.00	-2.22	-1.62	0.08	0.36	0.51	0.51	0.52	3.16	4.16	5.16
PRES (PSIG)	-3	-2	-0.25	4.1	4.1	0	-0.25	-0.5	-0.5	-0.5	-0.5
TIME (MIN)	0.001	0.006	0.024	1.2	2.3	3.2	3.23	3.3	1440	14400	144000

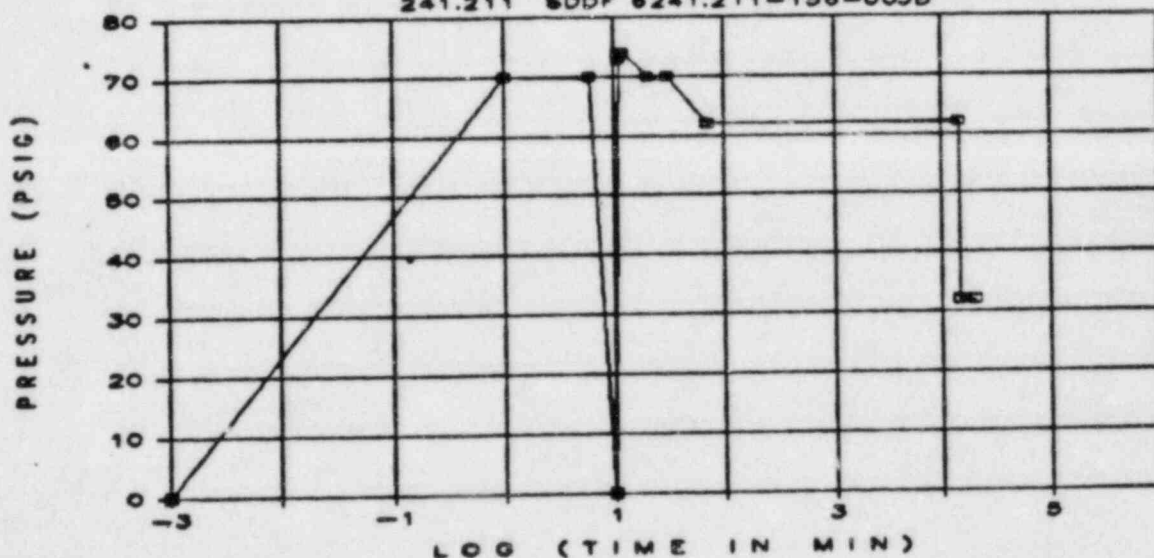
TEST PROFILE

241.211 SDDF 6241.211-156-003B



TEST PROFILE

241.211 SDDF 6241.211-156-003B



TEST PROFILE DATA FOR 241.211 - SDDF 6-241.211-156-003B

TEMPERATURE

TIME	0	1.5min	6min	7min	10min	11min	16min	19min	22min	29min	10hr10min	2.5days	5days	8.34days	10days	13.76days
LOG(MINUTES)	-3.00	0.18	0.78	0.85	1.00	1.04	1.20	1.28	1.34	1.46	2.79	3.56	3.86	4.08	4.16	4.30
TEMP (F)	75	300	355	330	75	300	360	370	370	360	325	325	310	310	315	310

PRESSURE

TIME	0	1min	6min	10min	11min	12min	20min	30min	70min	10days	10days	13.76days
LOG(MINUTES)	-3.00	0.00	0.78	1.00	1.04	1.08	1.30	1.48	1.85	4.16	4.16	4.30
PRES(PSIG)	0	70	70	0	73	74	70	70	62	62	32	32

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SAN 241211-2

REV 0

DATE 12-3-84

SHEET NO. 2A

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	CPTIME OC
SRN 241211-2				
SPEC 241.211				
RCP ELECTRICAL PENETRATIONS				
1RCP*LV105A	7437-10003 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	1000 A
1RCP*LV106A	7437-10003 HLBI FOR INBOARD END, REMAINDER TRNS	CT-SA	40 YRS	1000 A
1RCP*LV111	7437-10003 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	1000 A
1RCP*LV112	7437-10003 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	1000 A
1RCP*LV112A	7437-10003 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	1000 A
1RCP*LV114	7437-10003 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	1000 A
1RCP*LV114A	7437-10003 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	1000 A
1RCP*LV115	7437-10003 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	1000 A
1RCP*LV115A	7437-10003 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	1000 A

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SAN 241211-2
REV 0
DATE 12-3-84
SHEET NO. 20

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBRG	QUAL. LIFE	OPTIME OC
SRN 241211-2				
SPEC 241.211				
RCP ELECTRICAL PENETRATIONS				
1RCP*LVI17B	7437-10003 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	1000 A
1RCP*LVI17C	7437-10003 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	1000 A
1RCP*LVI21A	7437-10003 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	1000 A
1RCP*NHS10	7437-10004 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	1000 A
1RCP*NHS13	7437-10004 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	1000 A
1RCP*NHS19	7437-10004 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	1000 A
1RCP*NHS20	7437-10004 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 241211-2

REV 0

SHEET NO. 3

DATE 11/27/84

NOTES

-
1. Specified values are worst case from both outboard end and inboard end as given separately in E&DCR No. P-21,756A.
 2. Vendor truncated post-accident operability Arrhenius extension at 100 days. It can be extended to a longer period to cover margin. Also, conditions of temperature and pressure return to normal well before 100 days, eliminating the cause of common mode failure due to these environmental extremes.

SRN 241211-3
REV 0
DATE 03-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						DATE	SHEET 1
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN: DEMO	REMARKS
					SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2		OP.TIME:	100 DAYS	100 DAYS	3	2	AN+DATA		NOTE-2
SYSTEM: SEE SHEET 2		TEMP (F):	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	NOTE-1
		NORMAL	120	129	1	2	TEST-SIM	NA	
		ABNORMAL	140	320	1	2	TEST-SIM	NA	
		ACCIDENT	165	405	1	2	TEST-SIM	YES	
ELECTRICAL PENETRATION		PRESS (PSIG)	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	NOTE-1
		NORMAL	-3" H2O	64	1	2	TEST-SIM	NA	
		ABNORMAL	2.3	64	1	2	TEST-SIM	NA	
MANUFACTURER: CONAX		ACCIDENT	9	70	1	2	TEST-SIM	YES	
		RH (%):	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	NOTE-1
		NORMAL	100	100	1	2	TEST-SIM	NA	
		ABNORMAL	100	100	1	2	TEST-SIM	NA	
		ACCIDENT	100	100	1	2	TEST-SIM	NA	
MODEL: SEE SHEET 2		RADIATION:	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	NOTE-1
		NORM GAMMA	3.2E7		1	2	TEST-SIM	NA	
		ACC GAMMA	1.68E8	2.2E8	1	2	TEST-SIM	YES	
		NORM BETA							
		ACC BETA							
		NEUTRON							
		SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -		SURMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA									
DEMO: NA									
ZONE NO.: SEE SHEET 2									
SUBMERGENCE:		DOCUMENT REFERENCE:							
SPRAY/FROTH:		1. SPECIFICATION 241.211, REV.1, ADD.2 / E&DCR P21,756A							
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
		SDDF # 6241.211-156-017B & 003C							
EQUIPMENT NOT SUBJECTED TO		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
SUBMERGENCE OR SPRAY/FROTH		PAOP DOCUMENT NO. 245.600, REV.0							
DOCUMENTATION ACCEPTABILITY:									
ACCEPTABLE TO NUREG 0588,CAT I									
MAINT/SURVEILL - - -									
REFERENCE: NOT REQUIRED									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE: 2									

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SAN 241211-3
REV 0
DATE 12-3-84
SHEET NO. 2

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUDMRG	QUAL. LIFE	OPTIME OC
SRN 241211-3				
SPEC 241.211				
RCP ELECTRICAL PENETRATIONS				
1RCP#HVP01	7437-10000 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	1000 A
1RCP#HVP02	7437-10000 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 241211-3

REV 0

SHEET NO. 3

DATE 11/27/84

NOTES

-
1. Specified values are worst case from both outboard end and inboard end as given separately in E&DCR No. P-21,756A.
 2. Vendor truncated post-accident operability Arrhenius equation at 100 days. It can be extended to a longer period to cover margin. Also, conditions of temperature and pressure return to normal well before 100 days, eliminating the cause of common mode failure due to these environmental extremes.

SRN 241232-1
REV 0
DATE 03-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						DATE	03-Dec-84
		SHEET 1							
		DOCUMENT REFERENCE							
		PARAMETER	SPECIFIED	QUALIFIED	SPECIFIED		QUALIFIED	QUAL	MARGIN
			VALUE	VALUE	SPECIFIED	QUALIFIED	METHOD	DEMO	REMARKS
EQUIP NO.: SEE SHEET 2		OP.TIME:	100 DAYS	130 DAYS	3	2	TEST-SIM	YES	
SYSTEM: SEE SHEET 2		TEMP (F):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	NOTE 1
		NORMAL	122	RATED 90C	1,4	2	AN+DATA	NA	NOTE 2
		ABNORMAL	145	RATED 90C	1,4	2	AN+DATA	NA	NOTE 3
TYPE: (DESCRIPTION)		ACCIDENT	320	346	1,4	2	TEST-SIM	YES	
5 KV POWER CABLES		PRESS (PSIG)	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	NOTE 1
		NORMAL	ATMOS	ATMOS	1,4	2	TEST-SIM	NA	
		ABNORMAL	-0.62" W.G.	ATMOS	1,4	2	TEST-SIM	NA	
MANUFACTURER: ANACONDA CO.		ACCIDENT	+13	113	1,4	2	TEST-SIM	YES	
		RH (%):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	NOTE 1
MODEL: SEE SHEET 2		NORMAL	90	100	1,4	2	AN+DATA	NA	NOTE 4
		ABNORMAL	26	100	1,4	2	AN+DATA	NA	NOTE 4
SAFETY FUNCTION: - - -		ACCIDENT	ALL STEAM	STM+SPRAY	1,4	2	TEST-SIM	NA	
PROVIDE POWER TO		RADIATION:	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	NOTE 1
CLASS 1E EQUIPMENT		NORM GAMMA	8.3E7		1,4			NA	
		ACC GAMMA	4.447	2.0EB	1,4	2	TEST-SIM	YES	NOTE 5
OP. CODE: SEE SHEET 2		NORM BETA	0		1,4			NA	
		ACC BETA	6.0E2		1,4			YES	
		NEUTRON	0		1,4			NA	
ACCURACY - -		SPRAY	NA	NA	NA	NA	NA	NA	
SPEC: NA		SUBMERGENCE	NA	NA	NA	NA	NA	NA	
DEMO: NA									
ZONE NO.: SEE SHEET 2		DOCUMENT REFERENCE:							
SUBMERGENCE:		1. SPECIFICATION 241.232/E&DCR NO. P-22.129							
SPRAY/FROTH:		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
CABLES NOT SUBJECTED TO		SDDF # 6241.232-122-001B, 002B, 002C, 005A							
SUBMERGENCE OR SPRAY/FROTH		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
		PAOP DOCUMENT NO. 245.600, REV.0							
		4. SWEC CALC. NO. 12210-EDS-34 (ENVIR. ENVELOPE)							
DOCUMENTATION ACCEPTABILITY:									
ACCEPTABLE TO NUREG 0588,CAT I									
MAINT/SURVEILL - - -									
REFERENCE: NOTE 6									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE: 2									

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 241232-1

REV 0

SHEET No. 2

DATE DEC. 3, 1984

MARK NO

MODEL/CATALOG NO.
REMARKS

ENV. ZONE
SUBMRG

QUAL. LIFE

OPTIME
OC

SRN 241232-1

SPEC 241.232

NGR CABLE

INGR12

NONE

VARIOUS
NOTE 7

7.8 YR

100D
A

INGR15

NONE

VARIOUS
NOTE 7

7.8 YR

100D
A

INGR16

NONE

VARIOUS
NOTE 7

7.8 YR

100D
A

INGR30

NONE

VARIOUS
NOTE 7

7.8 YR

100D
A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 241232-1

REV 0

SHEET NO. 3

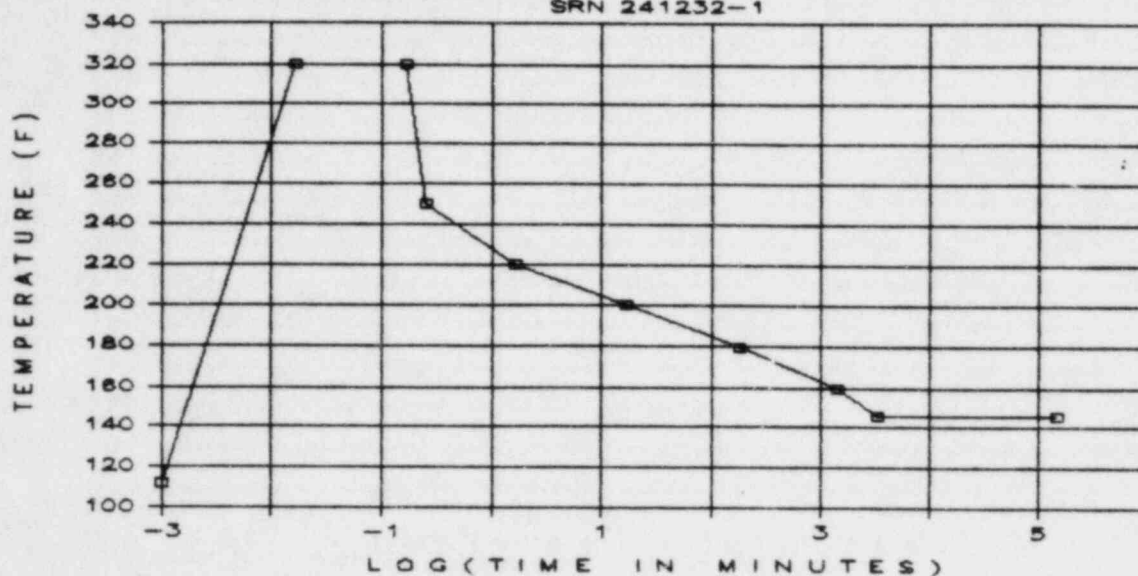
DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. Cable loads are designed to prevent the conductor temperature from exceeding the rated temperature at given ambient.
 3. Potential exposure to 145°F for 40 hours during the 40-year life of the cable is within cable rating and not detrimental to cable life expectancy.
 4. Temporary submergence in water or exposure to 100-percent RH is acceptable for cables with moisture-resistant ethylene-propylene rubber insulation, of which the cable is made.
 5. 2E8 rads is the qualified total integrated dose.
 6. The 5-kV Anaconda cables have life expectancy of 7.8 years. Extension of this qualified life by accounting for actual loadings and times of energization is in progress.
 7. Cable application for Class 1E circuits is for outside containment only.

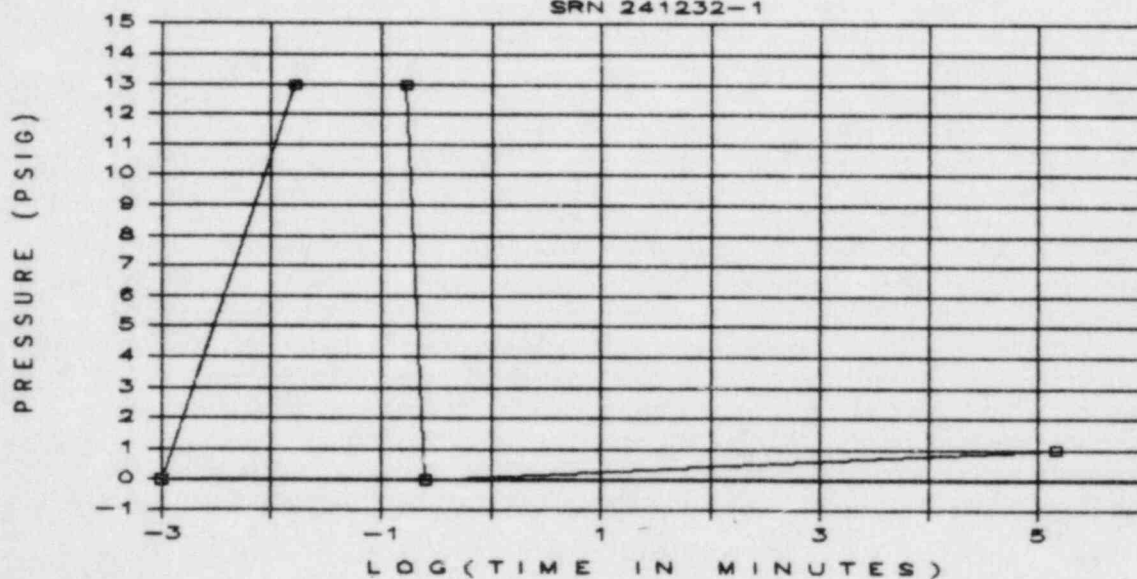
SPECIFIED ACCIDENT PROFILES

SRN 241232-1

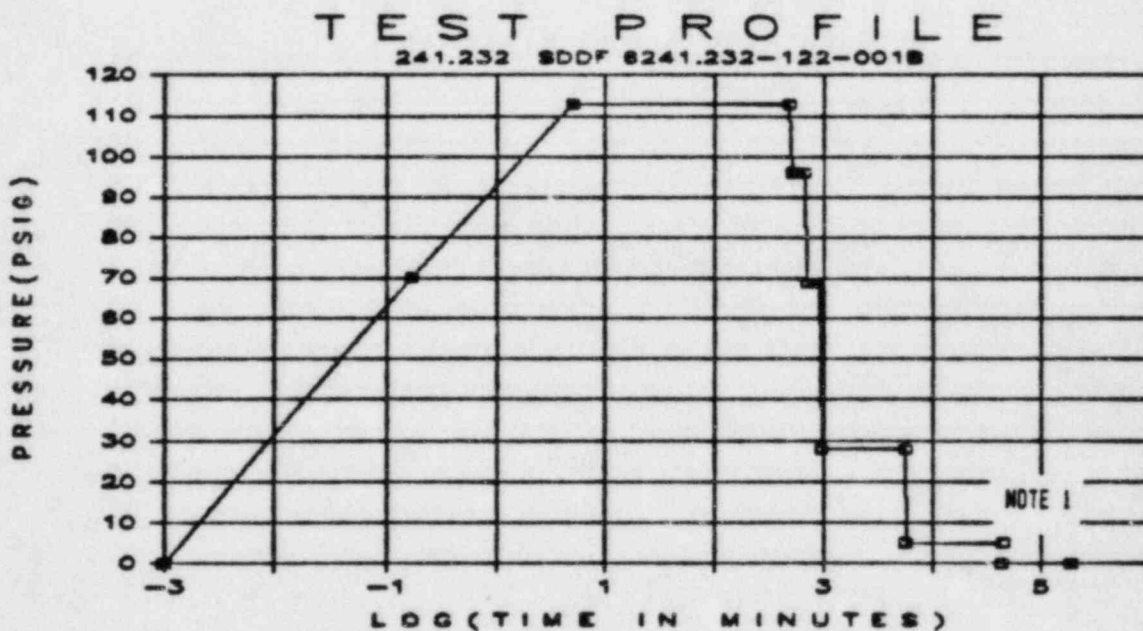
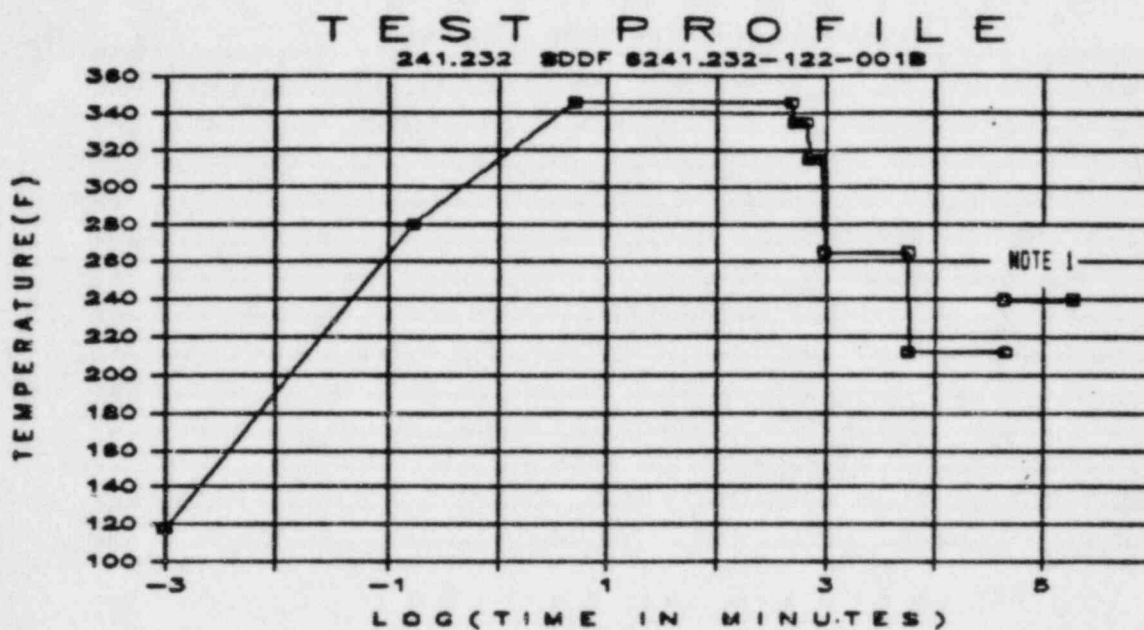


SPECIFIED ACCIDENT PROFILES

SRN 241232-1



TEMPERATURE										
TIME	0	1sec	10sec	15sec	100sec	1000sec	3hrs	1day	2.3days	100days
LOG (MINUTES)	-3.00	-1.78	-0.78	-0.60	0.22	1.22	2.26	3.16	3.52	5.16
TEMP(F)	112	320	320	250	220	200	180	160	145	145
TIME(MIN)	0.001	0.0167	0.167	0.25	1.65	16.7	180	1440	3312	144000
PRESSURE										
TIME	0	1sec	10sec	15sec	100days					
LOG(MINUTES)	-3.00	-1.78	-0.78	-0.60	5.16					
PRES(PSIG)	0	13	13	0	1	-1	15			
TIME(MIN)	0.001	0.0167	0.167	0.25	144000					



TEST PROFILE DATA FOR 241.232 SDDF 6241.232-122-001B

TIME	0	10sec	5min	8hr	8.5hr	11hr	11.5hr	15hr	16hr	4days	4days45min	30days
LOG(MINUTES)	-3.00	-0.78	0.70	2.68	2.71	2.82	2.84	2.95	2.98	3.76		4.64
TEMP(F)	118	280	346	346	335	335	315	315	265	265		212
PRES(PSIG)	0	70	113	113	96	96	69	69	28	28		5

NOTE 1:

THERE WAS A SUPPLEMENTAL TEST ON THE SAME SAMPLES FOR AN ADDITIONAL 100 DAYS AT 240 F AND 0 PSIG

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 241234-1
REV 0
SHEET 110.2
DATE 27 NOV 84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME OC
SRN 241234-1				
SPEC 241.234				
NGP CABLE				
1NGP42	NONE	VARIOUS	11 YEARS	100D A
1NGP50	NONE	VARIOUS	11 YEARS	100D A
1NGP51	NONE	VARIOUS	11 YEARS	100D A
1NGP52	NONE	VARIOUS	11 YEARS	100D A
1NGP53	NONE	VARIOUS	11 YEARS	100D A
1NGP54	NONE	VARIOUS	11 YEARS	100D A
1NGP55	NONE	VARIOUS	11 YEARS	100D A
1NGP56	NONE	VARIOUS	11 YEARS	100D A
1NGP57	NONE	VARIOUS	11 YEARS	100D A
1NGP58	NONE	VARIOUS	11 YEARS	100D A
1NGP59	NONE	VARIOUS	11 YEARS	100D A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 241234-1

REV 1

SHEET NO. 3

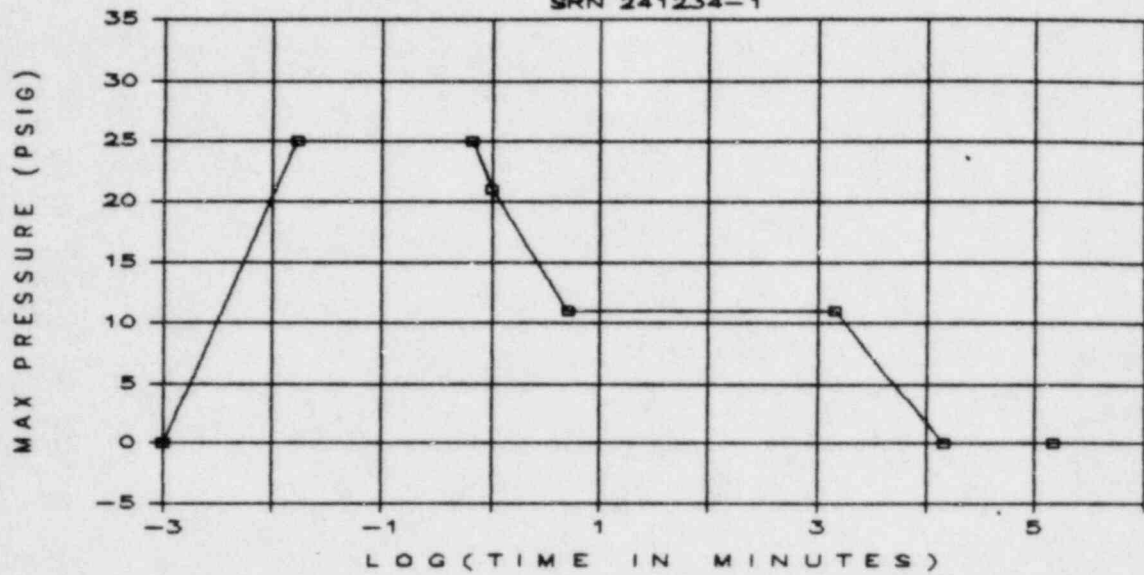
DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. The cables are qualified for a pressure of 118 psig; therefore, 2.3 psig (abnormal) will have no effect on them.
 3. Cables are qualified for 100-percent relative humidity as a result of steam test and submergence test in accordance with IEEE 383-1975.
 4. All cables are qualified to a total integrated dose of 2E8 rads of gamma. However, there is a fire limitation of 50 Mrads of gamma which limits the qualified life to a minimum of 11 years. For individual qualified life in different zones, see Reference 4.

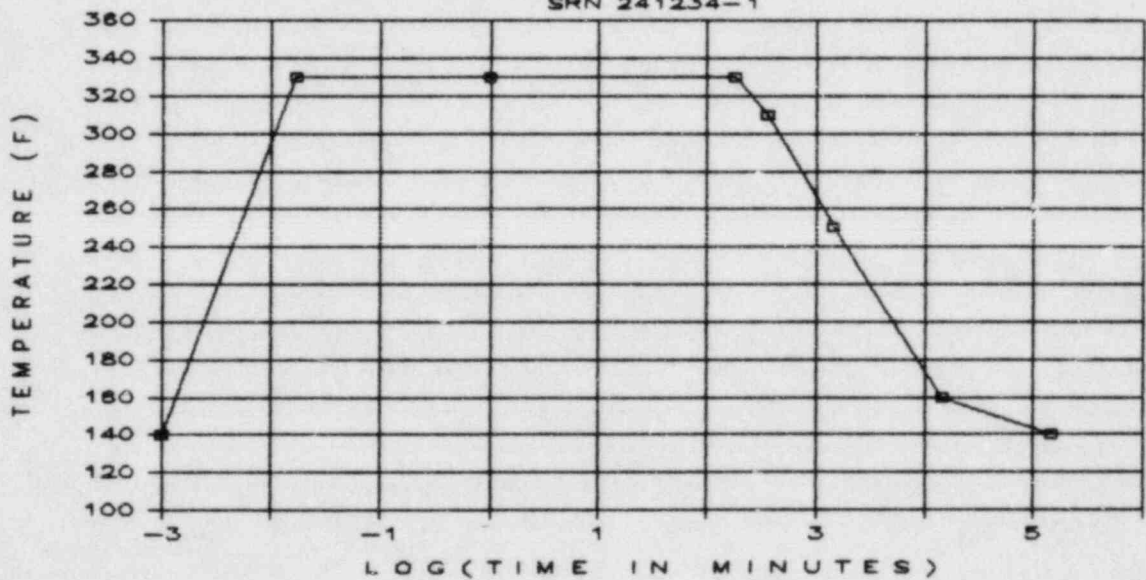
SPECIFIED ACCIDENT PROFILES

SRN 241234-1



SPECIFIED ACCIDENT PROFILES

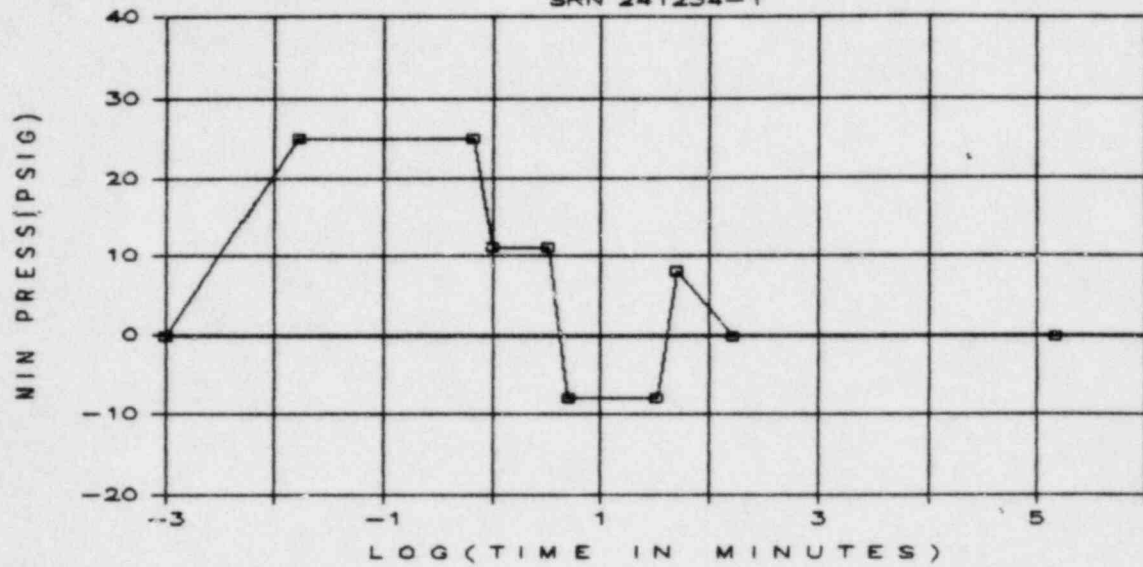
SRN 241234-1



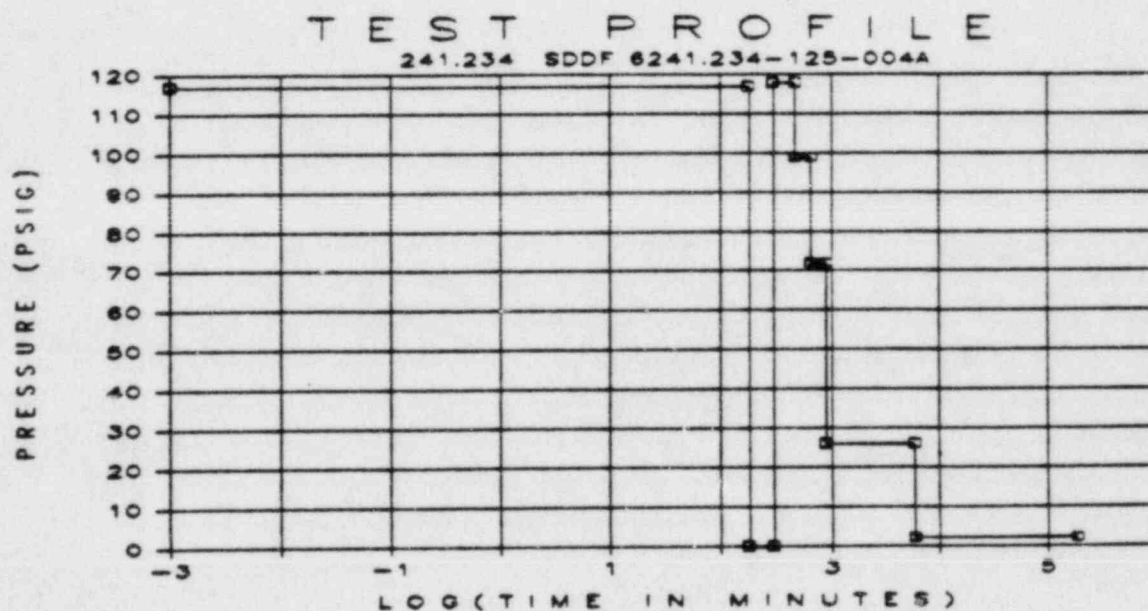
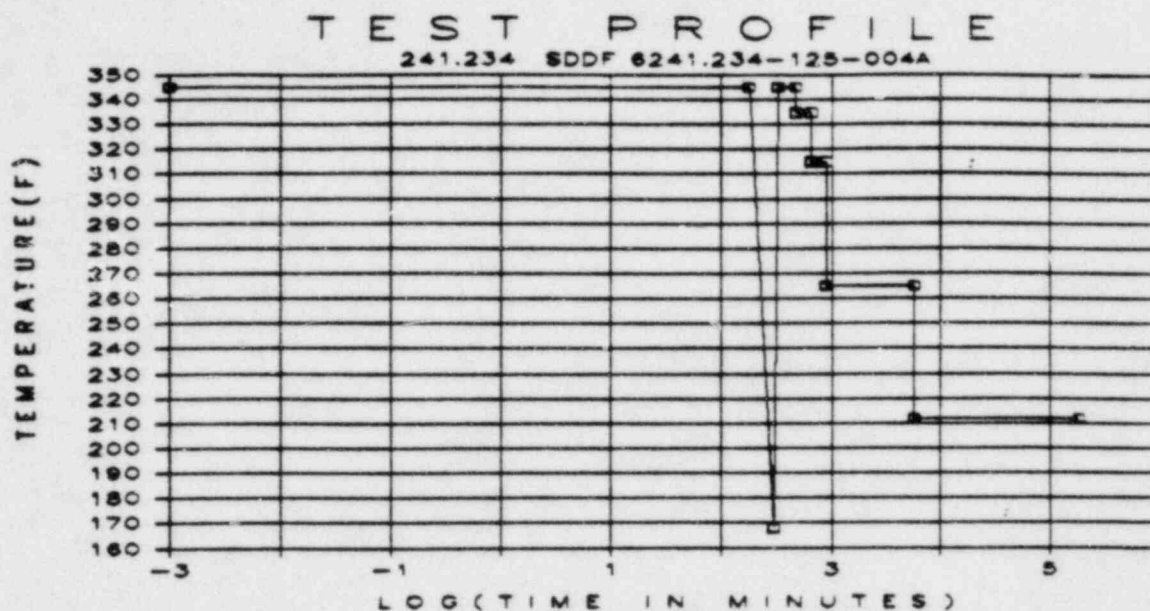
TEMPERATURE								
TIME	0	1sec	60secs	3hrs	6hrs	1day	10days	100days
LOG (MINUTES)	-3.00	-1.78	0.00	2.26	2.56	3.16	4.16	5.16
TEMP(F)	140	330	330	330	310	250	160	140
TIME(MIN)	0.001	0.0167	1	180	360	1440	14400	144000
PRESSURE								
TIME	0	1sec	40sec	60sec	300sec	1day	10days	100days
LOG(MINUTES)	-3.00	-1.78	-0.18	0.00	0.70	3.16	4.16	5.16
MAX PRES(PSIG)	0	25	25	21	11	11	0	0
TIME(MIN)	0.001	0.0167	0.66	1	5	1440	14400	144000

SPECIFIED ACCIDENT PROFILES

SRN 241234-1



P R E S S U R E -----										
TIME	0	1sec	40sec	60sec	200sec	300sec	2000sec	3000sec	6hrs	1day 100days
LOG(MINUTES)	-3.00	-1.78	-0.18	0.00	0.52	0.70	1.52	1.70	2.56	3.16 5.16
PRES(PSIG)	0	25	25	11	11	-8	-8	8	8	0 0
TIME(MIN)	0.001	0.0167	0.667	1	3.3	5	33	50	360	1440 144000



TEST PROFILE DATA FOR 241.234 SDDF 6241.234-125-004A

TEMPERATURE													
TIME	0	3hr	5hr	5.5hr	8hr	8hr	11hr	11hr	15hr	15hr	4days	4days	130days
LOG(MINUTES)	-3.00	2.26	2.48	2.52	2.68	2.68	2.82	2.82	2.95	2.95	3.76	3.76	5.27
TEMP(F)	345	345	168	345	345	335	335	315	315	265	265	212	212
PRESSURE													
TIME	0	3hr	3hr	5hr	5.5hr	8hr	8hr	11hr	11hr	15hr	15hr	4days	4days 130days
LOG(MINUTES)	-3.00	2.26	2.26	2.48	2.48	2.68	2.68	2.82	2.82	2.95	2.95	3.76	3.76 5.27
PRES(PSIG)	117	117	0	0	118	118	99	99	72	72	26	26	2 2

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 241240-1
REV 1
DATE 10-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION							REMARKS
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN: DEMO	
EQUIP NO.: SEE SHEET 2	OP.TIME:	100 DAYS	130 DAYS	3	2	TEST-SIM	YES	
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE-1
	NORMAL	140	RATED 194	1,5	2	TEST-SIM	NA	
	ABNORMAL	140	RATED 266	1,5	2	AN+DATA	NA	
TYPE: (DESCRIPTION)	ACCIDENT	330	341	1,5	2	TEST-SIM	YES	
600 CABLE CONTROL CABLE	PRESS (PSIG)							NOTE-1
	NORMAL	.5	ATMOS	1,5	2	TEST-SIM	NA	NOTE-2
	ABNORMAL	2.3	112	1,5	2	AN+DATA	NA	NOTE-2
MANUFACTURER: OKONITE	ACCIDENT	25 TO -8	112 TO -11	1,5	2	AN+DATA	YES	
	IRH (%)							NOTE-1
MODEL: SEE SHEET 2	NORMAL	100	100	1,5	2	AN+DATA	NA	NOTE-3
	ABNORMAL	100	100	1,5	2	AN+DATA	NA	NOTE-3
SAFETY FUNCTION: - - -	ACCIDENT	100	100	1,5	2	TEST-SIM	NA	
TO CONTROL CLASS 1E EQUIPMENT	RADIATION:							NOTE-1
	NORM GAMMA						NA	
OP. CODE: SEE SHEET 2	ACC GAMMA	1.22EB TID	2EB	1,4	2	TEST-SIM	YES	NOTE-4
	NORM BETA							
	ACC BETA							
	NEUTRON							
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:								
SPRAY/FROTH:								
EQUIPMENT NOT SUBJECTED TO SUBMERGENCE OR SPRAY/FROTH								
DOCUMENTATION ACCEPTABILITY:								
ACCEPTABLE TO NUREG 0588, CAT I								
MAINT/SURVEILL - - -								
REFERENCE: NOTE-4								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 2,4								

- DOCUMENT REFERENCE:
1. SPECIFICATION 241.240 / E&DCR P22,130A
 2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6241.240-157-005A & 5B
 3. POST-ACCIDENT OPERABILITY PERIOD: SEE PAOP DOCUMENT NO. 245.600, REV.0
 4. CALCULATION NO. 12210-EDS-30
 5. CALCULATION NO. 12210-EDS-39

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 241240-1
REV 0
SHEET 2A
DATE 27 NOV 84

MARK NO

MODEL/CATALOG NO.
REMARKS

ENV. ZONE
SUBMRG

QUAL. LIFE

OPTIME
CC

SRN 241240-1

SPEC 241.240

NGP CABLE

1NGP01

NONE

VARIOUS

11 YEARS

1000
A

1NGP02

NONE

VARIOUS

11 YEARS

1000
A

1NGP03

NONE

VARIOUS

11 YEARS

1000
A

1NGP04

NONE

VARIOUS

11 YEARS

1000
A

1NGP06

NONE

VARIOUS

11 YEARS

1000
A

1NGP11

NONE

VARIOUS

11 YEARS

1000
A

1NGP12

NONE

VARIOUS

11 YEARS

1000
A

1NGP13

NONE

VARIOUS

11 YEARS

1000
A

1NGP14

NONE

VARIOUS

11 YEARS

1000
A

1NGP15

NONE

VARIOUS

11 YEARS

1000
A

1NGP16

NONE

VARIOUS

11 YEARS

1000
A

1NGP22

NONE

VARIOUS

11 YEARS

1000
A

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 241240-1
REV 0
SHEET No. 2B
DATE 27 NOV 84

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

MARK NO

MODEL/CATALOG NO. ENV. ZONE QUAL. LIFE OPTIME
REMARKS SUBMRG OC

SRN 241240-1

SPEC 241.240

NGP CABLE

1NGP24	NONE	VARIOUS	11 YEARS	1000 A
1NGP26	NONE	VARIOUS	11 YEARS	1000 A
1NGP27	NONE	VARIOUS	11 YEARS	1000 A
1NGP28	NONE	VARIOUS	11 YEARS	1000 A
1NGP30	NONE	VARIOUS	11 YEARS	1000 A
1NGP32	NONE	VARIOUS	11 YEARS	1000 A
1NGP33	NONE	VARIOUS	11 YEARS	1000 A
1NGP36	NONE	VARIOUS	11 YEARS	1000 A
1NGP37	NONE	VARIOUS	11 YEARS	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 241240-1

REV 1

SHEET NO. 3

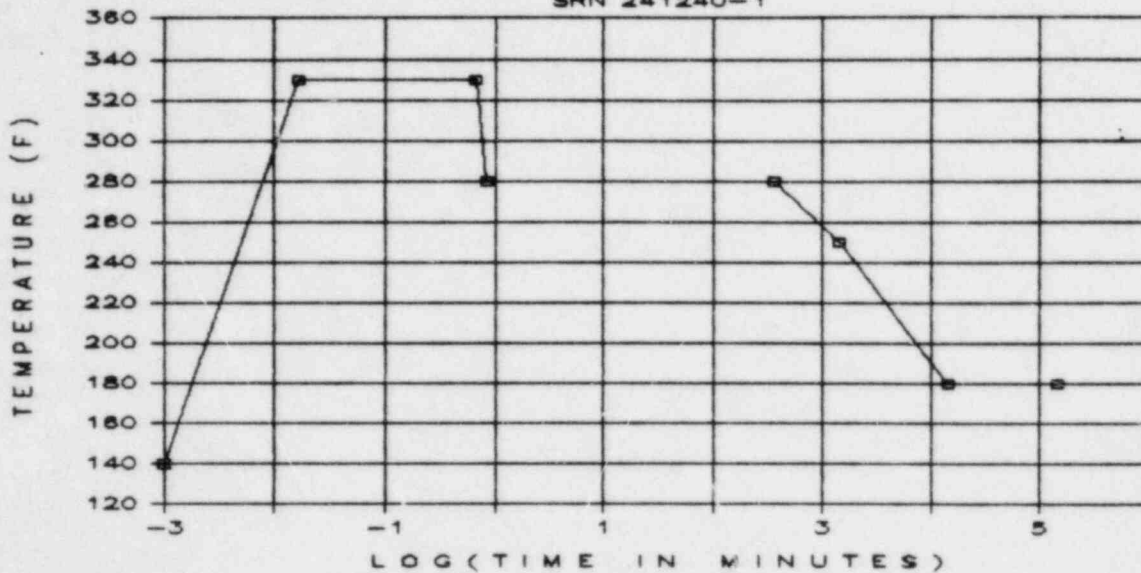
DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. The cables are qualified for a pressure of 112 psig; therefore, 2.3 psig (abnormal) will have no effect on them.
 3. Cables are qualified for 100-percent relative humidity as a result of steam test and submergence test in accordance with IEEE 383-1975.
 4. All cables are qualified to a total integrated dose of 2E8 rads of gamma. However, there is a fire limitation of 5E7 rads of gamma which limits the qualified life to a minimum of 11 years. For individual qualified life in different zones, see Reference 4.

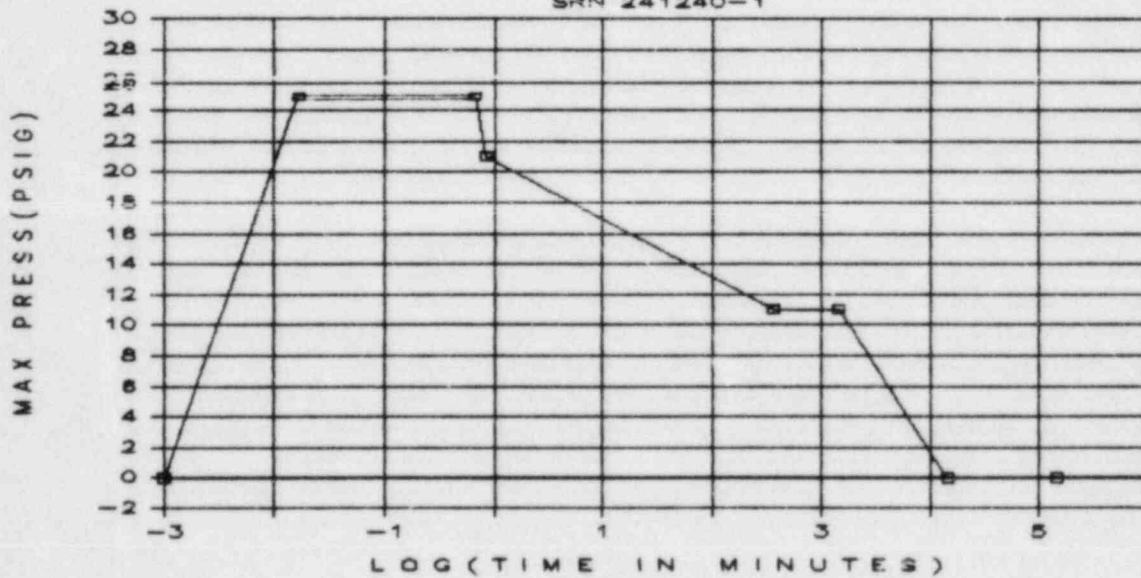
SPECIFIED ACCIDENT PROFILES

SRN 241240-1



SPECIFIED ACCIDENT PROFILES

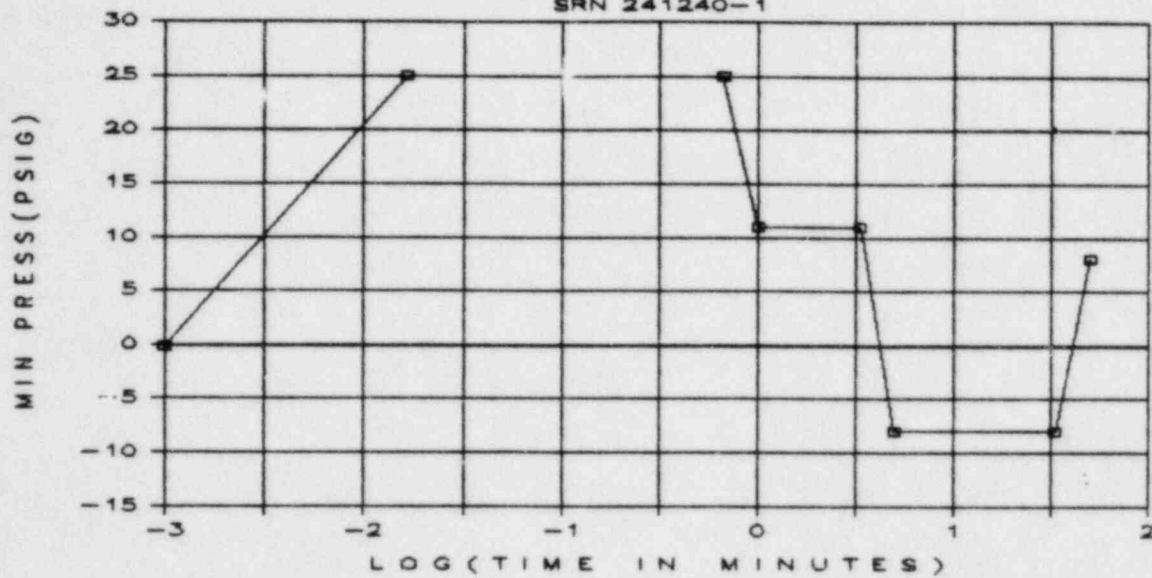
SRN 241240-1



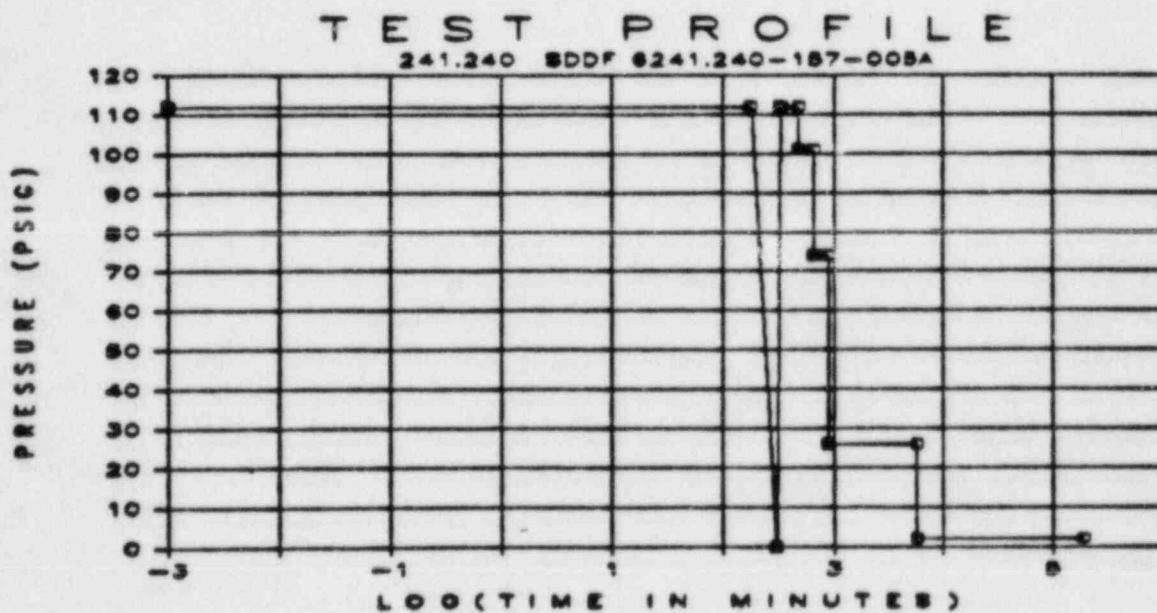
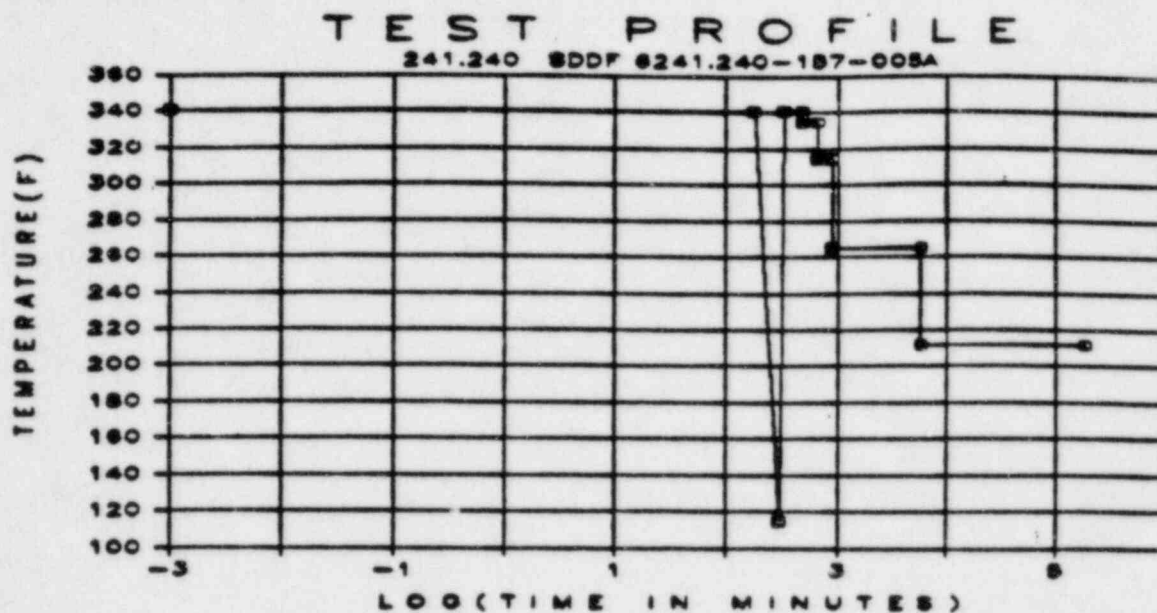
TEMPERATURE								
TIME	0	1sec	60sec	3hrs	6hrs	1day	10days	100days
LOG (MINUTES)	-3.00	-1.78	-0.18	-0.08	2.56	3.16	4.16	5.16
TEMP (F)	140	330	330	330	310	250	180	180
TIME (MIN)	0.001	0.0167	0.66	0.83	360	1440	14400	144000
PRESSURE								
TIME	0	1sec	40sec	60sec	300sec	1day	10days	100days
LOG (MINUTES)	-3.00	-1.78	-0.18	-0.08	2.56	3.16	4.16	5.16
MAX PRES (PSIG)	0	25	25	21	11	11	0	0
TIME (MIN)	0.001	0.0167	0.66	0.83	360	1440	14400	144000

SPECIFIED ACCIDENT PROFILES

SRN 241240-1



PRESSURE -----										
TIME	0	1sec	40sec	60sec	200sec	300sec	2000sec	3000sec	10000sec	100days
LOG(MINUTES)	-3.00	-1.78	-0.18	0.00	0.52	0.70	1.52	1.70	1.74	5.16
MIN PRES(PSIG)	0	25	25	11	11	-8	-8	8	0	0
TIME(MIN)	0.001	0.0167	0.66	1	3.3	5	33	50	55	144000



TEST PROFILE DATA FOR 241.240 SDDF 6241.240-157-005A

TIME	0	3hr	5hr	5.5hr	8hr	8hr	11hr	11hr	15hr	15hr	4days	4days	130days
LOG(MINUTES)	-3.00	2.26	2.48	2.52	2.68	2.68	2.82	2.82	2.95	2.95	3.76	3.76	5.27
TEMP(F)	341	341	112	341	341	335	335	315	315	265	265	212	212
PRES(PSIG)	112	112	0	112	112	101	101	74	74	26	26	2	2

SRN 241242-1
REV 1
DATE 10-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						DATE	10-Dec-84
								SHEET 1	
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	REMARKS
					SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2		OP.TIME:	100 DAYS	>100 DAYS	3	2	TEST-SIM	YES	NOTE 4
SYSTEM: SEE SHEET 2		TEMP (F):							NOTE 1
		NORMAL	122	140	1,6	2	TEST-SIM	NA	
		ABNORMAL	145		1,6			NA	
		ACCIDENT	260		1,6				
TYPE: (DESCRIPTION)		PRESS (PSIG)							NOTE 1
300 VOLT INSTRUMENT CABLE		NORMAL	ATMOS	ATMOS	1,6	2	TEST-SIM	NA	
FIREWALL III, NEOPRENE JACKET		ABNORMAL	-0.25" W.G.	ATMOS	1,6	2	TEST-SIM	NA	
OVER FIREWALL III XLPE		ACCIDENT	2.8		1,6				NOTE 2
MANUFACTURER: ROCKBESTOS		RH (%)							NOTE 1
MODEL: FIREWALL III		NORMAL	90	100	1,6	5	TEST-SIM	NA	
		ABNORMAL	45	100	1,6	5	TEST-SIM	NA	
SAFETY FUNCTION: - - -		ACCIDENT	100		1,6				
TRANSMISSION OF SIGNALS		RADIATION:							
ASSOCIATED WITH SAFETY SYSTEMS		NORM GAMMA	8.3E7	2.0E8	1,6	2,4	TEST-SIM	NA	NOTE 3
		ACC GAMMA	4.0E1		1,6	2,4	TEST-SIM	YES	
OP. CODE: SEE SHEET 2		NORM BETA	0		1,6				
		ACC BETA	6.0E2		1,6	2,4	AN+DATA	YES	
		NEUTRON	0		1,6				
ACCURACY - -		SPRAY	NA	NA	NA	NA	NA	NA	
		SUBMERGENCE	NA	NA	NA	NA	NA	NA	NA
SPEC: NA									
DEMO: NA									
ZONE NO.: SEE NOTE 5									
SUBMERGENCE:		DOCUMENT REFERENCE:							
SPRAY/FROTH:		1. SPECIFICATION 241.242, REV.0, ADDEN.7/E&DCR NO. P-22.191A							
EQUIPMENT NOT SUBJECTED TO		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
SUBMERGENCE OR SPRAY/FROTH		SDDF# 6241.242-158-001D							
		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
		PAOP DOCUMENT NO. 245.600, REV.0							
		4. SWEC CALC. NO. 12210-EDS-31 (RAD. DOSES)							
DOCUMENTATION ACCEPTABILITY:		5. VENDOR SUPPLEMENTAL REPORT							
NUREG 0588, CAT I		SDDF# 6421.242-158-001E							
QUALIFICATION IN PROGRESS,		6. SWEC CALC. NO. 12210-EDS-51 (ENVIR. ENVELOPE)							
(NOTE 2)									
MAINT/SURVEILL :NOT REQUIRED									
REFERENCE:									
QUALIFIED LIFE - - -									
(YEARS):									
REFERENCE:									

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 241242-1

REV 0

SHEET NO. 2A

DATE 11/29/84

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

HARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBIRG	QUAL. LIFE	OPTIME OC

SRN 241242-1				
SPEC 241.242				
NGP CABLE				
1NGP61	NONE	VARIOUS		100D A
1NGP62	NONE	VARIOUS		100D A
1NGP70	NONE	VARIOUS		100D A
1NGP71	NONE	VARIOUS		100D A
1NGP72	NONE	VARIOUS		100D A
1NGP73	NONE	VARIOUS		100D A
1NGP75	NONE	VARIOUS		100D A
1NGP76	NONE	VARIOUS		100D A
1NGP77	NONE	VARIOUS		100D A
1NGP78	NONE	VARIOUS		100D A
1NGP80	NONE	VARIOUS		100D A
1NGP81	NONE	VARIOUS		100D A

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 241242-1

REV 0

SHEET NO. 23

DATE 11/29/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUSHRG	QUAL. LIFE	OPTIME OC
SRN 241242-1				
SPEC 241.242				
NGP CABLE				
1NGP82	NONE	VARIOUS		1000 A
1NGP84	NONE	VARIOUS		1000 A
1NGP85	NONE	VARIOUS		1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 241242-1

REV 1

SHEET NO. 3

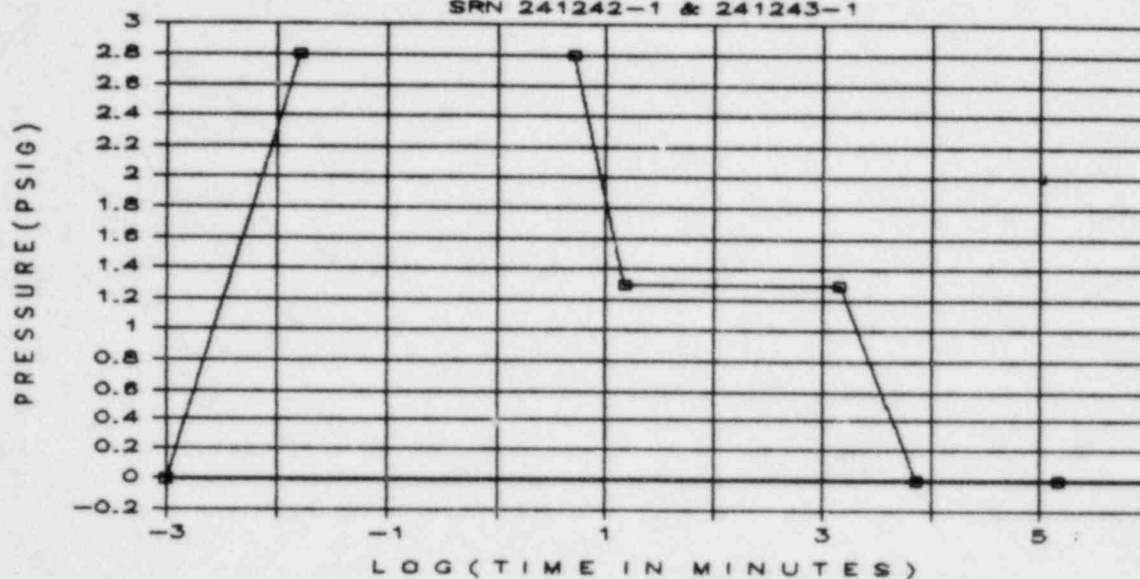
DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. Vendor is expected to submit a timely interim report covering a LOCA test of a similar cable. Confirmation testing of this construction is being performed with a completion target of March 1985.
 3. The qualified total integrated dose is 2E8 rads.
 4. Margin demonstrated by higher temperature over the 100 days of test.
 5. Use outside the primary containment in areas not subject to high energy line break. May be used in limited areas of short duration high temperature exposure. Also not used in zones FB-113-4, off-gas area, radwaste building.

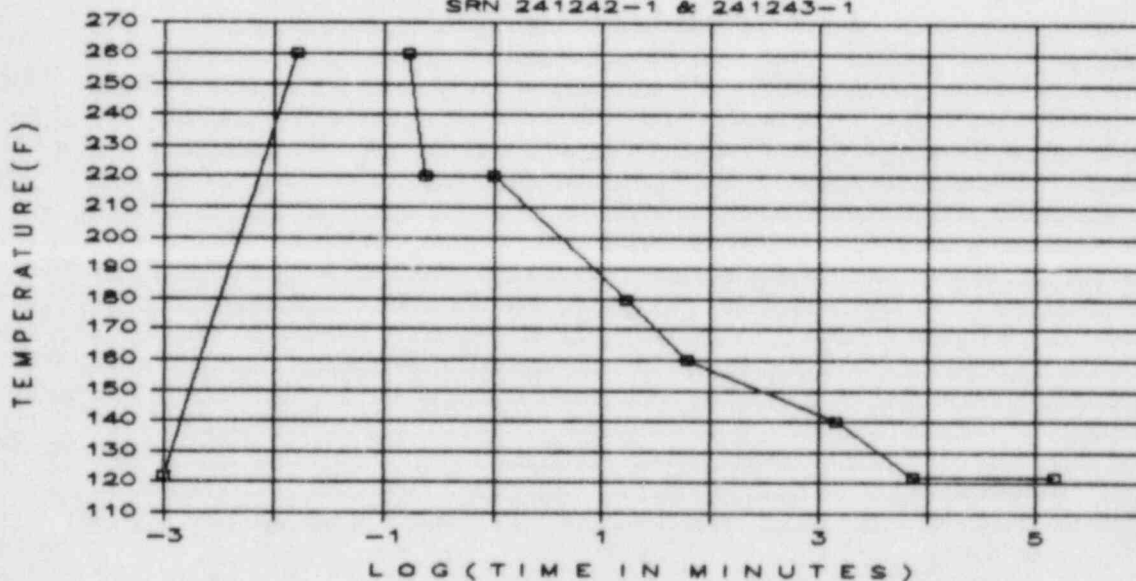
SPECIFIED ACCIDENT PROFILE

SRN 241242-1 & 241243-1



SPECIFIED ACCIDENT PROFILE

SRN 241242-1 & 241243-1



TEMPERATURE										
TIME	0sec	1sec	10sec	14sec	60sec	1000sec	1hr	1day	5days	100days
LOG (MINUTES)	-3.00	-1.80	-0.77	-0.64	0	1.22	1.78	3.16	3.86	5.16
TEMP(F)	122	260	260	220	220	180	160	140	122	122
TIME(MIN)	0.001	0.016	0.17	0.23	1	16.67	60	1440	7200	144000
PRESSURE										
TIME	0sec	1sec	5min	15min	1day	5days	100days			
LOG(MINUTES)	-3.00	-1.80	0.70	1.18	3.16	3.86	5.16			
PRES(PSIG)	0	2.8	2.8	1.3	1.3	0	-0.018	-0.2	3	
TIME(MIN)	0.001	0.016	5	15	1440	7200	144000			

SRN 241242-2
REV 1
DATE 10-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						DATE	10-Dec-84
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		DUAL METHOD	MARGIN DEMO	REMARKS
EQUIP NO.: SEE SHEET 2		OP.TIME:	100 DAYS		3				
SYSTEM: SEE SHEET 2		TEMP (F):							NOTE 1
		NORMAL	140		1,5				
		ABNORMAL	140		1,5				
		ACCIDENT	360		1,5				
TYPE: (DESCRIPTION)		PRESS (PSIG)							NOTE 1
300 VOLT COAX. AND TWINAX		NORMAL	0.5		1,5				
INSTRUMENT CABLE, KXL 200 JAC-		ABNORMAL	2.3		1,5				
KET OVER KXL 100/150 XLPE INS		ACCIDENT	25		1,5				
MANUFACTURER: ROCKBESTOS		RH (%)							NOTE 1
		NORMAL	90		1,5				
		ABNORMAL	100		1,5				
		ACCIDENT	STEAM		1,5				
MODEL: RSS-6		RADIATION:							
SAFETY FUNCTION:		NORM GAMMA:							
TRANSMISSION OF SIGNALS		ACC GAMMA:	1.7E7	2.0EB	4	2,4	TEST-SIM	YES	NOTE 3
ASSOCIATED WITH SAFETY SYSTEMS		NORM BETA:							
		ACC BETA:							
		NEUTRON							
OP. CODE: SEE SHEET 2		SPRAY	NA	NA	NA	NA	NA	NA	NA
		SUBMERGENCE:	NA	NA	NA	NA	NA	NA	NA
ACCURACY - -									
SPEC: NA									
DEMO: NA									
ZONE NO.: SEE NOTE 4									
SUBMERGENCE:		DOCUMENT REFERENCE:							
SPRAY/FROTH:		1. SPECIFICATION 241.242, REV.0, ADDEN.7/E&DCR NO. P-22.191A							
EQUIPMENT NOT SUBJECTED TO		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
SUBMERGENCE OR SPRAY/FROTH		SDDF # 6241.242-158-002B							
		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
		PAOP DOCUMENT NO. 245.600, REV.0							
		4. SWEC CALC. NO. 12210-EQS-31 (RAD. DOSES)							
DOCUMENTATION ACCEPTABILITY:		5. SWEC CALC. NO. 12210-EQS-51 (ENVIR. ENVELOPE)							
NUREG 0588, CAT I									
QUALIFICATION IN PROGRESS,									
(NOTE 2)									
MAINT/SURVEILL: NOT REQUIRED									
REFERENCE:									
QUALIFIED LIFE - - -									
(YEARS):									
REFERENCE:									

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 241242-2

REV 0

SHEET NO. 2

DATE 11/29/84

HARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME OC
SRN 241242-2				
SPEC 241.242				
NGS CABLE				
1NGS40	NONE NOTE 5	VARIOUS		100D A
1NGS41	NONE	VARIOUS		100D A
1NGS42	NONE	VARIOUS		100D A
1NGS43	NONE	VARIOUS		100D A
1NGS44	NONE NOTE 6	VARIOUS		100D A
1NGS45	NONE	VARIOUS		100D A
1NGS46	NONE	VARIOUS		100D A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 241242-2

REV 0

SHEET NO. 3

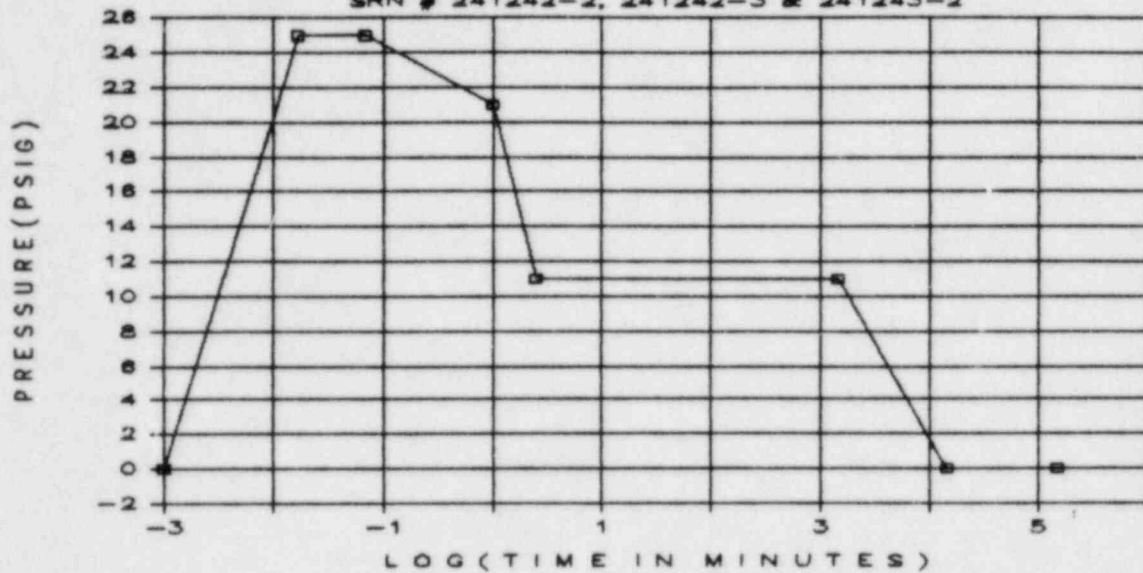
DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. Vendor is expected to submit a timely interim report covering a LOCA test of a similar cable. Confirmation testing of this construction is being performed with a completion target of March 1985.
 3. Both are total integrated doses. Specified value includes margin.
 4. Used everywhere except zones DW-6, CT-8, FB-113-4, radwaste building, and off-gas area.
 5. (INGS40) Six circuits will be exposed to a TID greater than 2E8. These will have a reduced life of 36 years. They are listed in Appendix A of Reference 4 .
 6. (INGS44) Sixty-six circuits will be exposed to a TID greater than 2E8. These will have a reduced life of 32 years. They are listed in Appendix A of Reference 4.

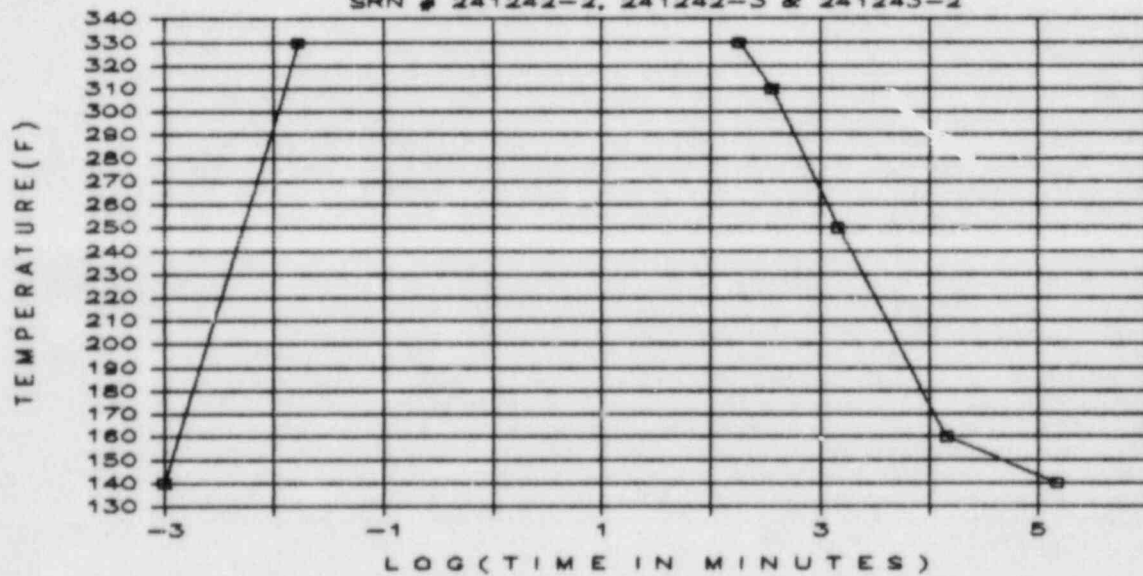
SPECIFIED ACCIDENT PROFILE

SRN # 241242-2, 241242-3 & 241243-2



SPECIFIED ACCIDENT PROFILE

SRN # 241242-2, 241242-3 & 241243-2



TEMPERATURE								
TIME	0	1sec	3hrs	6hrs	1day	10days	100days	
LOG (MINUTES)	-3.00	-1.77	2.26	2.56	3.16	4.16	5.16	
TEMP(F)	140	330	330	310	250	160	140	
TIME(MIN)	0.001	0.017	180	360	1440	14400	144000	
PRESSURE								
TIME	0	1sec	40sec	60sec	150sec	1day	10days	100days
LOG(MINUTES)	-3.00	-1.77	-1.17	0.00	0.40	3.16	4.16	5.16
PRES(PSIG)	0	25	25	21	11	11	0	0
TIME(MIN)	0.001	0.017	0.067	1	2.5	1440	14400	144000

241.242 SDDF 6241.242-158-002B

CONT'D									
TIME	11hr	11hr	15hr	15hr	4days	4days	30days	30days	100days
LOG(MINUTES)	2.82	2.82	2.95	2.95	3.76	3.76	4.64	4.64	5.16
TEMP(F)	335	315	315	265	265	212	212	212	212
PRES(P SIG)	93	69	69	28	28	0	0	0	0

SRN 241242_3
REV 1
DATE 10-Dec-84
SHEET 1

[illegible]

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 241242-3
REV. 0
SHEET NO. 2
DATE 11/29/89

HARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME OC
SRN 241242-3				
SPEC 241.242				
NGP CABLE				
1NGP67	NONE	VARIOUS		100D A
1NGP68	NONE	VARIOUS		100D A
NGS CABLE				
1NGS57	NONE NOTE 4	VARIOUS		100D A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 241242-3

REV 0

SHEET NO. 3

DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. Vendor is expected to submit a timely interim report covering a LOCA test of a similar cable. Confirmation testing of this construction is being performed with a completion target of March 1985.
 3. Total integrated dose with margin included.
 4. (INGP67) All but one circuit will be exposed during 40-year life plus accident plus margin to less than 200 Mrads. The standardized test exposure of 2E8 rads will qualify this circuit initially for 36 years. See Appendix A of Reference 4.

SRN 241243-1
REV 1
DATE 10-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						DATE	10-Dec-84
								SHEET 1	
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	REMARKS
					SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2		OP.TIME:	100 DAYS		3	2			
SYSTEM: SEE SHEET 2		TEMP (F):							NOTE-1
		NORMAL	122	140	6	2	TEST-SIM	NA	
		ABNORMAL	145		6			NA	
		ACCIDENT	260		6				
TYPE: (DESCRIPTION)		PRESS (PSIG):							NOTE-1
THERMOCOUPLE EXTENSION WIRE		NORMAL	0	ATMOS	6	2	TEST-SIM	NA	
KC-486 NEOPRENE JACKET OVER		ABNORMAL	-02		6			NA	
KYL 760 XLPE INSULATION		ACCIDENT	2.8		6				
MANUFACTURER: ROCKBESTOS		RH (%):							NOTE-1
MODEL: SEE SHEET 2		NORMAL	90	100	6	2	TEST-SIM	NA	NOTE-5
		ABNORMAL	45		6			NA	
SAFETY FUNCTION: - - -		ACCIDENT	100		6			NA	
TRANSMISSION OF SIGNAL		RADIATION:							NOTE-1
ASSOCIATED WITH SAFETY SYSTEMS		NORM GAMMA	8.3E7	2E8	6	2,5	TEST-SIM	NA	NOTE-3
		ACC GAMMA	40		6	2		YES	
OP. CODE: SEE SHEET 2		NORM BETA	0		6	2		NA	
		ACC BETA	600		6	2		YES	
		NEUTRON	0		6	2		NA	
ACCURACY - -		SPRAY	NA	NA	NA	NA	NA	NA	
SPEC: NA		SUBMERGENCE	NA	NA	NA	NA	NA	NA	
DEMO: NA									
ZONE NO.: SEE NOTE 4									
SUBMERGENCE:		DOCUMENT REFERENCE:							
SPRAY/FROTH:		1. SPECIFICATION 241.243 REV.1, ADD.4 / E&DCR P22,194A							
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
		SDDF # 6241.243-162-002A							
EQUIPMENT NOT SUBJECTED TO		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
SUBMERGENCE OR SPRAY/FROTH		PAOP DOCUMENT NO. 245.600, REV.0							
		4. USNCR IE INFORMATION NOTICE 84-44							
DOCUMENTATION ACCEPTABILITY:		5. CALCULATION NO. 12210-EQS-32 (RADIATION)							
NUREG 0588,CAT I		6. CALCULATION NO. 12210-EQS-56 (ENVIRONMENTAL)							
QUALIFICATION IN PROGRESS									
(NOTE-2)									
MAINT/SURVEILL - - -									
REFERENCE: NOT REQUIRED									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE:									

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 241243-1

REV 0

SHEET NO. 2

DATE 11/29/84

HARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBHRG	QUAL. LIFE	OPTIME OC
SRN 241243-1				
SPEC 241.243				
NGS CABLE				
INGS01	NONE	VARIOUS	1000 A	
INGS02	NONE	VARIOUS	1000 A	
INGS03	NONE	VARIOUS	1000 A	
INGS05	NONE	VARIOUS	1000 A	
INGS61	NONE	VARIOUS	1000 A	

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 241243-1

REV 0

SHEET NO. 3

DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. Vendor will provide an interim progress report for December 1984. Based on the NRC finding (Reference 4), no immediate safety problem exists in the use of Rockbestos cables. Verification testing will be completed March 1985.
 3. Qualified total integrated dose is 2E8 rads.
 4. Used outside the primary containment in areas not subject to high energy line break. Also not used in zone FB-113-4 and off-gas area.
 5. Tested submerged.

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM
 RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
 SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 241243-2
 REV.0
 SHEET NO.2
 DATE 11/29/81

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBHRG	QUAL. LIFE	OPTIME OC
SRN 241243-2				
SPEC 241.243				
NGS CABLE				
INGS06	NONE	VARIOUS		100D A
INGS60	NONE	VARIOUS		100D A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 241243-2

REV 0

SHEET NO. 3

DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. Vendor will provide an interim progress report for December 1984. Based on the NRC finding (Reference 4), no immediate safety problem exists in the use of Rockbestos cables. Verification testing will be completed March 1985.
 3. These are total integrated dose values. Specified value includes margin.
 4. Used everywhere except zones DW-6, CT-8, FB-113-4, radwaste building, and off-gas area.
 5. Tested submerged.

SRN 241246-1
REV 1
DATE 10-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						DATE	10-Dec-84
		SHEET 1							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	REMARKS
EQUIP NO.: SEE SHEET 2		OP.TIME:	100 DAYS	110 DAYS	3	2	AN+DATA	YES	NOTE 6
SYSTEM: SEE SHEET 2		TEMP (F):	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	NOTE 1
		NORMAL	140	RATED 75C	1,5	2	AN+DATA	NA	NOTE 2
		ABNORMAL	140	RATED 75C	1,5	2	AN+DATA	NA	NOTE 2
TYPE: (DESCRIPTION)		ACCIDENT	330	346	1,5	2	TEST-SIM	YES	
SPECIAL INSTRUMENT CABLES		PRESS (PSIG)	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	NOTE 1
		NORMAL	0.5	10	1,5	2	TEST-SIM	NA	
		ABNORMAL	2.3	10	1,5	2	TEST-SIM	NA	
MANUFACTURER: BRAND-REX CO.		ACCIDENT	+25 TO -8	+130 TO -8	1,5	2	AN+DATA	YES	
		RH (%):	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	NOTE 1
MODEL: SEE SHEET 2		NORMAL	100	100	1,5	2	AN+DATA	NA	NOTE 3
		ABNORMAL	100	100	1,5	2	AN+DATA	NA	NOTE 3
SAFETY FUNCTION: - - -		ACCIDENT	ALL STEAM	STM+GRAY	1,5	2	TEST-SIM	NA	
SERVING CLASS 1E EQUIPMENT		RADIATION:	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	NOTE 1
		NORM GAMMA						NA	
		ACC GAMMA	2EB	2EB	4	2	TEST-SIM	YES	NOTE 4 & 5
OP. CODE: SEE SHEET 2		NORM BETA						NA	
		ACC BETA						NA	
		NEUTRON						NA	
ACCURACY - -		SPRAY	NA	NA	NA	NA	NA	NA	
		SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA									
DEMO: NA									
ZONE NO.: SEE SHEET 2									
SUBMERGENCE:		DOCUMENT REFERENCE:							
SPRAY/FROTH:		1. SPECIFICATION 241.246/E&DCR NO. P-22.128A							
CABLES NOT SUBJECTED TO		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
SUBMERGENCE OR SPRAY/FROTH		SDDF # 6241.246-299-001A,001B,004B							
		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
		PAOP DOCUMENT NO. 245.600, REV.0							
		4. SWEC CALC. NO. 12210-EQS-33 (RAD. DOSES)							
DOCUMENTATION ACCEPTABILITY:		5. SWEC CALC. NO. 12210-EQS-35 (ENVIR. ENVELOPE)							
ACCEPTABLE TO NUREG 0588,CAT I									
MAINT/SURVEILL - - -									
REFERENCE: NOTE 5									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE: 2									

RBS ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 241246-1

REV 0

SHEET NO. 2

DATE 26.03.2004

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME CC
SRN 241246-1				
SPEC 241.246				
NGP CABLE				
INGP63	NONE	VARIOUS	40 YR	1000 A
NGS CABLE				
INGS11	NONE	VARIOUS	40 YR	1000 A
INGS12	NONE	VARIOUS	40 YR	1000 A
INGS13	NONE	VARIOUS	40 YR	1000 A
INGS14	NONE NOTE 5	VARIOUS	40 YR	1000 A
INGS15	NONE	VARIOUS	40 YR	1000 A
INGS17	NONE	VARIOUS	40 YR	1000 A
INGS18	NONE	VARIOUS	40 YR	1000 A
INGS20	NONE	VARIOUS	40 YR	1000 A
INGS21	NONE	VARIOUS	40 YR	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 241246-1

REV 0

SHEET NO. 3

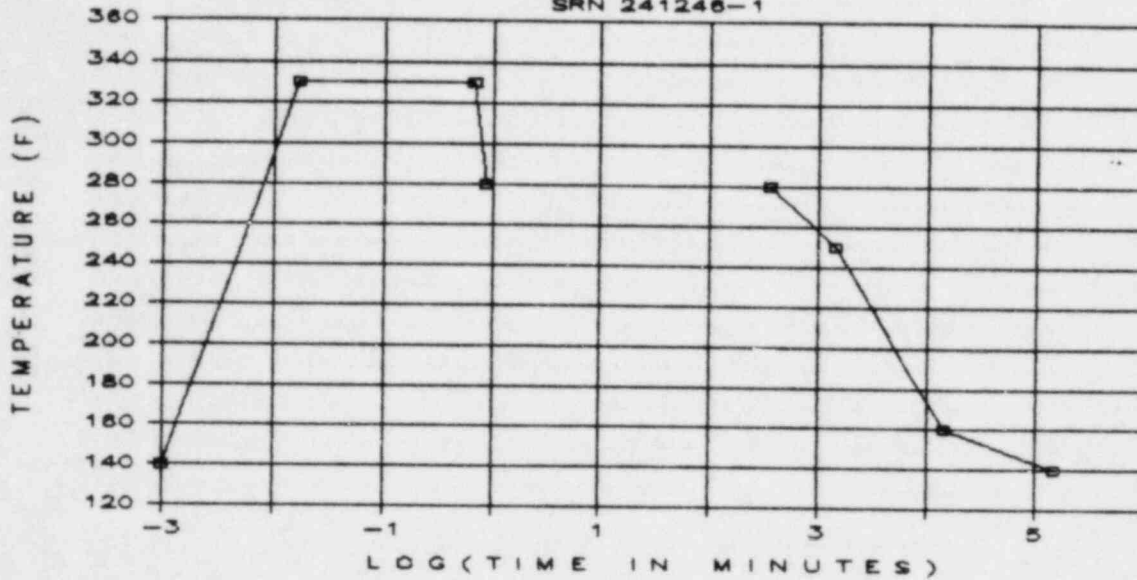
DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. Cable is rated for 75°C and qualified for 40 years (see Note 5). With a maximum normal ambient temperature of 60°C (140°F), a 15°C temperature gradient exists between conductor and environment. This is considered sufficient for instrument cable which will carry only small currents and therefore will be subject to only a minimal current heating effect.
 3. Temporary submergence in water or exposure to 100-percent RH is acceptable to cables with moisture-resistant cross-linked polyethylene insulation, of which the cable is made.
 4. 2E8 rads is the qualified total integrated dose.
 5. All but 145 circuits will be exposed during the 40-year life and accident to less than 200 Mrads; see Reference 4. The 145 circuits of Mark No. NGS14 in zone DW-2 could be exposed to 220 Mrads, and they have a reduced life expectancy of 36 years. They are listed in Appendix A to Reference 4.
 6. The 30-day test is extended to 110 days post-accident operability period by Arrhenius methodology.

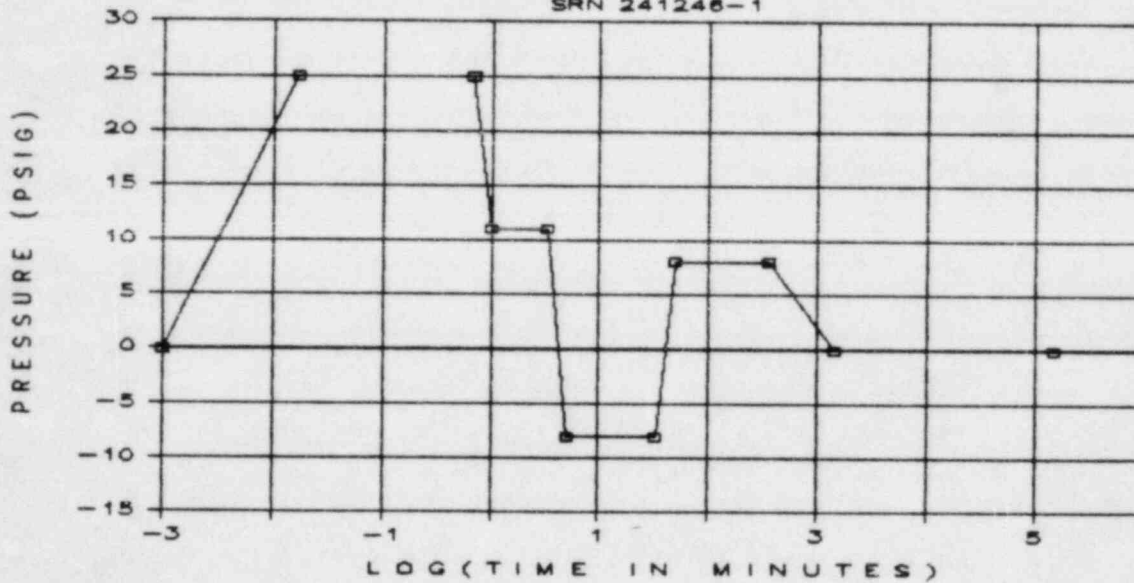
SPECIFIED ACCIDENT PROFILES

SRN 241246-1



SPECIFIED ACCIDENT PROFILES

SRN 241246-1

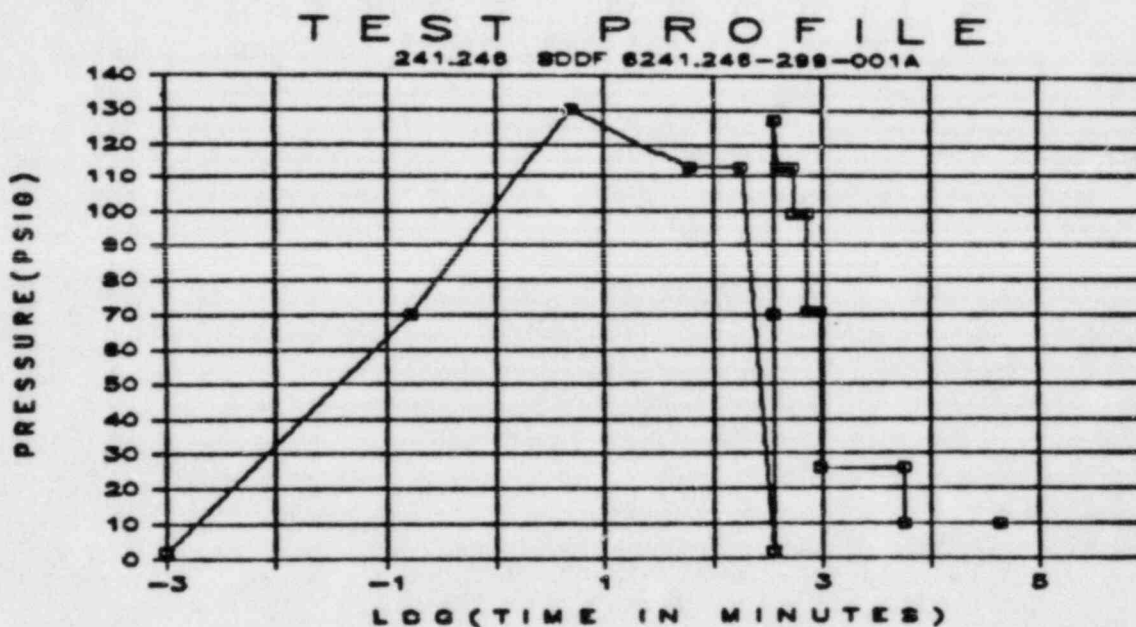
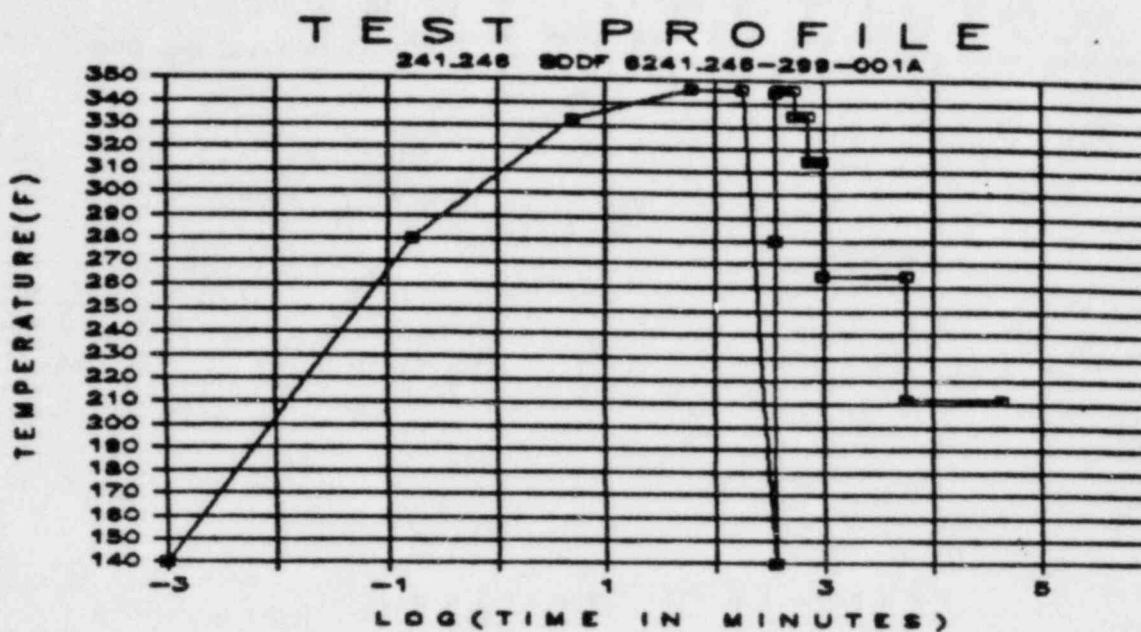


TEMPERATURE

TIME	0	1sec	40sec	52sec	6hrs	1day	10days	100days
LOG(MINUTES)	-3.00	-1.78	-0.18	-0.06	2.56	3.16	4.16	5.16
TEMP(F)	140	330	330	280	280	250	160	140
TIME(MIN)	0.001	0.0167	0.667	0.867	360	1440	14400	144000

PRESSURE

TIME	0	1sec	40sec	60sec	200sec	300sec	2000sec	3000sec	6hrs	1day	100days
LOG(MINUTES)	-3.00	-1.78	-0.18	0.00	0.52	0.70	1.52	1.70	2.56	3.16	5.16
PRES(PSIG)	0	25	25	11	11	-8	-8	8	8	0	0
TIME(MIN)	0.001	0.0167	0.667	1	3.3	5	33	50	360	1440	144000



TEST PROFILE DATA FOR 241.246 SDDF 6241.246-299-001A

TIME	0	10sec	5min	1hr	3hr	6hr	6hr10sec	6hr5min	6hr30min
LOG(MINUTES)	-3.00	-0.78	0.70	1.78	2.26	2.56	2.56	2.56	2.59
TEMP(F)	140	280	333	346	346	140	280	345	346
PRES(PSIG)	2	70	130.5	113	113	2	70	127.5	113
CONT'D									
TIME	9hr	12hr	12hr	16hr	16hr	4days	4days	30days	
LOG(MINUTES)	2.73	2.86	2.86	2.98	2.98	3.76	3.76	4.64	
TEMP(F)	335	335	315	315	265	265	212	212	
PRES(PSIG)	99	99	71	71	26	26	10	10	

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRH 242132-1
REV 0
DATE 03-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN: DEMO	REMARKS
EQUIP NO.: SEE SHEET 2	OP.TIME:	100 DAYS	>100 DAYS	3	2	AN+DATA	YES	NOTE-2
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE-1
	NORMAL	122	165	1	4	AN+DATA	NA	
	ABNORMAL	NA	NA	1	2	NA	NA	
TYPE: (DESCRIPTION)	ACCIDENT	150	165	1	4	AN+DATA	YES	
15KVA WALL MOUNTED DRY TYPE	PRESS(PSIG)							NOTE-1
TRANSFORMER	NORMAL	0	14	1	2	TEST-IDENT	NA	
	ABNORMAL	NA	14	1	2	NA	NA	
MANUFACTURER: SOUTHERN	ACCIDENT	2.4	14	1	2	TEST-IDENT	YES	
TRANSFORMER CO.	RH (%)							NOTE-1
MODEL: SEE SHEET 2	NORMAL	90	100	1	2	TEST-IDENT	NA	
	ABNORMAL	NA	NA	1	2	NA	NA	
SAFETY FUNCTION: - - -	ACCIDENT	100	100	1	2	TEST-IDENT	NA	
PROVIDE CONTROL POWER	RADIATION:							NOTE-1
FOR CAT.1 EQUIPMENT	NORM GAMMA	700		1	2		NA	
	ACC GAMMA	9E5	1E6	1.5	2	AN+DATA	YES	
OP. CODE: SEE SHEET 2	NORM BETA	0		1	2		NA	
	ACC BETA	500		1	2		YES	
	NEUTRON	0		1	2		NA	
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:	DOCUMENT REFERENCE:							
SPRAY/FROTH:	1. SPECIFICATION 242.132 REV.0, ADD.3 / E&DCR P22.124							
	2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
	SDDF # 6242.132-290-004C							
EQUIPMENT NOT SUBJECT TO	3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
SUBMERGENCE OR SPRAY/FROTH	PAOP DOCUMENT NO. 245.600, REV.0							
	4. FOR QUALIFIED 40 YR. LIFE AT 165F,							
	REFER TO CALCULATION NO. 12210-EQS-22							
DOCUMENTATION ACCEPTABILITY:	5. FOR GAMMA RADIATION DURING ACCIDENT							
ACCEPTABLE TO NUREG 0588, L. 1	SEE CALCULATION NO. 12210-PR(C)-536							
MAINT/SURVEILL - - -								
REFERENCE: NOT REQUIRED								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 4								

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN: 242132-1

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

REV. 0

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SHEET: 2A

DATE: 27 NOV - 84

MARK NO

MODEL/CATALOG NO.
REMARKSENV. ZONE
SUBNRG

QUAL. LIFE

OPTIME
CC

SRN 242132-1

SPEC 242.132

SCV STA CONT BUS (VITAL) - AC SUPPLY INCL TFR & TRANS SW

1SCV*XD2A1	SN-4475-1	AB-141-4	40 YRS	100D A
1SCV*XD2A2	SN-4475-2	AB-141-4	40 YRS	100D A
1SCV*XD2B1	SN-4475-3	AB-141-3	40 YRS	100D A
1SCV*XD2B2	SN-4475-4	AB-141-2	40 YRS	100D A
1SCV*XD2C1	SN-4475-5	AB-141-4	40 YRS	100D A
1SCV*XD2D1	SN-4475-6	AB-141-2	40 YRS	100D A
1SCV*XD2E1	SN-4475-7	AB-114-1	40 YRS	100D A
1SCV*XD2F1	SN-4475-8	AB-114-3	40 YRS	100D A
1SCV*XD2G1	SN-4475-9	AB-114-1	40 YRS	100D A
1SCV*XD2H1	SN-4475-10	AB-114-3	40 YRS	100D A
1SCV*XD2J1	SN-4475-11	AB-141-1	40 YRS	100D A
1SCV*XD2K1	SN-4475-12	AB-141-2	40 YRS	100D A

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN: 242132-1

REV: 0

SHEET: 2 B

DATE: 27-NOV-84

MARK NO

MODEL/CATALOG NO.

ENV. ZONE

QUAL. LIFE

OPTIME

REMARKS

SUBMRG

CC

SRN 242132-1

SPEC 242.132

SCV STA CONT BUS (VITAL) - AC SUPPLY INCL TFMR & TRANS SW

1SCV*XD2L1

SN-4475-13

AB-141-1

40 YRS

100D

A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 242132-1

REV 0

SHEET NO. 3

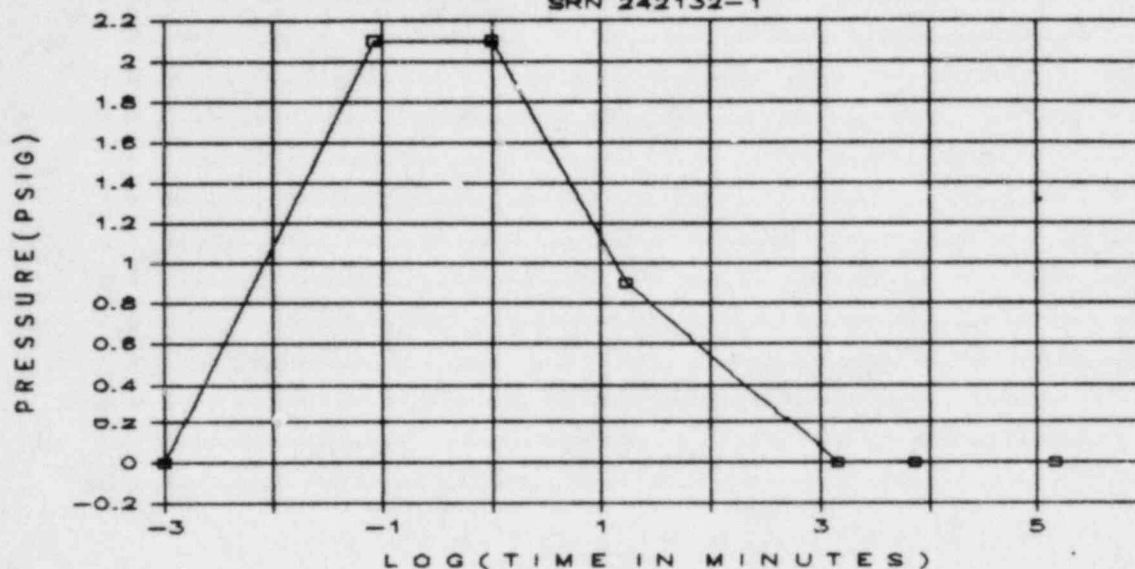
DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. Transformer is qualified to 165°F for more than 40 years.

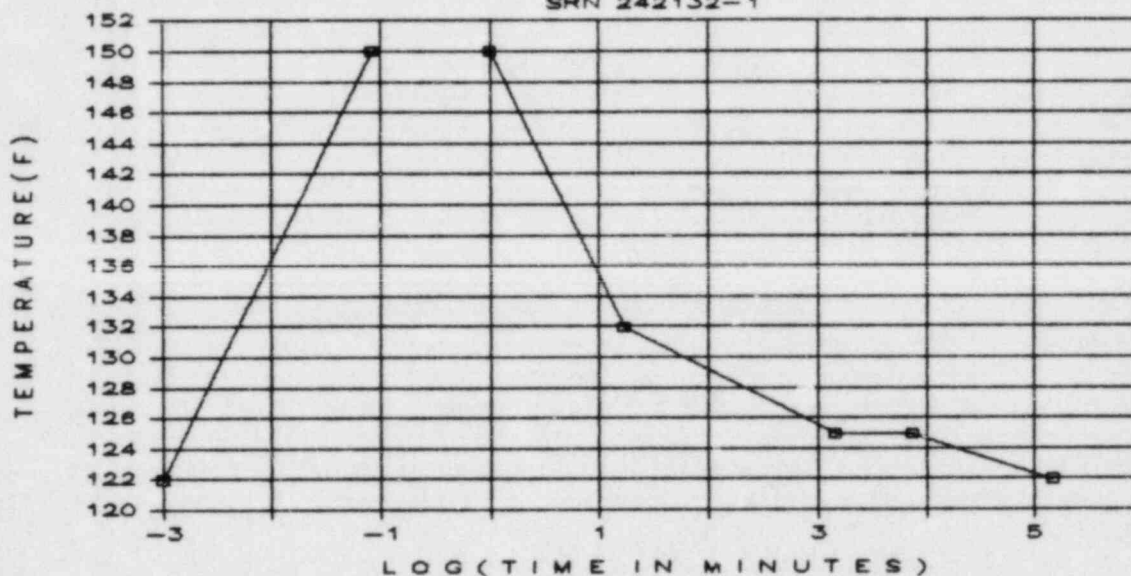
SPECIFIED ACCIDENT PROFILE

SRN 242132-1

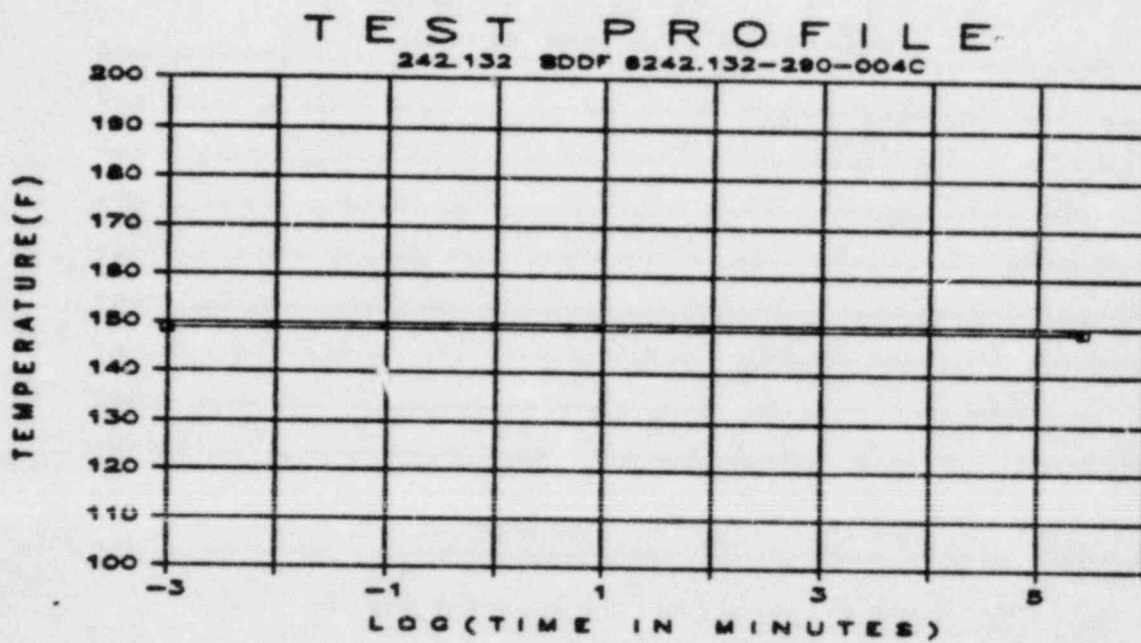


SPECIFIED ACCIDENT PROFILE

SRN 242132-1



TEMPERATURE							
TIME	0sec	5sec	60sec	1000sec	1day	5days	100days
LOG (MINUTES)	-3.00	-1.08	0.00	1.22	3.16	3.86	5.16
TEMP(F)	122	150	150	132	125	125	122
TIME(MIN)	0.001	0.083	1	16.67	1440	7200	144000
PRESSURE							
TIME	0sec	5sec	60sec	1000sec	1day	5days	100days
LOG(MINUTES)	-3.00	-1.08	0.00	1.22	3.16	3.86	5.16
PRES(PSIG)	0	2.1	2.1	0.9	0	0	0
TIME(MIN)	0.001	0.083	1	16.67	1440	7200	144000



TEST PROFILE DATA FOR 242.132 SDDF 6242.132-290-004C

TIME	0	180days
LOG(MINUTES)	-3.00	5.41
TEMP(F)	149	149

SRN 242421-1
REV 1
DATE 10-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						DATE	10-Dec-84
								SHEET 1	
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN: DEMO	REMARKS
					SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2		OP.TIME:	100 DAYS		3	2			NOTE-3
SYSTEM: SEE SHEET 2		TEMP (F):							NOTE-1
		NORMAL	122	122	1	2	TEST-IDENT	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
		ACCIDENT	150		1	2			NOTE-3
TYPE: (DESCRIPTION)		PRESS (PSIG)							NOTE-1
STANDBY 120V DISTRIBUTION		NORMAL	ATMOS	ATMOS	1	2	TEST-IDENT	NA	
PANEL		ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: SQUARE D		ACCIDENT	2.1		1	2			NOTE-3
		RH (%)							NOTE-1
MODEL: SEE SHEET 2		NORMAL	90	95	1	2	TEST-IDENT	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -		ACCIDENT	100		1	2		NA	NOTE-3
FURNISHING 120 VAC POWER		RADIATION:							NOTE-1
		NORM GAMMA	7E2		1	2		NA	
		ACC GAMMA	5.4E5	6E5	1,4	2	TEST-IDENT	YES	
OP. CODE: SEE SHEET 2		NORM BETA	0	NA	1		NA	NA	
		ACC BETA	5E2	9E5	1	2	TEST-IDENT	YES	
		NEUTRON	0	NA	1		NA	NA	
ACCURACY - -		SPRAY	NA	NA	NA	NA	NA	NA	
SPEC: NA		SUBMERGENCE	NA	NA	NA	NA	NA	NA	
DEMO: NA									
ZONE NO.: SEE SHEET 2									
SUBMERGENCE:		DOCUMENT REFERENCE:							
SPRAY/FROTH:		1. SPECIFICATION 242.421 REV.0, ADD.4 E&DCR P22,164							
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
		SDDF # 6242.421-264-005A							
EQUIPMENT NOT SUBJECT TO		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
SUBMERGENCE OR SPRAY/FROTH		PAOP DOCUMENT NO. 245.600, REV.0							
		4. CALCULATION NO. 12210-PR(C)-541-0							
DOCUMENTATION ACCEPTABILITY:									
NUREG 0588,CAT I									
QUALIFICATION IN PROGRESS									
(SEE NOTE-2,3)									
MAINT/SURVEILL - - -									
REFERENCE:									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE:									

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SAN 242421-1

REV 0

DATE 12-3-84

SHEET NO. 2A

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBIRG	QUAL. LIFE	OPTIME QC
SRN 242421-1				
SPEC 242.421				
SCV STA CONT BUS (VITAL) - AC SUPPLY INCL TFMR & TRANS SW				
1SCV*PNL2A1	NQOB	AB-141-4	100D A	
1SCV*PNL2A2	NQOB	AB-141-4	100D A	
1SCV*PNL2B1	NQOB	AB-141-3	100D A	
1SCV*PNL2B2	NQOB	AB-141-2	100D A	
1SCV*PNL2C1	NQOB	AB-141-4	100D A	
1SCV*PNL2D1	NQOB	AB-141-2	100D A	
1SCV*PNL2E1	NQOB	AB-114-1	100D A	
1SCV*PNL2F1	NQOB	AB-114-3	100D A	
1SCV*PNL2G1	NQOB	AB-114-1	100D A	
1SCV*PNL2H1	NQOB	AB-114-3	100D A	
1SCV*PNL2J1	NQOB	AB-141-1	100D A	
1SCV*PNL2K1	NQOB	AB-141-2	100D A	

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 242421-1
REV D
DATE 12-3-84
SHEET NO. 2 B

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME OC
SRN 242421-1				
SPEC 242.421				
SCV STA CONT BUS (VITAL) - AC SUPPLY INCL TFHR & TRANS SH				
1SCV*PNL2L1	NQOB	AB-141-1	100D A	
HCS HYDROGEN RECOMBINER, IGNITERS				
1HCS*PNL01A2	NQOB	AB-141-1	100D A	
1HCS*PNL01B2	NQOB	AB-141-2	100D A	

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 242421-1

REV 0

SHEET NO. 3

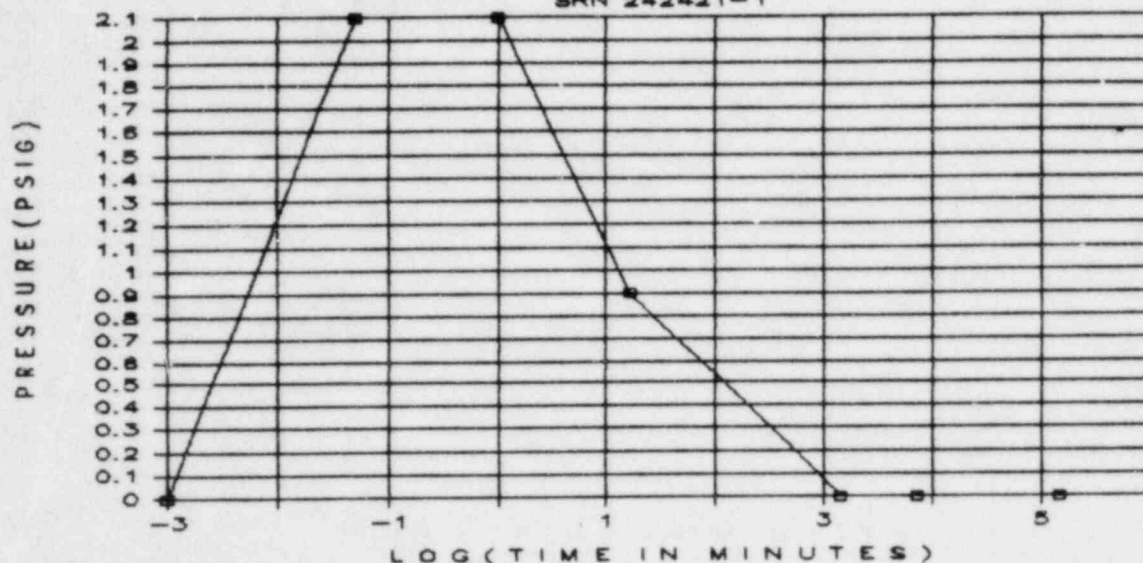
DATE 11/28/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. The vendor has completed its qualification testing; however, test anomalies involving breaker openings occurred at elevated temperatures.
 3. Additional analysis is being performed to lower the specified temperature value. In addition, analysis is being performed to accept the qualification anomalies which occurred by determining and using maximum expected current levels and breaker performance data as a function of current and temperature.

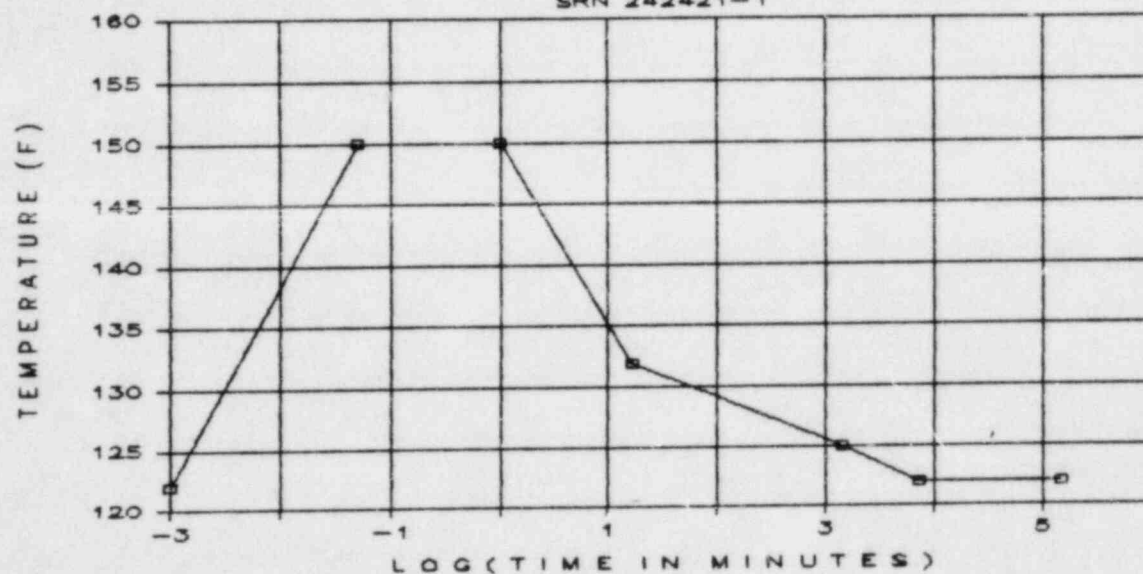
SPECIFIED ACCIDENT PROFILES

SRN 242421-1



SPECIFIED ACCIDENT PROFILES

SRN 242421-1



SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION: 242421

TEMPERATURE							
TIME	0	5sec	60sec	1000sec	1day	5days	100days
LOG(MINU	-3.00	-1.30	0.00	1.21	3.16	3.86	5.16
TEMP(F)	122	150	150	132	125	122	122
TIME(MIN)	0.001	0.05	1	16.4	1440	7200	144000
PRESSURE							
TIME	0	5sec	60sec	1000sec	1day	5days	100days
LOG(MINUT	-3.00	-1.30	0.00	1.21	3.16	3.86	5.16
PRES(PSIG	0	2.1	2.1	0.9	0	0	0
TIME(MIN)	0.001	0.05	1	16.4	1440	7200	144000

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 242444-1
REV 1
DATE 13-DEC-84
SHEET 1

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
	PARAMETER	SPECIFIED	QUALIFIED	DOCUMENT REFERENCE		QUAL	MARGIN	REMARKS
		VALUE	VALUE	SPECIFIED	QUALIFIED	METHOD	DEMO	
EQUIP NO.: SEE SHEET 2	OP. TIME:	N.R.	N.A.	3	2	NA	NA	
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE-1
	NORMAL	104	104	1	2	TEST-SIM	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)	ACCIDENT	NA	NA	NA	NA	NA	NA	
CONTROL RELAY BOARD	PRESS (PSIG)							NOTE-1
	NORMAL	ATMOS.	ATMOS	1	2	TEST-SIM	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: EM	ACCIDENT	NA	NA	NA	NA	NA	NA	
	RH (%):							NOTE-1
MODEL: SEE SHEET 2	NORMAL	40	55	1	2	TEST-SIM	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -	ACCIDENT	NA	NA	NA	NA	NA	NA	
PROVIDE CONTROL FOR	RADIATION:							NOTE-1
CONTAINMENT PURGE SYSTEM	NORM GAMMA	7E3 TID	1E4	1	2	TEST-SIM	NA	
	ACC GAMMA					NA	NA	
OP. CODE: SEE SHEET 2	NORM BETA					NA	NA	
	ACC BETA					NA	NA	
	NEUTRON					NA	NA	
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:								
SPRAY/FROTH:								
EQUIPMENT NOT SUBJECT TO								
SUBMERGENCE OR SPRAY/FROTH								
DOCUMENTATION ACCEPTABILITY:								
ACCEPTABLE TO NUREG 0588, CAT I								
MAINT/SURVEILL - - -								
REFERENCE: NOT REQUIRED								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 2								

DOCUMENT REFERENCE:

1. SPECIFICATION 242.444 ADD.4 / E&DCR P40,746
2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6242.444-275-002A, -041A AND -042A
3. POST-ACCIDENT OPERABILITY PERIOD: SEE PAOP DOCUMENT NO. 245.600, REV.0

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 242444 -1
REV 0
SHEET NO. 2
DATE 11/27/84

MARK NO
MODEL/CATALOG NO.
REMARKS
ENV. ZONE
SUBMRG
QUAL. LIFE
OPTIME
CC

SRN 242444-1

SPEC 242.444

CPP CONTAINMENT PURGE

1CPP*PNL102

NONE, UNIQUE
N/D FOR SAFETY FUNCTION
AB-170-2
40 YEARS
N/R
C

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 242444-1

REV 0

SHEET NO. 3

DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see the document referenced.

SRN 242491-1
REV 0
DATE 05-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						DATE	05-Dec-84
		PARAMETER		SPECIFIED	QUALIFIED	DOCUMENT REFERENCE		MARGIN	REMARKS
		VALUE	VALUE	SPECIFIED	QUALIFIED	METHOD	DEMO		
EQUIP NO.: SEE SHEET 2		OP.TIME:	100 DAYS	>100 DAYS	3	2	AN+DATA	YES	
SYSTEM: SEE SHEET 2		TEMP (F):							NOTE-1
		NORMAL	122	134	1	2	TEST-IDENT	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)		ACCIDENT	160	175	1	2	TEST-IDENT	YES	NOTE-2
TERMINAL CABINET		PRESS (PSIG)							NOTE-1
TERMINAL BOARDS		NORMAL	ATMOS	ATMOS	1	2	TEST-IDENT	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: GE		ACCIDENT	2.6	ATMOS	1	2	AN+DATA		NOTE-3
		TEMP (%):							NOTE-1
MODEL: SEE SHEET 2		NORMAL	90	98	1	2	TEST-IDENT	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -		ACCIDENT	100	98	1	2	TEST-IDENT	NA	NOTE-4
LOW VOLTAGE CONTROL		RADIATION:							NOTE-1
TERMINATIONS & CKT CONTINUITY		NORM GAMMA:			1	2			
		ACC GAMMA:	1.2E6 TID	1.2E6	1	2	AN+DATA	YES	NOTE-5
		NORM BETA:			1	2			
		ACC BETA:			1	2			
		NEUTRON:			1	2			
ACCURACY - -		SPRAY:	NA	NA	NA	NA	NA	NA	
		SUBMERGENCE:	NA	NA	NA	NA	NA	NA	
SPEC: NA									
DEMO: NA									
ZONE NO.: SEE SHEET 2									
SUBMERGENCE:		DOCUMENT REFERENCE:							
SPRAY/FROTH:		1. SPECIFICATION 242.491 ADD.3 / E&DCR P22,152							
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDE # 6242.491-310-002C							
EQUIPMENT NOT SUBJECT TO		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
SUBMERGENCE OR SPRAY/FROTH		PAOP DOCUMENT NO. 245.600, REV.0							
		4. CALCULATION NO. 12210-E03-27							
DOCUMENTATION ACCEPTABILITY:									
ACCEPTABLE TO NUREG 0589,CAT I									
MAINT/SURVEILL - - -									
REFERENCE: NOT REQUIRED									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE: 2,4									

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 242 491-1

REV 0

SHEET NO 2A

DATE 12/3/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME OC
SRN 242491-1				
SPEC 242.491				
RCP ELECTRICAL PENETRATIONS				
1RCP*TCA01	EB-25	AB-114-6	40 YRS	100D A
1RCP*TCA02	EB-25	AB-114-6	40 YRS	100D A
1RCP*TCA03	EB-25	AB-114-6	40 YRS	100D A
1RCP*TCA04	EB-25	AB-114-6	40 YRS	100D A
1RCP*TCA06	EB-25	AB-114-5	40 YRS	100D A
1RCP*TCA08	EB-25	AB-114-5	40 YRS	100D A
1RCP*TCA09	EB-25	AB-114-5	40 YRS	100D A
1RCP*TCA10	EB-25	AB-114-5	40 YRS	100D A
1RCP*TCA12	EB-25	AB-141-4	40 YRS	100D A
1RCP*TCA15	EB-25	AB-141-3	40 YRS	100D A
1RCP*TCF01	EB-25	FB-113-G	40 YRS	100D A
1RCP*TCF03	EB-25	FB-113-G	40 YRS	100D A

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 242 491-1
REV 0
SHEET NO 2B
DATE 12/3/84

MARK NO
MODEL/CATALOG NO.
REMARKS
ENV. ZONE
SUBMRG
QUAL. LIFE
OPTIME
OC

SRN 242491-1

SPEC 242.491

RCP ELECTRICAL PENETRATIONS

1RCP*TCF04

EB-25

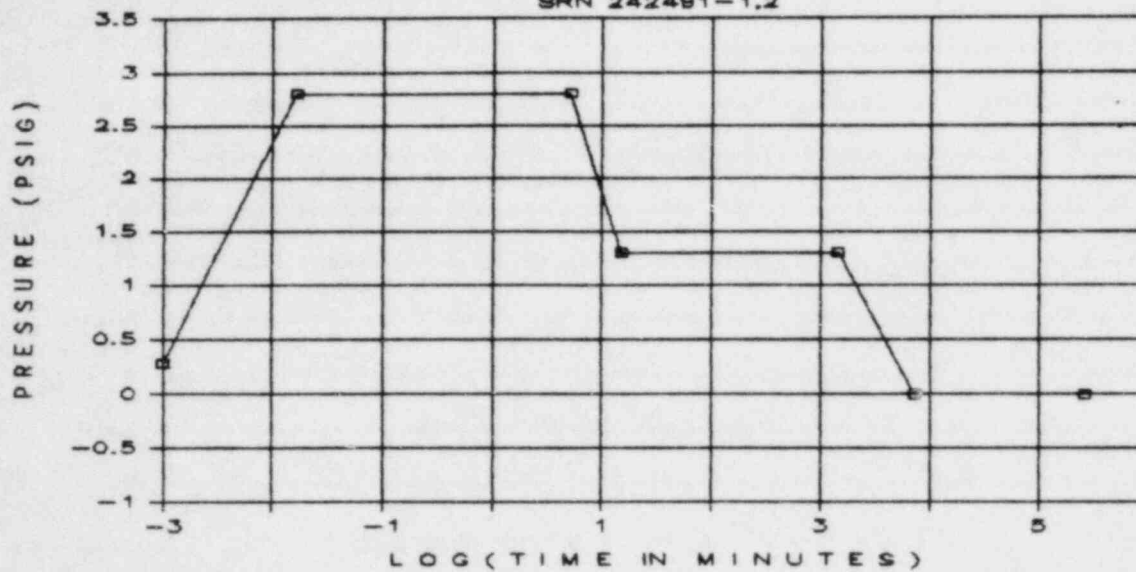
FB-113-G

40 YRS

1000
A

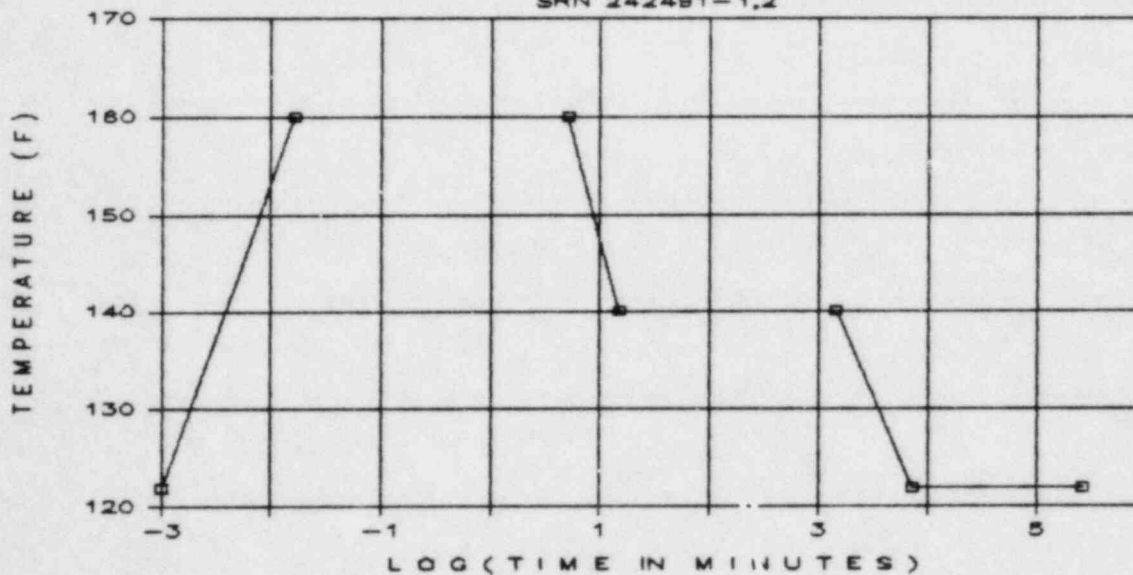
SPECIFIED ACCIDENT PROFILES

SRN 242491-1,2



SPECIFIED ACCIDENT PROFILES

SRN 242491-1,2



TEMPERATURE							
TIME	0	1sec	5min	15min	1day	5days	180days
LOG (MINUTES)	-3.00	-1.78	0.70	1.18	3.16	3.86	5.41
TEMP(F)	122	160	160	140	140	122	122
TIME(MIN)	0.001	0.0167	5	15	1440	7200	259200
PRESSURE							
TIME	0	1sec	5min	15min	1day	5days	180days
LOG (MINUTES)	-3.00	-1.78	0.70	1.18	3.16	3.86	5.41
PRES(PSIG)	0.28	2.8	2.8	1.3	1.3	0	0
TIME(MIN)	0.001	0.0167	5	15	1440	7200	259200

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 242491-1

REV 0

SHEET NO. 3

DATE 11/30/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. Terminal blocks are tested at 125°C for operation. 175°F (79.4°C) temperature is used for operability period of 100 days plus margin.
 3. Specified pressure will have no effect on terminal board operation.
 4. Ninety-eight percent tested RH covers the 100-percent specified value for noncondensing relative humidity because of slight internal cabinet heat rise. Margin is not applicable.
 5. Specified and qualified radiation values include both gamma and beta. Specified value includes margin.

SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						DATE	03-Dec-84
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		DUAL METHOD	MARGIN DEMO	REMARKS
					SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2		OP. TIME:	100 DAYS	>100 DAYS	3	2	TESY-IDENT	YES	
SYSTEM: SEE SHEET 2		TEMP (F):							NOTE-1
		NORMAL	122	130	1	2	TESY-IDENT	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)		ACCIDENT	160	360	1	2	TEST-IDENT	YES	
TERMINAL CABINET SPLICE		PRESS (PSIG)							NOTE-1
SEE NOTE-2		NORMAL	ATMOS	ATMOS	1	2	TEST-IDENT	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: RAYCHEM		ACCIDENT	2.8	70	1	2	TEST-IDENT	YES	
		RH (%)							NOTE-1
MODEL: SEE SHEET 2		NORMAL	90	100	1	2	TEST-IDENT	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -		ACCIDENT	100	100	1	2	TEST-IDENT	NA	
LOW VOLTAGE CONTROL		RADIATION:							NOTE-1
TERMINATION & CKT CONTINUITY		NORM GAMMA							
		ACC GAMMA	1.2E6 TID	2EB	1	2	TEST-IDENT	YES	NOTE-3
OP. CODE: SEE SHEET 2		NORM BETA							
		ACC BETA							
		NEUTRON							
ACCURACY - -		SPRAY	NA	NA	NA	NA	NA	NA	
		SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA									
DEMO: NA									
ZONE NO.: SEE SHEET 2									
SUBMERGENCE:		DOCUMENT REFERENCE:							
SPRAY/FROTH:		1. SPECIFICATION 242.491 ADD.3 / E&DCR P22,152							
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
EQUIPMENT NOT SUBJECT TO		SDDF # 6211.161-997-015A & 016A							
SUBMERGENCE OR SPRAY/FROTH		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
		PAOP DOCUMENT NO. 245.600, REV.0							
DOCUMENTATION ACCEPTABILITY:									
ACCEPTABLE TO NUREG 0588,CAT I									
MAINT/SURVEILL - - -									
REFERENCE: NOT REQUIRED									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE: 2									

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 242 491-2
REV 0
SHEET NO 2
DATE 12/3/84

HARK NO

MODEL/CATALOG NO. REMARKS	ENV. ZONE SUSHRG	QUAL. LIFE	OPTIME OC
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SRN 242491-2

SPEC 242.491

RCP ELECTRICAL PENETRATIONS

1RCP*TCA05		AB-114-6	40 YRS	100D
1RCP*TCA07	SPLICE	AB-114-5	40 YRS	A 100D
1RCP*TCA11	SPLICE	AB-141-4	40 YRS	A 100D
	SPLICE			A
1RCP*TCA13		AB-141-4	40 YRS	100D
	SPLICE			A
1RCP*TCA14		AB-141-3	40 YRS	100D
	SPLICE			A
1RCP*TCA16		AB-141-3	40 YRS	100D
	SPLICE			A
1RCP*TCF02		FB-113-6	40 YRS	100D
	SPLICE			A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 242491-2

REV 0

SHEET NO. 3

DATE 11/30/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. The splices used in these terminal cabinets are qualified by vendor qualification reports, SDDF No. 6211.161-997-015A and 016A and procured under Specification No. 211.161.
 3. Qualified radiation values include both gamma and beta.

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 242491-3
REV 0
DATE 05-Dec-84
SHEET 1

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

EQUIPMENT DESCRIPTION	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	REMARKS
				SPECIFIED	QUALIFIED			
EC IP NO.: SEE SHEET 2	OP.TIME:	100 DAYS	>100 DAYS	3	2	TEST-IDENT	YES	
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE-1
	NORMAL	90	130	1	2	TEST-IDENT	NA	
	ABNORMAL	140	221	1	2	TEST-IDENT	NA	
TYPE: (DESCRIPTION)	ACCIDENT	165	360	1	2	TEST-IDENT	YES	
TERMINAL CABINET SPLICE SEE NOTE-2	PRESS (PSIG)							NOTE-1
	NORMAL	-1.0" H2O	ATMOS	1	2	TEST-IDENT	NA	
	ABNORMAL	2.3	2.5	1	2	TEST-IDENT	NA	
MANUFACTURER: RAYCHEM	ACCIDENT	9	70	1	2	TEST-IDENT	YES	
	RH (%)							NOTE-1
MODEL: SEE SHEET 2	NORMAL	50	100	1	2	TEST-IDENT	NA	
	ABNORMAL	100	100	1	2	TEST-IDENT	NA	
SAFETY FUNCTION: - - -	ACCIDENT	100	100	1	2	TEST-IDENT	NA	
LOW VOLTAGE CONTROL	RADIATION:							NOTE-1
TERMINATIONS & CKT CONTINUITY	NORM GAMMA							
	ACC GAMMA	1.8EB TID	2EB TID	1	2	TEST-IDENT	YES	NOTE-3
OP. CODE: SEE SHEET 2	NORM BETA							
	ACC BETA							
	NEUTRON							
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:	DOCUMENT REFERENCE:							
SPRAY/FROTH:	1. SPECIFICATION 242.491 ADD.3 & E&DCR P22,152							
	2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6211.161-997-015A & 016A							
EQUIPMENT NOT SUBJECT TO SUBMERGENCE OR SPRAY/FROTH	3. POST-ACCIDENT OPERABILITY PERIOD: SEE PAOP DOCUMENT NO. 245.600, REV.0							
DOCUMENTATION ACCEPTABILITY:								
ACCEPTABLE TO NUREG 0588,CAT I								
MAINT/SURVEILL - - -								
REFERENCE: NOT REQUIRED								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 2								

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 242 491-3

REV 0

SHEET NO 2A

DATE 12/3/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBSRG	QUAL. LIFE	OPTIME OC
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SRN 242491-3

SPEC 242.491

RCP ELECTRICAL PENETRATIONS

1RCP*TCR01A	SPLICE	CT-G	40 YRS	1000 A
1RCP*TCR01F	SPLICE	CT-G	40 YRS	1000 A
1RCP*TCR02A	SPLICE	CT-G	40 YRS	1000 A
1RCP*TCR02F	SPLICE	CT-G	40 YRS	1000 A
1RCP*TCR03A	SPLICE	CT-G	40 YRS	1000 A
1RCP*TCR03F	SPLICE	CT-G	40 YRS	1000 A
1RCP*TCR04A	SPLICE	CT-G	40 YRS	1000 A
1RCP*TCR04F	SPLICE	CT-G	40 YRS	1000 A
1RCP*TCR05A	SPLICE	CT-G	40 YRS	1000 A
1RCP*TCR06A	SPLICE	CT-G	40 YRS	1000 A
1RCP*TCR07A	SPLICE	CT-G	40 YRS	1000 A
1RCP*TCR08A	SPLICE	CT-G	40 YRS	1000 A

SRN 242 491-3
REV 0
SHEET NO 2B
DATE 12/3/84

MARK NO

ENV. ZONE

QUAL. LIFE

OPTIME

SUBIRG

06

SPEC 242.491

RCP ELECTRICAL PENETRATIONS

SPLICE

CT-G

40 YRS

1000

A

SPLICE

CT-G

40125

1000

A

SPLICE

CT-7A

40 YRS

1000

A

SPLICE

CT-7A

40 YRS

1000

A

SPLICE

CT-7A

40 YRS

1000

A

SPLICE

CT-5A

40 YRS

1000

A

SPLICE

CT-5A

40 YRS

1009

A

CT-5A

40 v. 25

100D

A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 242491-3

REV 0

SHEET NO. 3

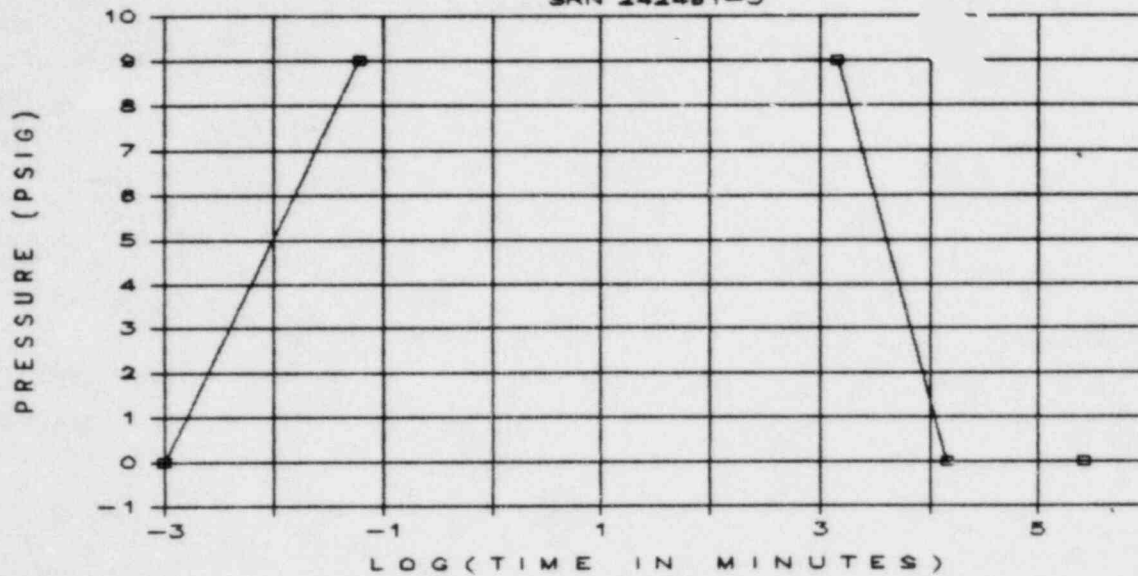
DATE 11/30/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. The splices used in these terminal cabinets are qualified by vendor qualification reports, SDDF No. 6211.161-997-015A and 016A and procured under Specification No. 211.161.
 3. Qualified radiation values include both gamma and beta.

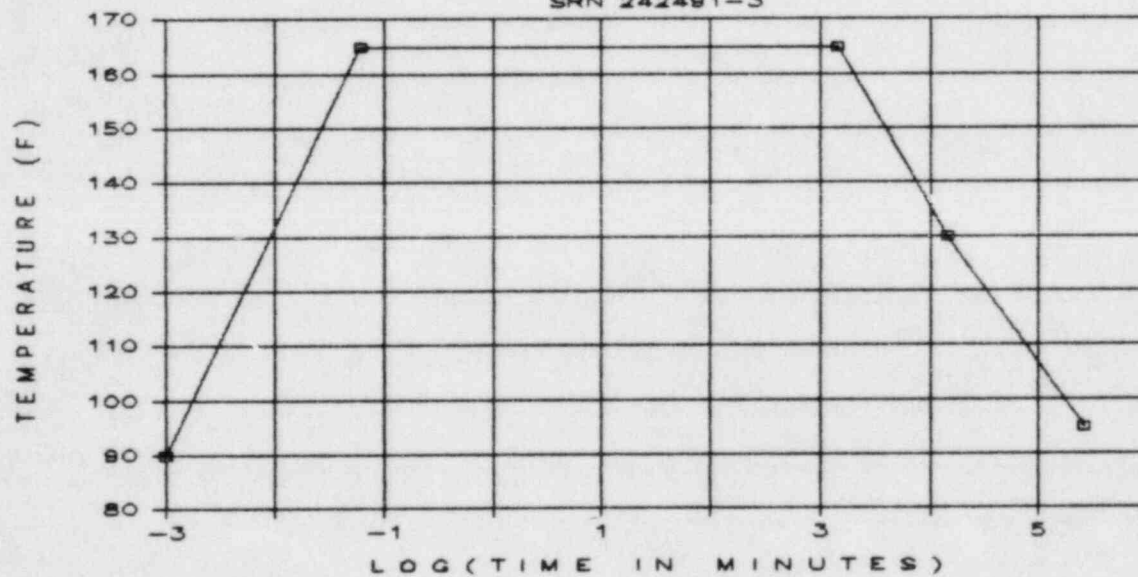
SPECIFIED ACCIDENT PROFILES

SRN 242491-3



SPECIFIED ACCIDENT PROFILES

SRN 242491-3

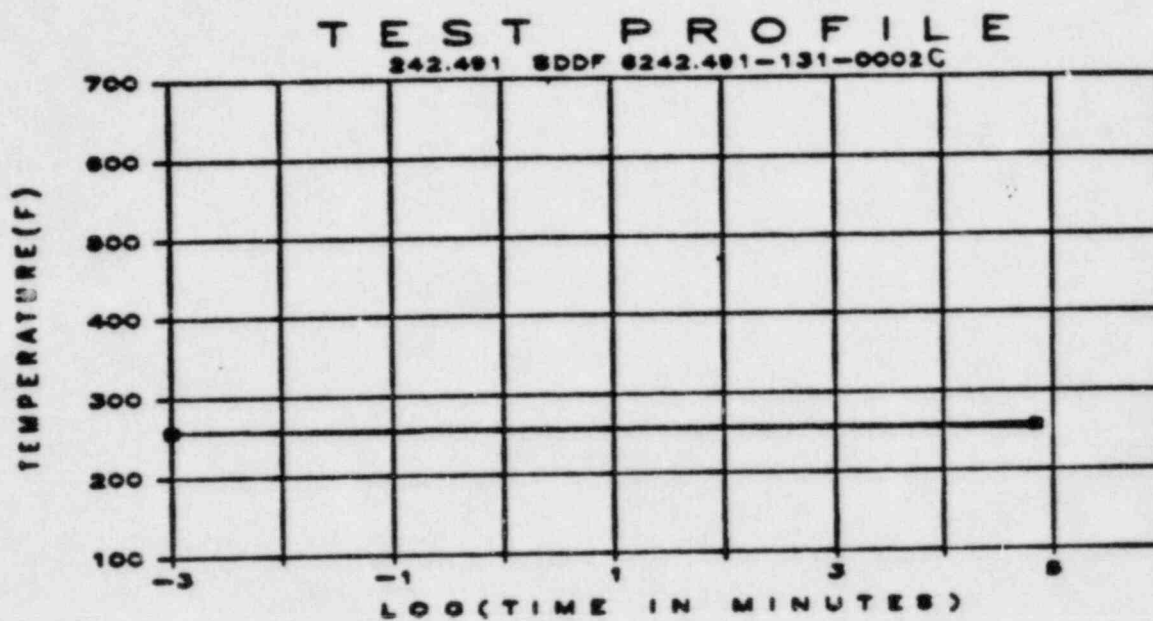


TEMPERATURE

TIME	0	6sec	1day	10days	180days	
LOG(MINUTES)	-3.00	-1.22	3.16	4.16	5.41	
TEMP(F)	90	165	165	130	95	85
TIME(MIN)	0.001	0.06	1440	14400	259200	

PRESSURE

TIME	0	6sec	1day	10days	180days	
LOG(MINUTES)	-3.00	-1.22	3.16	4.16	5.41	
PRES(PSIG)	0	9	9	0	0	-1
TIME(MIN)	0.001	0.06	1440	14400	259200	



TEST PROFILE DATA FOR 242.491 SDDF 6242.491-131-0002B

TIME	0	1196hr
LOG(MINUTES)	-3.00	4.86
TEMP (F)	257	257

SRN 242521-1
REV 0
DATE 06-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						DATE	06-Dec-84
		SHEET 1							
		DOCUMENT REFERENCE							
		PARAMETER	SPECIFIED	QUALIFIED			DUAL	MARGIN	REMARKS
		VALUE	VALUE	SPECIFIED	QUALIFIED	METHOD	DEMO		
EQUIP NO.: SEE SHEET 2		OP. TIME:	1 HOUR	>100 DAYS	3	2	AN + DATA	YES	
SYSTEM: SEE SHEET 2		TEMP (F):							NOTE 1
		NORMAL	96	122	1	2	AN + DATA	NA	
		ABNORMAL	145	149	1	2	AN + DATA	NA	
TYPE: (DESCRIPTION)		ACCIDENT	145	149	1	2	AN + DATA	YES	
		PRESS (PSIG)							NOTE 1
5KV SWITCHGEAR		NORMAL	-0.25" WG	ATMOS	1	2	NA + DATA	NA	
		ABNORMAL	-0.62" WG	ATMOS	1	2	AN + DATA	NA	
MANUFACTURER:		ACCIDENT	-0.62" WG	ATMOS	1	2	AN + DATA	YES	
BROWN BOVERI ELECTRIC		RH (%):							NOTE 1
MODEL: SEE SHEET 2		NORMAL	55	90	1	2	AN + DATA	NA	
		ABNORMAL	26	90	1	2	AN + DATA	NA	
SAFETY FUNCTION: - - -		ACCIDENT	26	90	1	2	AN + DATA	NA	
TO TRIP CS PUMPS WHEN		RADIATION:							NOTE 1
A LOCA OL IRS		NORM GAMMA	4.702E3		1,4		AN + DATA	NA	
		ACC GAMMA	7.8E2	7.1E4	1,4	2	AN + DATA	YES	NOTE 2
OP. CODE: SEE SHEET 2		NORM BETA	0		1			NA	
		ACC BETA	6E2	8E5	1	2	AN + DATA	YES	
		NEUTRON	0		1			NA	
ACCURACY - -		SPRAY	NA	NA	NA	NA	NA	NA	
SPEC: NA		SUBMERGENCE	NA	NA	NA	NA	NA	NA	
DENO: NA									
ZONE NO.: SEE SHEET 2									
SUBMERGENCE:		DOCUMENT REFERENCE:							
SPRAY/FROTH:		1. SPECIFICATION 242.521 REV.1 ADD.6 & E&DCR NO. P-22.185B							
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
EQUIPMENT NOT SUBJECTED TO		SDDF # 6242.521-102-007D							
SUBMERGENCE OR SPRAY/FROTH		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
CONDITIONS		PAOP DOCUMENT NO. 245.600, REV.0							
		EEDT NO. 93 & 95 REV. 1							
DOCUMENTATION ACCEPTABILITY:		4. CALCULATION NO. 12210-PR(C)-550							
ACCEPTABLE TO NUREG 0588,CAT I		5. VENDOR MAINTENENCE MS 3.2.1.9-1A							
MAINT/SURVEILL - - -									
REFERENCE: 5									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE: 2									

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 242521-1
REV 0
SHEET NO. 2A
DATE 27 Nov 84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME CC
SRN 242521-1				
SPEC 242.521				
ENS SHGR STANDBY 4160V - SYSTEM				
SENS SHG3A	SHK250	FB-095-G	40 YEARS	1HR A

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM -- HARSH ENVIRONMENT ONLY

SRN 242521-1
REV 0
SHEET NO. 22
DATE 27 NOV 84

MARK NO

MODEL/CATALOG NO.
REMARKS

ENV. ZONE
SUSIRO

QUAL. LIFE

OPTIME
CC

SRN 242521-1

SPEC 242.521

ENS SNGR STANDBY 4160V - SYSTEM

1ENS*SHG9A

5HK250

FB-095-G

40 YEARS

IHR
A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 242521-1

REV 0

SHEET NO. 3

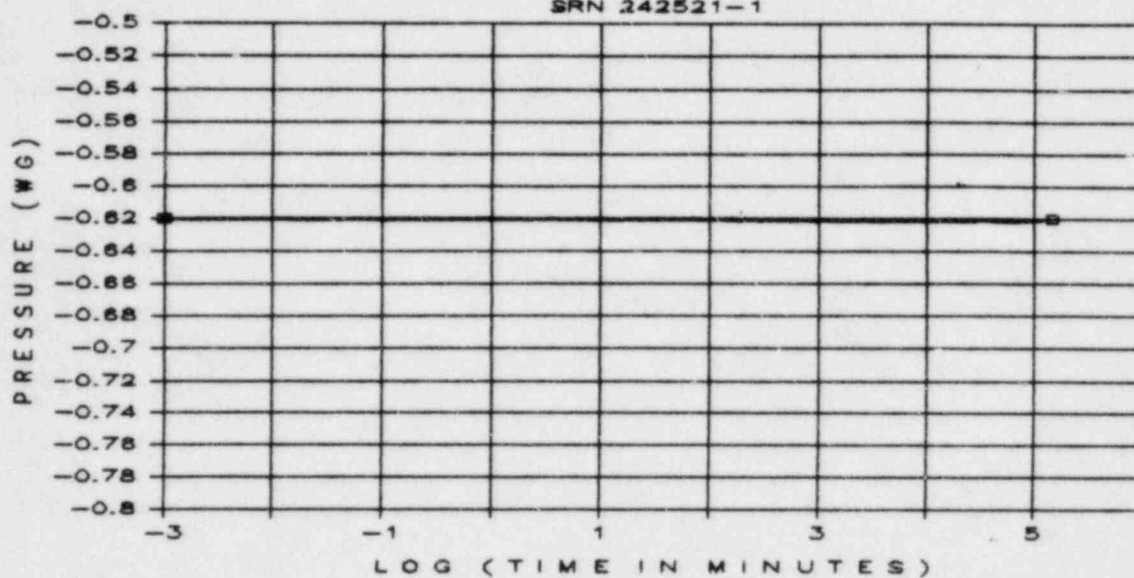
DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. Total qualified radiation dose of $7.1E4$ rads of gamma exceeds total specified radiation of gamma plus margin.

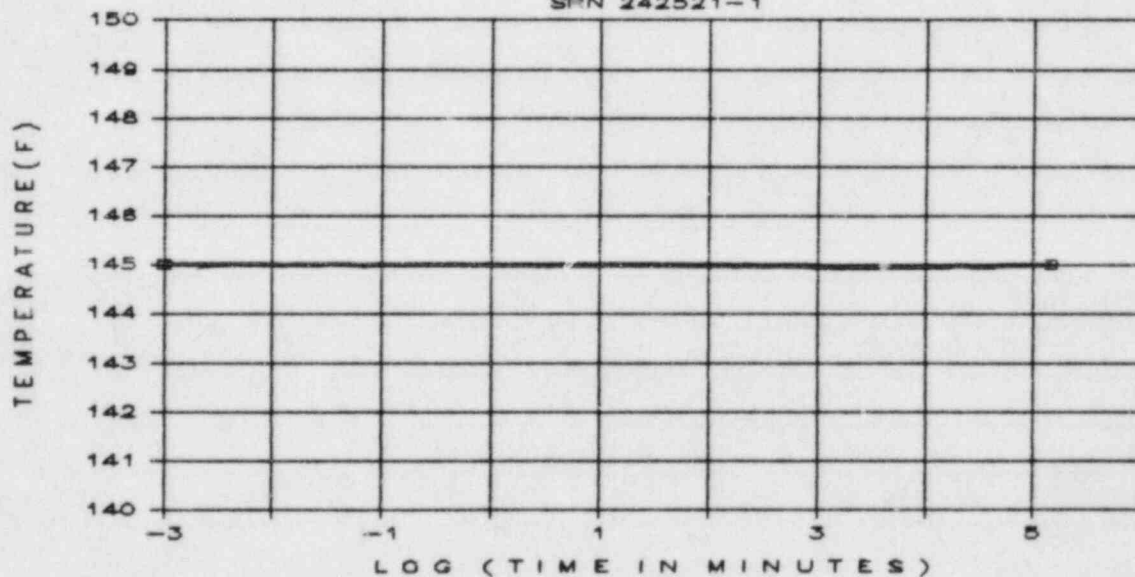
SPECIFIED ACCIDENT PROFILE

SRN 242521-1



SPECIFIED ACCIDENT PROFILE

SRN 242521-1



SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION: 242521

TEMPERATURE - - - - -				
TIME	0	100days		
LOG (MINUTES)	-3.00	5.16		
TEMP (F)	145	145	140	150
TIME (MIN)	0.001	144000		
PRESSURE - - - - -				
TIME	0	100days		
LOG (MINUTES)	-3.00	5.16		
PRES (WG)	-0.62	-0.62	-0.5	-0.8
TIME (MIN)	0.001	144000		

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 242521-2
REV 1
SHEET NO 2A
DATE 27 NOV 84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUCHRG	QUAL. LIFE	OPTIME OC
---------	------------------------------	---------------------	------------	--------------

SRN 242521-2

SPEC 242.521

ENS SHGR STANDBY 4160V - SYSTEM

LENS*SHG3B

SHK250

AB-119-6

40 YEARS

1HR
A

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 242521-2
REV. 1
SHEET NO 2B
DATE 27 NOV 84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUCHRG	QUAL. LIFE	OPTIME CC
SRN 242521-2				
SPEC 242.521				
ENS SNCR STANDBY 4160V - SYSTEM				
1ENS*SN64B	5HKC50	AB-114-6	40 YEARS	1HR A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

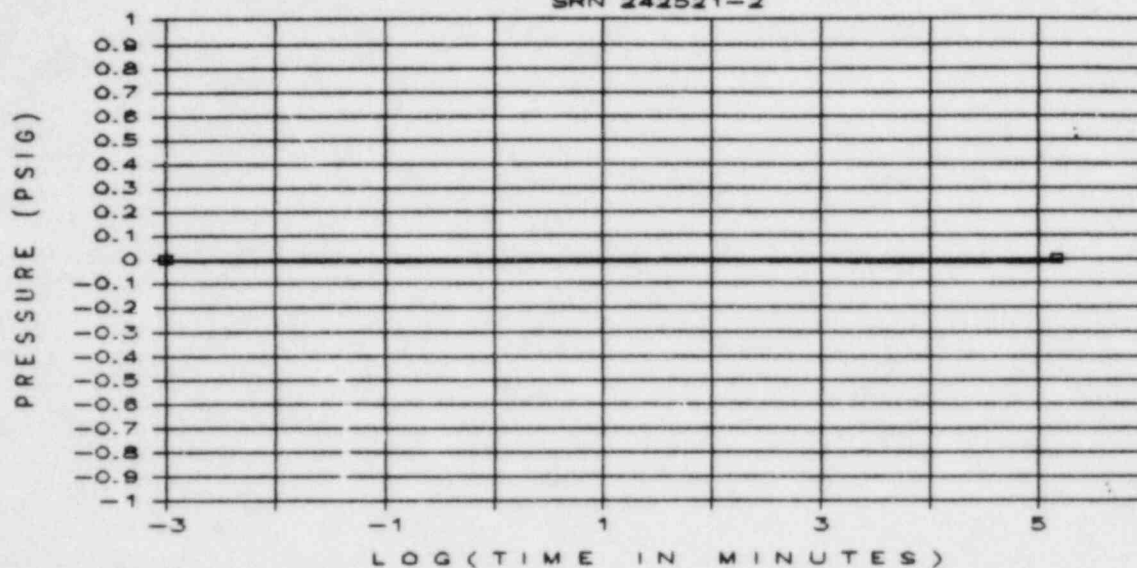
SRN 242521-2
REV 0
SHEET NO. 3
DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. The specified values are for LOCA conditions. The switchgear is not required to operate during a HELB. Justification of the technical bases for the placement of this switchgear in OP Code C will be addressed in the EQD.
 3. The operability period for switchgear is 1 hr. TID of gamma for 6 hr is 1.414E4 rads. Qualified integrated dose of 7.1E4 exceeds TID for 6 hr plus margin. TID of gamma for 180 days is 1.6E5 rads. Justification of the technical bases for the placement of this switchgear in OP Code C will be addressed in the EQD.
 4. Total qualified radiation dose of 7.1E4 rads of gamma exceeds total specified radiation of gamma plus margin.

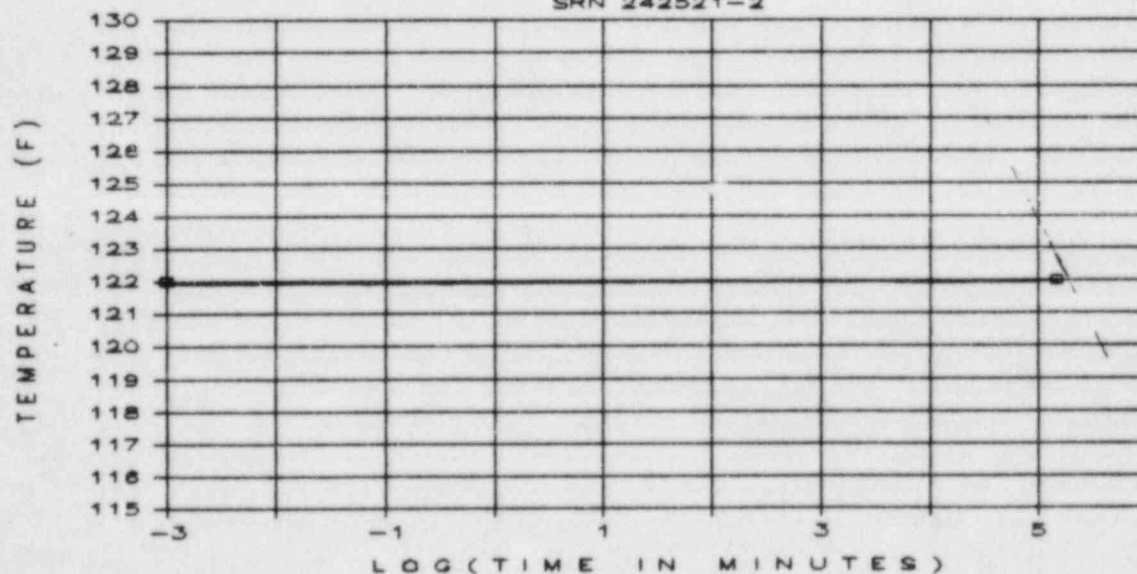
SPECIFIED ACCIDENT PROFILES

SRN 242521-2



SPECIFIED ACCIDENT PROFILES

SRN 242521-2



TEMPERATURE					
TIME	0	100days			
LOG(MINUTES)	-3.00	5.16			
TEMP(F)	122	122	115	125	130
TIME(MIN)	0.001	144000			
PRESSURE					
TIME	0	100days			
LOG(MINUTES)	-3.00	5.16			
PRES(PSIG)	0	0	-1	1	
TIME(MIN)	0.001	144000			

FIG. 1. CONCENTRATION OF POLYMER IN THE REACTION

[illegible][illegible]

DOCUMENT REFERENCE :

1. SPECIFICATION 242,553 REV.1, ADD.1 / E31
2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDR # 6242,553-285-012A
3. POST-OCCUPANT OCCUPANCY PERIOD: SEE PAFR DOCUMENT NO. 245,600, REV.0

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 242533-1

REV 0

DATE 12-3-84

SHEET NO. 2

```
*****
MARK NO                                MODEL/CATALOG NO.  ENV. ZONE  QUAL. LIFE  OPTIME
                                      REMARKS          SUBIRG      OC
*****
```

SRN 242533-1

SPEC 242.533

EJS UNIT SUBSTATION STANDBY SYSTEM

1EJS=LDC2A

AKDG

AB-141-1

1000

A

1EJS=LDC2B

AKDG

AB-141-2

1000

A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 242533-1

REV 0

SHEET NO. 3

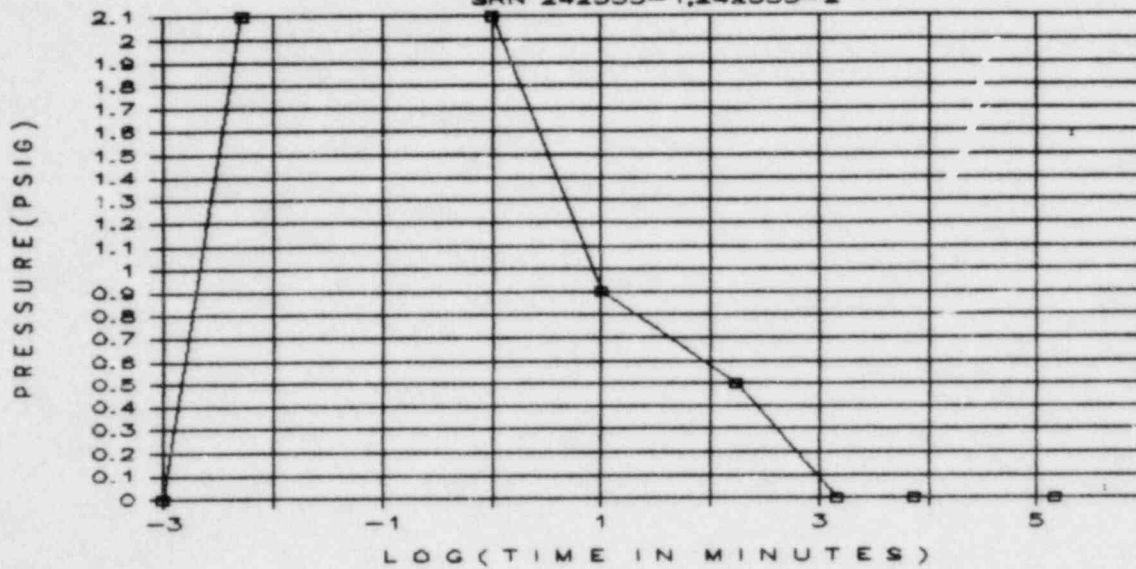
DATE 11/28/84

NOTES

-
1. For complete environmental conditions, see documents referenced.
 2. Qualification testing is scheduled for completion on February 15, 1985. Reference 2 provides aging and seismic testing but not environmental testing. Additional documentation is required.

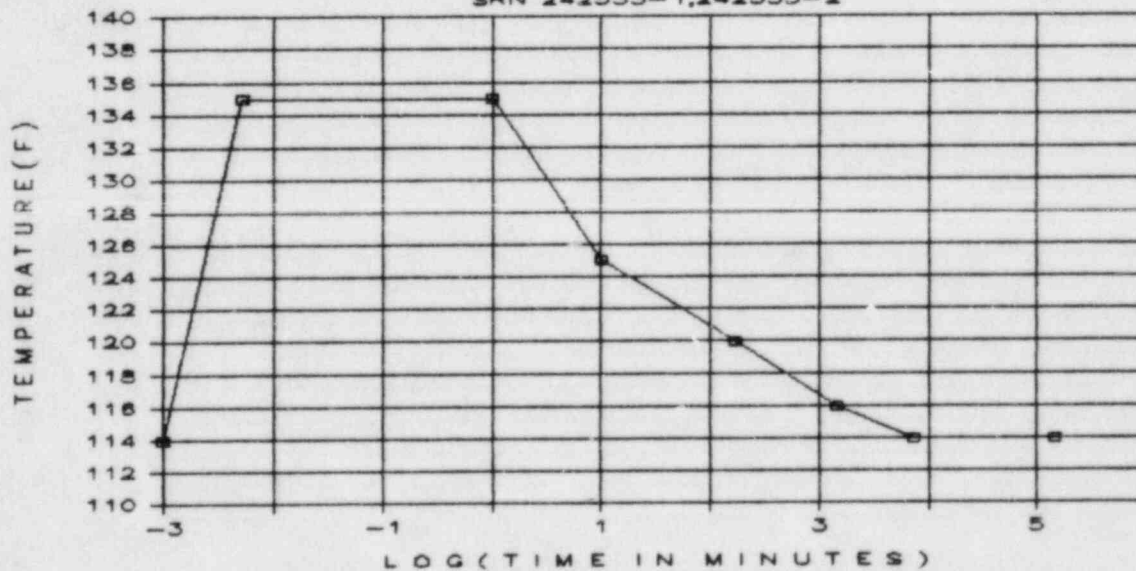
SPECIFIED ACCIDENT PROFILES

SRN 242533-1,242533-2



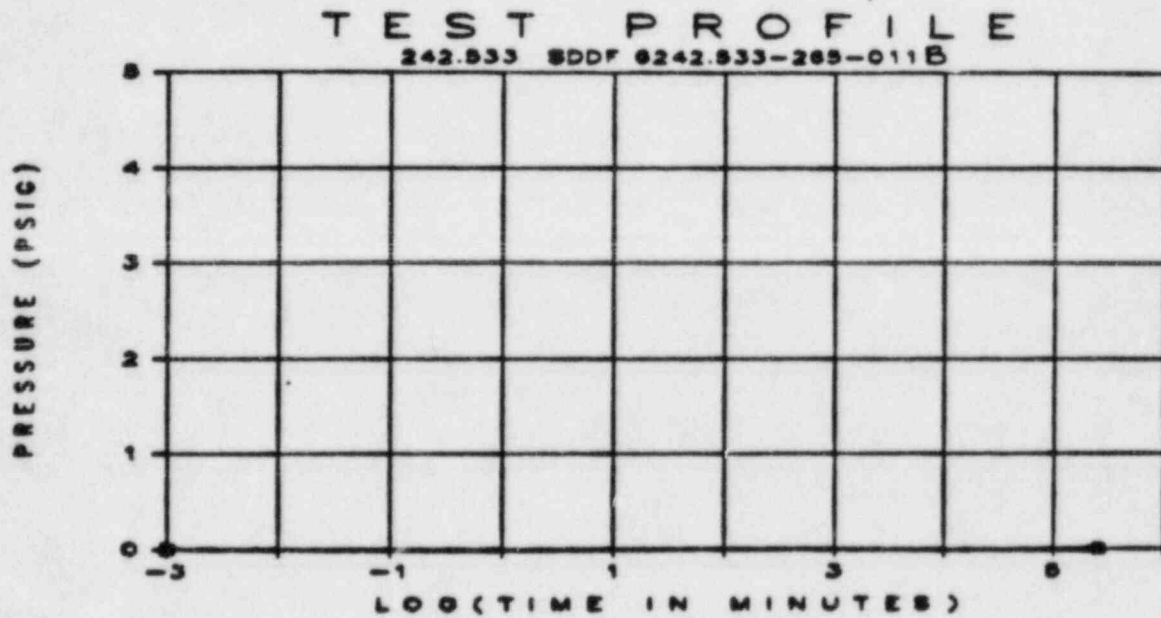
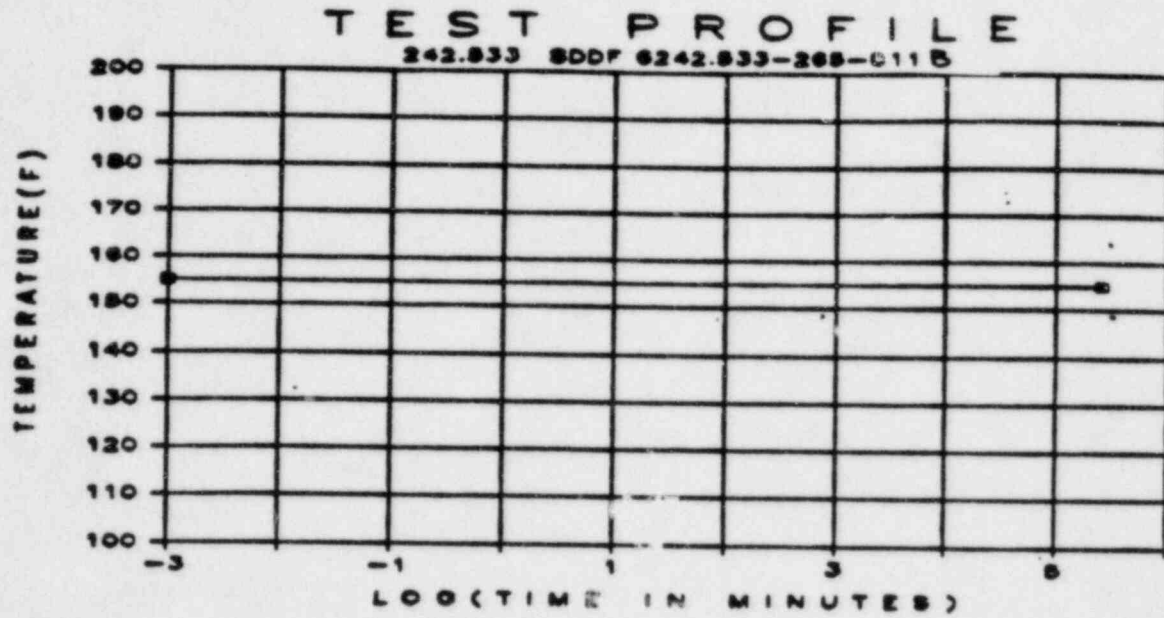
SPECIFIED ACCIDENT PROFILES

SRN 242533-1,242533-2



SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION: 242533

TEMPERATURE								
TIME	0	5sec	60sec	600sec	2.8hr	24hrs	5days	100days
LOG (MINUTES)	-3.00	-2.30	0.00	1.00	2.23	3.16	3.86	5.16
TEMP (F)	114	135	135	125	120	116	114	114
TIME (MIN)	0.001	0.005	1	10	168	1440	7200	144000
PRESSURE								
TIME	0	5sec	60sec	600sec	2.8hr	24hrs	5days	100days
LOG (MINUTES)	-3.00	-2.30	0.00	1.00	2.23	3.16	3.86	5.16
PRES (PSIG)	0	2.1	2.1	0.9	0.5	0	0	0
TIME (MIN)	0.001	0.005	1	10	168	1440	7200	144000



TEST PROFILE DATA FOR 242.533 SDDF 6242.533-265-011A

TIME	0	100days
LOG (MINUTES)	-3.00	5.41
TEMP (F)	155	155
PRES (PSIG)	0	0

FBS - PROTOTYPING QUALITY CONTROL PROGRAM
SYSTEM CORRUPTION EVALUATION WORK SHEET

SDR 24,553-2

REV 0

DATE 05-Dec-84

SHEET 1

EQUIPMENT IDENTIFICATION CORRELATIONS AND QUALIFICATION

EQUIPMENT DESCRIPTION	PARAMETER	SPECIFIED VALUE	OBTAINED VALUE	DOCUMENT REFERENCE	QUALIFICATION	REMARKS
EQUIP NO.: SEE SHEET 2	TOP TIME:	100 DAYS	100 DAYS	3	TEST-SIM	YES
SYSTEM: SEE SHEET 2	TEMP OF:	114	114	1	TEST-SIM	YES
TYPE: DESCRIPTION	APPROVAL:	NA	NA	NA	TEST-SIM	YES
TRANSFORMER FOR 480V LOAD CENTER	ACCIDENT:	1.35	1.50	1	TEST-SIM	YES
MANUFACTURER: SOUTHERN TRANSFORMER	APPROVAL:	APPROV	APPROV	1	TEST-SIM	YES
MODEL: SEE SHEET 2	ACCIDENT:	NA	NA	NA	TEST-SIM	YES
SAFETY FUNCTION: PROVIDE 480V POWER	ACCIDENT:	2.1	2.5	1	TEST-SIM	YES
ACCURACY - -	ACCIDENT:	90	100	1	TEST-SIM	YES
SPEC: NA	ACCIDENT:	NA	NA	NA	TEST-SIM	YES
END: NA	ACCIDENT:	100	100	1	TEST-SIM	YES
TORE NO.: SEE SHEET 2	RADIATION:	7E2	4E3	1	EXP-GM	YES
SUBSEQUENCE:	ACC GADMA 12,054 TID	7E2	4E3	1	EXP-GM	YES
SPRAY/PROTH:	ACC BETA	1	1	1	EXP-GM	YES
EQUIPMENT NOT SUBJECT TO SUBSEQUENCE OR SPRAY/PROTH	ACC BETA	1	1	1	EXP-GM	YES
DOCUMENTATION ACCEPTABILITY: ACCEPTABLE TO NUREG 0588, CAT 1	DEFURRI	1	1	1	EXP-GM	YES
MAIN/SUBCELL - - -	DEFURRI	1	1	1	EXP-GM	YES
REFERENCE: NOT REQUIRED	DEFURRI	1	1	1	EXP-GM	YES
QUALIFIED LIFE - - -	DEFURRI	1	1	1	EXP-GM	YES
GEARS: SEE SHEET 2	DEFURRI	1	1	1	EXP-GM	YES
REFERENCE: 2	DEFURRI	1	1	1	EXP-GM	YES

DOCUMENT REFERENCE:

1. SPECIFICATION 24,553 REV.1, 000.1 / 4504R P214276

2. VENDOR LTD/INSURANCE QUALIFICATION REFURRI,

SDR # 624,553-265-0110

3. FIRST-ACCIDENT OF/GRATELY FLEED: SET

FAWP DORTBRII NO. 745,600, REV.0

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 242533-2

REV 0

DATE 12-3-84

SHEET NO. 2

MARK NO

MODEL/CATALOG NO.
REMARKS

ENV. ZONE
SUBIRG

QUAL. LIFE

OPTIME
OC

SRN 242533-2

SPEC 242.533

EJS UNIT SUBSTATION STANDBY SYSTEM

1EJS*X2A

1500 KVA

AB-141-1

40 YRS

1000
A

1EJS*X2B

1500KVA

AB-141-2

40 YRS

1000
A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 242533-2

REV 0

SHEET NO. 3

DATE 11/29/84

NOTES

-
1. For complete environmental conditions, see documents referenced.
 2. Threshold of radiation degradation exceeds 4E8 rads. See Reference 2.

SRN 242562-1
REV 0
DATE 06-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						DATE	06-Dec-84
		SHEET 1							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	REMARKS
EQUIP NO.: SEE SHEET 2		OP. TIME:	100 DAYS	100 DAYS	3	2	TEST-SIM	YES	NOTE-6,7
SYSTEM: SEE SHEET 2		TEMP (F):	114	122	1	2	TEST-SIM	NA	NOTE-1
		NORMAL	114	122	1	2	TEST-SIM	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)		ACCIDENT	145		5	2	TEST-SIM	YES	NOTE-5
MOTOR CONTROL CENTER		PRESS (PSIG)							NOTE-1
480 VAC		NORMAL	ATMOS	ATMOS	1	2			
		ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: GOULD CO.		ACCIDENT	2.1	2.1	5	2			
		TEMP (F):							NOTE-1
MODEL: SEE SHEET 2		NORMAL	90	100	1	2			
		ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -		ACCIDENT	100		5	2			NOTE-5
SERVING CLASS 1E EQUIPMENT		RADIATION:							NOTE-1
		NORM GAMMA						NA	
		ACC GAMMA	6E5	1E6	4	2	TEST-SIM	YES	NOTE-3,4
		NORM BETA						NA	
		ACC BETA						NA	
		NEUTRON						NA	
ACCURACY - -		SPRAY	NA	NA	NA	NA	NA	NA	
		SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA									
DEMO: NA									
ZONE NO.: SEE SHEET 2		DOCUMENT REFERENCE:							
SUBMERGENCE:		1. SPECIFICATION 242.562 / E&DCR P22.176A							
SPRAY/FROTH:		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6242.562-082-002D							
EQUIPMENT NOT SUBJECT TO		3. POST-ACCIDENT OPERABILITY PERIOD: SEE PAOP DOCUMENT NO. 245.600, REV.0							
SUBMERGENCE OR SPRAY/FROTH		4. CALCULATION NO. 1221-PR(S)-536-0 & 541-0 (RAD,DOSE)							
		5. IOR NO. (LATER) (HELB & HELC ENVELOPES)							
DOCUMENTATION ACCEPTABILITY:									
NUREG 0588,CAT I									
QUALIFICATION IN PROGRESS									
(SEE NOTE-5)									
MAINT/SURVEILL - - -									
REFERENCE: 2,NOTE-2									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE: 2									

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 242562-1
REV 0
SHEET NO. 2

DATE 12-03-84

MARK NO

MODEL/CATALOG NO.
REMARKS

ENV. ZONE
SUBMRG

QUAL. LIFE

OPTIME
OC

SRN 242562-1

SPEC 242.562

EHS MOTOR CONTROL CENTER STANDBY SYSTEM

1EHS*HCC2A	SERIES 5600	AB-141-4	40 YR	1000 A
1EHS*HCC2B	SERIES 5600	AB-141-2	40 YR	1000 A
1EHS*HCC2C	SERIES 5600	AB-141-4	40 YR	1000 A
1EHS*HCC2D	SERIES 5600	AB-141-2	40 YR	1000 A
1EHS*HCC2E	SERIES 5600	AB-114-1	40 YR	1000 A
1EHS*HCC2F	SERIES 5600	AB-114-3	40 YR	1000 A
1EHS*HCC2G	SERIES 5600	AB-114-1	40 YR	1000 A
1EHS*HCC2H	SERIES 5600	AB-114-3	40 YR	1000 A
1EHS*HCC2J	SERIES 5600	AB-141-1	40 YR	1000 A
1EHS*HCC2K	SERIES 5600	AB-141-2	40 YR	1000 A
1EHS*HCC2L	SERIES 5600	AB-141-1	40 YR	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 242562-1

REV 1

SHEET NO. 3

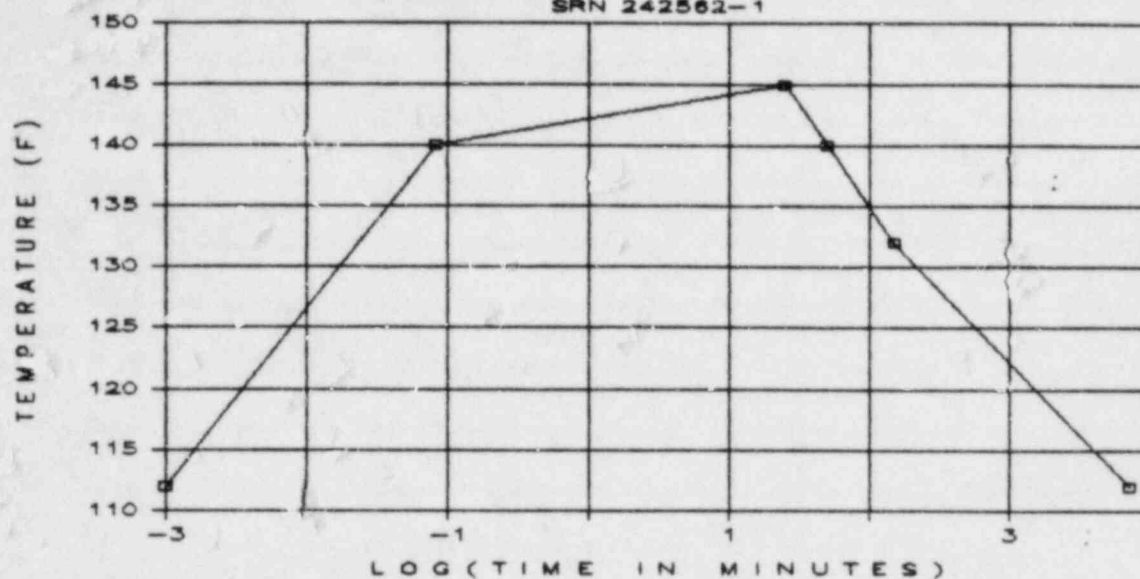
DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. See Reference 2, paragraph 6, for surveillance and maintenance requirements and paragraph 2, Table 1, for component replacement schedule.
 3. The 6E5 rads is the specified total integrated dose. See Reference 4.
 4. The 1E6 rads is the qualified total integrated dose.
 5. Vendor to perform supplemental test to qualify the equipment for accident temperature and humidity and to establish required operating factors for thermal devices.
 6. Operability time for LOCA event is 100 days, plus margin, and it has been established by testing.
 7. Operability time for HELB events is 5 days plus margin, and it is to be established by test and extension by Arrhenius methodology. Five days after HELB the zones affected by these events will be accessible for equipment repair, if required. Temperature, pressure, and humidity will return to normal and radiation level is normal.

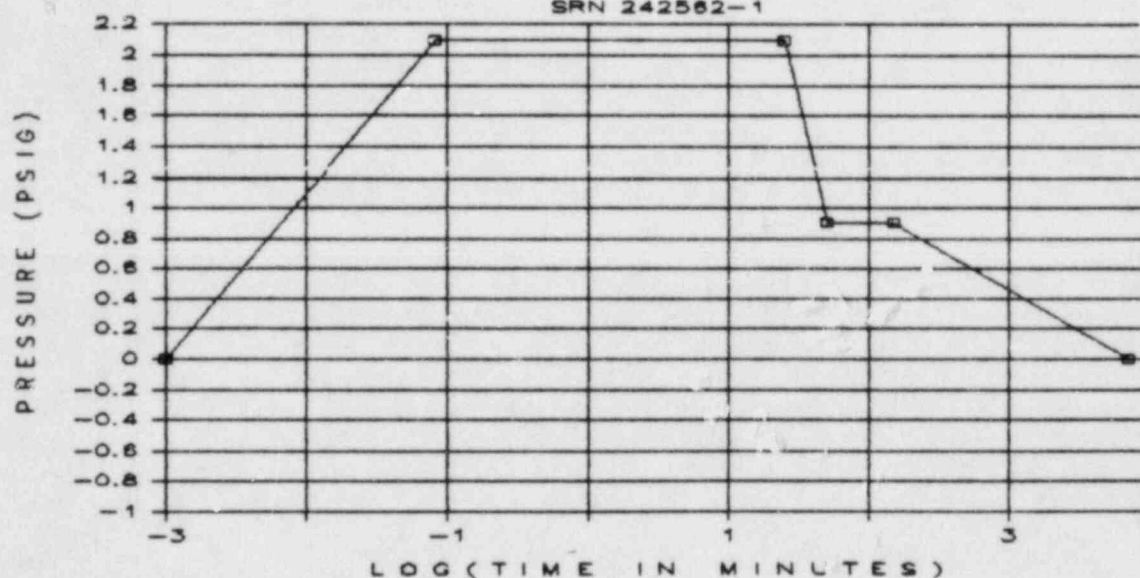
SPECIFIED ACCIDENT PROFILES

SRN 242562-1



SPECIFIED ACCIDENT PROFILES

SRN 242562-1



TEMPERATURE -----

TIME	0	5sec	1500sec	3000sec	6000sec	5days
LOG (MINUTES)	-3.00	-1.06	1.40	1.70	2.18	3.86
TEMP(F)	112	140	145	140	132	112
TIME(MIN)	0.001	0.083	25	50	150	7200

PRESSURE -----

TIME	0	5sec	1500sec	3000sec	6000sec	5days
LOG(MINUTES)	-3.00	-1.06	1.40	1.70	2.18	3.86
PRES(PSIG)	0	2.1	2.1	0.9	0.9	0
TIME(MIN)	0.001	0.083	25	50	150	7200

SRN 242562-2
REV 0
DATE 06-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						DATE	06-Dec-84
		SHEET 1							
		DOCUMENT REFERENCE							
		PARAMETER	SPECIFIED	QUALIFIED			QUAL	MARGIN	REMARKS
		VALUE	VALUE	SPECIFIED	QUALIFIED	METHOD	DEMO		
EQUIP NO.: SEE SHEET 2		OP. TIME:	70 MIN	22 HRS	3	2	TEST-SIM	YES	NOTE-4
SYSTEM: SEE SHEET 2		TEMP (F):	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	NOTE-1
		NORMAL	122	122	1	2	TEST-SIM	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)		ACCIDENT	122	122	1	2	NA	NA	NOTE-2
MOTOR CONTROL CENTER		PRESS (PSIG)	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	NOTE-1
120 VAC		NORMAL	0.1" H2O	11.7 PSIA	1	2	TEST-SIM	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: GOULD CO.		ACCIDENT	0.1" H2O	ATMOS	1	2	NA	NA	NOTE-2
		IRH (%)	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	NOTE-1
MODEL: SEE SHEET 2		NORMAL	90	100	1	2	TEST-SIM	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -		ACCIDENT	90	100	1	2	NA	NA	NOTE-2
SERVING REACTOR WIRE		RADIATION:	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	NOTE-1
ISOLATION COOLING (ICS) SYSTEM		NORM GAMMA	2E5	1E6	1	2	TEST-SIM	NA	NOTE-2
		ACC GAMMA						NA	
		NORM BETA						NA	
		ACC BETA						NA	
		NEUTRON						NA	
ACCURACY - -		SPRAY	NA	NA	NA	NA	NA	NA	
		SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA									
DEMO: NA									
ZONE NO.: SEE SHEET 2									
SUBMERGENCE:		DOCUMENT REFERENCE:							
SPRAY/FROTH:		1. SPECIFICATION 242.562 / E&DCR P22.176							
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
		SDDF # 6242.562-082-002D							
EQUIPMENT NOT SUBJECT TO		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
SUBMERGENCE OR SPRAY/FROTH		PAOP DOCUMENT NO. 245.600, REV.0							
DOCUMENTATION ACCEPTABILITY:									
ACCEPTABLE TO NUREG 0588,CAT I									
MAINT/SURVEILL - - -									
REFERENCE: 2, NOTE-3									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE: 2									

KBS-ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 242562-2
REV 0
SHEET NO. 2
DATE 12-03-84

MARK NO

MODEL/CATALOG NO.
REMARKS

ENV. ZONE QUAL. LIFE
SUCHRG

OPTIME
OC

SRN 242562-2

SPEC 242.562

ENB SHGR STANDBY 4160V - DC CONTROL SUPPLY

1END#HCC1

SERIES 5600

AB-095-B 40 YR

70H
C

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 242562-2

REV 0

SHEET NO. 3

DATE 11/27/84

NOTES

1. For complete environmental conditions, see the document referenced.
2. The exclusive safety function of the MCC 1 is to serve the reactor core isolation cooling (RCIC) system. When the RCIC system is required to operate, the environmental conditions at MCC 1 are the same as normal (as noted). For HELB and LOCA events the operability code is C. Justification of the technical bases for the placement of this MCC in Code C will be addressed in the EQD.
3. See Reference 2, paragraph 6, for surveillance and maintenance requirements and paragraph 2, Table 1, for component replacement schedule.
4. The duration of an event in which RCIC (and MCC 1) is required to operate is 70 min. This event is postulated to occur 10 times in the life of the plant.

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 247250-1
REV 0
DATE 05-Dec-84
SHEET 1

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	REMARKS
EQUIP NO.: SEE SHEET 2	OP. TIME:	100 DAYS	>100 DAYS	3	2	TEST-SIM	YES	
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE-1
	NORMAL	122	131	1	2	TEST-SIM	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)	ACCIDENT	135	131	1	2	AN+DATA		NOTE-2
RADIOACTIVITY ELEMENT	PRESS (PSIG)							NOTE-1
(WIDE RANGE GAS MONITOR)	NORMAL	ATMOS	ATMOS	1	2	TEST-SIM	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: GA TECH.	ACCIDENT	2.1	ATMOS	1	2	AN+DATA		NOTE-3
	RH (%):							NOTE-1
MODEL: SEE SHEET 2	NORMAL	90	95	1	2	TEST-SIM	NA	
	ABNORMAL	NA	NA	NA	NA	NA		
SAFETY FUNCTION: - - -	ACCIDENT	100		1				NOTE-4
MONITOR RADIATION	RADIATION:							NOTE-1
	NORM GAMMA	7E2		1			NA	
	ACC GAMMA	1.85E3	5E5	1	2	AN+DATA	YES	NOTE-6
OP. CODE: SEE SHEET 2	NORM BETA	0		1			NA	
	ACC BETA	5E2		1			YES	
	NEUTRON	0		1			NA	
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:								
SPRAY/FROTH:								
EQUIPMENT NOT SUBJECTED TO								
SUBMERGENCE OR SPRAY/FROTH								
DOCUMENTATION ACCEPTABILITY:								
NUREG 0588, CAT I								
ACCEPTABLE FOR ALL ITEMS								
EXCEPT SAMPLE PUMP MOTOR.								
SEE NOTES 4 AND 5								
MAINT/SURVEILL - - -								
REFERENCE: 2 (NOTE-7)								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 2								

DOCUMENT REFERENCE:

1. SPECIFICATION 247.250 REV.0, ADD.1 / E&DCR NO.P40,957A
2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,
SDDF # 6247.250-329-044C
6247.250-329-019B
6247.250-329-091A
6247.250-329-091C
6247.250-329-092C
6247.250-329-023E
6247.250-329-091B
6247.250-329-121A
6247.250-329-059B
3. POST-ACCIDENT OPERABILITY PERIOD: SEE
PAOP DOCUMENT NO. 245.600, REV.0
4. CALCULATION NO. 12210-ES-213

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247250-1
REV O
SHEET NO. 2
DATE 11/27/84

MARK NO
MODEL/CATALOG NO. ENV. ZONE QUAL. LIFE OPTIME
REMARKS SUBMRG CC

SRN 247250-1

SPEC 247.250

RMS RADIATION MONITORING

1RMS*REX125

AB-170-1 40 YEARS 100D
A

1RMS*RE125

AB-170-1 40 YEARS 100D
A

REG.G.1.97

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247250-1

REV 0

SHEET NO. 3

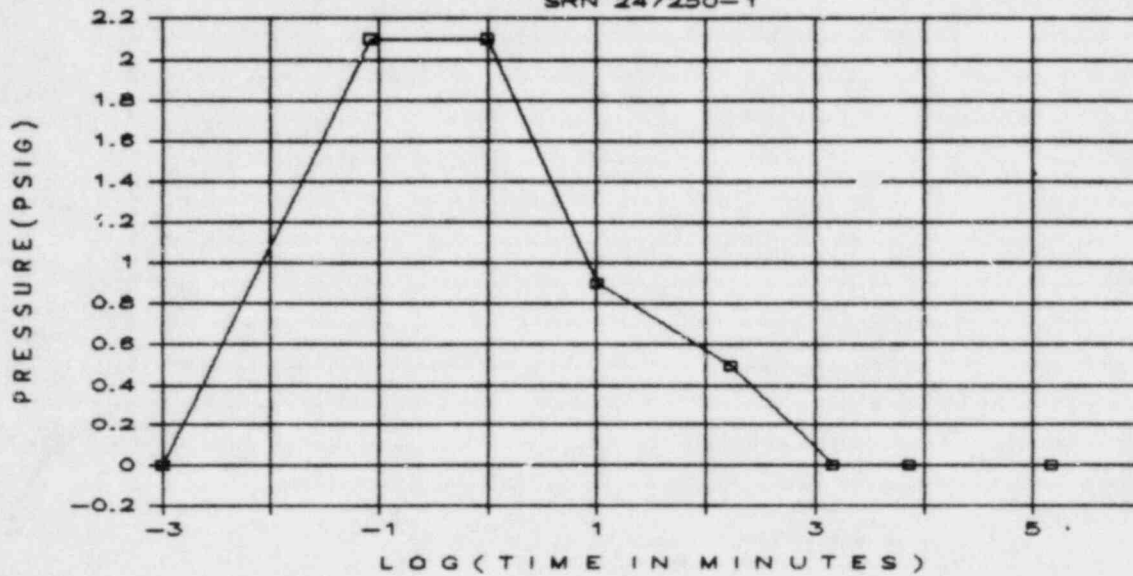
DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. The short duration of the temperature transient will not increase device temperature beyond qualified limits. See Reference 4.
 3. The monitor has no components that are pressure sensitive. A variation of 2.1 psig will have no effect on them.
 4. Vendor is to provide justification that the monitor can withstand 100-percent RH.
 5. Sample pump motor qualification is incomplete. Vendor is to prepare a quote and plan for testing motors to establish a qualified life at plant operating conditions.
 6. Qualified total integrated dose exceeds specified integrated dose plus margin.
 7. In accordance with Reference 2, GA Technologies will provide the necessary maintenance and surveillance schedule needed to maintain 40 years of qualified life.

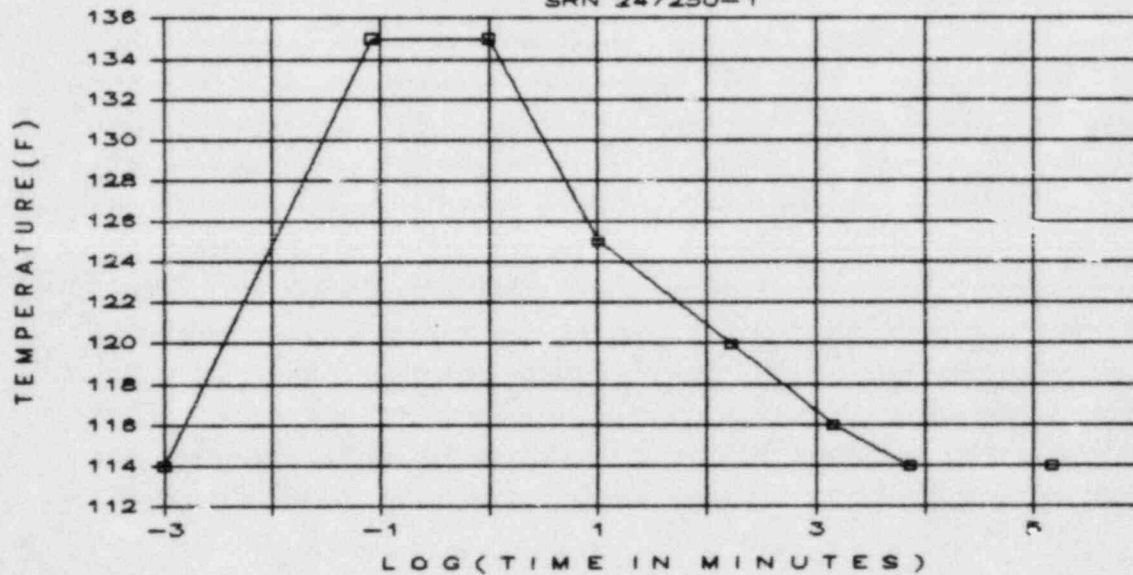
SPECIFIED ACCIDENT PROFILE

SRN 247250-1



SPECIFIED ACCIDENT PROFILE

SRN 247250-1



TEMPERATURE								
TIME	0sec	5sec	60sec	600sec	2.8hrs	1day	5days	100days
LOG (MINUTES)	-3.00	-1.08	0.00	1.00	2.23	3.16	3.86	5.16
TEMP (F)	114	135	135	125	120	116	114	114
TIME (MIN)	0.001	0.08333	1	10	168	1440	7200	144000
PRESSURE								
TIME	0sec	5sec	60sec	600sec	2.8hrs	1day	5days	100days
LOG (MINUTES)	-3.00	-1.08	0.00	1.00	2.23	3.16	3.86	5.16
PRES (PSIG)	0	2.1	2.1	0.9	0.5	0	0	0
TIME (MIN)	0.001	0.08333	1	10	168	1440	7200	144000

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 247250-2
REV 0
DATE 05-Dec-84
SHEET 1

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	SPECIFIED	QUALIFIED	DUAL METHOD	MARGIN DEMO	REMARKS
EQUIP NO.: SEE SHEET 2	UP.TIME:	100 DAYS	>100 DAYS	3	2	TEST-SIM	YES	
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE-1
	NORMAL	96	131	1	2	TEST-SIM	NA	
	ABNORMAL	122	131	1	2	TEST-SIM	NA	
TYPE: (DESCRIPTION)	ACCIDENT	122	131	1	2	TEST-SIM	YES	
RADIOACTIVITY ELEMENT	PRESS (PSIG):							
(WIDE RANGE GAS MONITOR)	NORMAL	-0.25" H2O	ATMOS	1	2	TEST-SIM	NA	
	ABNORMAL	-0.62" H2O	ATMOS	1	2	TEST-SIM	NA	
MANUFACTURER: GA TECH.	ACCIDENT	-0.62" H2O	ATMOS	1	2	TEST-SIM	YES	
	RH (%):							NOTE-1
MODEL: SEE SHEET 2	NORMAL	55	95	1	2	TEST-SIM	NA	
	ABNORMAL	38	95	1	2	TEST-SIM	NA	
SAFETY FUNCTION: - - -	ACCIDENT	38	95	1	2	TEST-SIM	NA	
MONITOR RADIATION	RADIATION:							NOTE-1
	NORM GAMMA	7E2		1			NA	
	ACC GAMMA	2E3	5E5	1	2	AN+DATA	YES	NOTE-2
OP. CODE: SEE SHEET 2	NORM BETA	0		1			NA	
	ACC BETA	6E2		1			YES	
	NEUTRON	0		1			NA	
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:	DOCUMENT REFERENCE:							
SPRAY/FROTH:	1. SPECIFICATION 247.250 REV.0, ADD.1 / E&DCR NO.P40.957A							
	2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
EQUIPMENT NOT SUBJECTED TO	SDDF # 6247.250-329-044C							
SUBMERGENCE OR SPRAY/FROTH	6247.250-329-023E							
	6247.250-329-091A							
	6247.250-329-091C							
DOCUMENTATION ACCEPTABILITY:	6247.250-329-092C							
NUREG 0588, CAT 1	6247.250-329-019B							
ACCEPTABLE FOR ALL ITEMS	6247.250-329-091B							
EXCEPT SAMPLE PUMP MOTOR.	6247.250-329-121A							
SEE NOTE 4	6247.250-329-059B							
MAINT/SURVEILL - - -	3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
REFERENCE: 2 (NOTE-3)	PAOP DOCUMENT NO. 245.600, REV.0							
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 2								

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247250-2
REV 0
SHEET NO. 2
DATE 11/27/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUSHRG	QUAL. LIFE	OPTIME OC
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SRN 247250-2

SPEC 247.250

RMS RADIATION MONITORING

1RMS*REX5A

FB-148-G 40 YEARS 1000
A

1RMS*RESA

FB-148-G 40 YEARS 1000
A

REG.G.1.97

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247250-2

REV 0

SHEET NO. 3

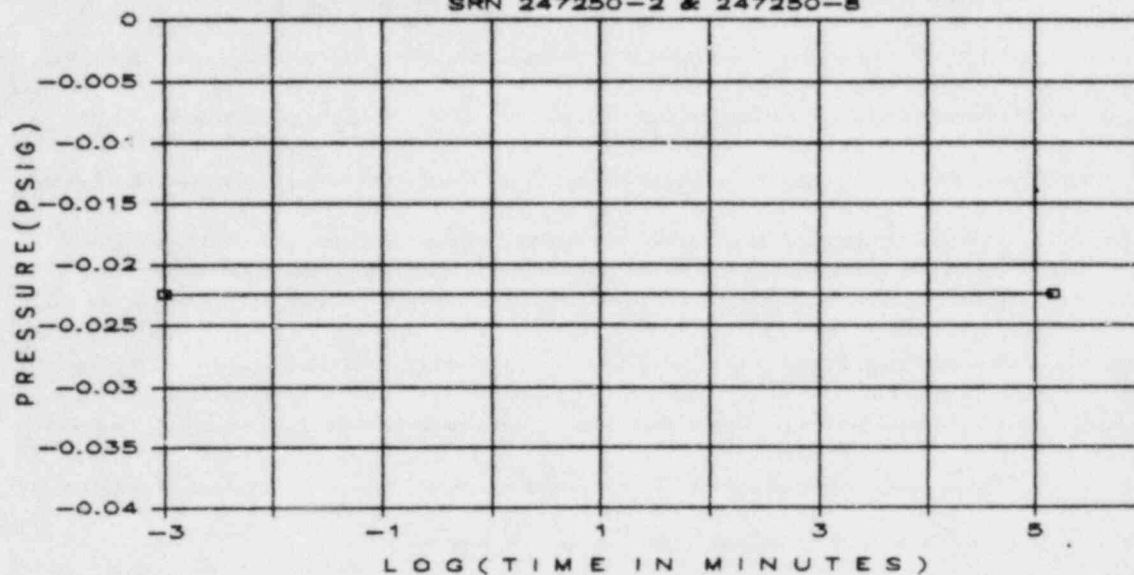
DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. Qualified total integrated dose exceeds specified total integrated dose plus margin.
 3. In accordance with Reference 2, GA Technologies will provide the necessary maintenance and surveillance schedule needed to maintain 40 years of qualified life.
 4. Sample pump motor qualification is incomplete. Vendor is to prepare a quote and plan for testing motors to establish a qualified life at plant operating conditions.

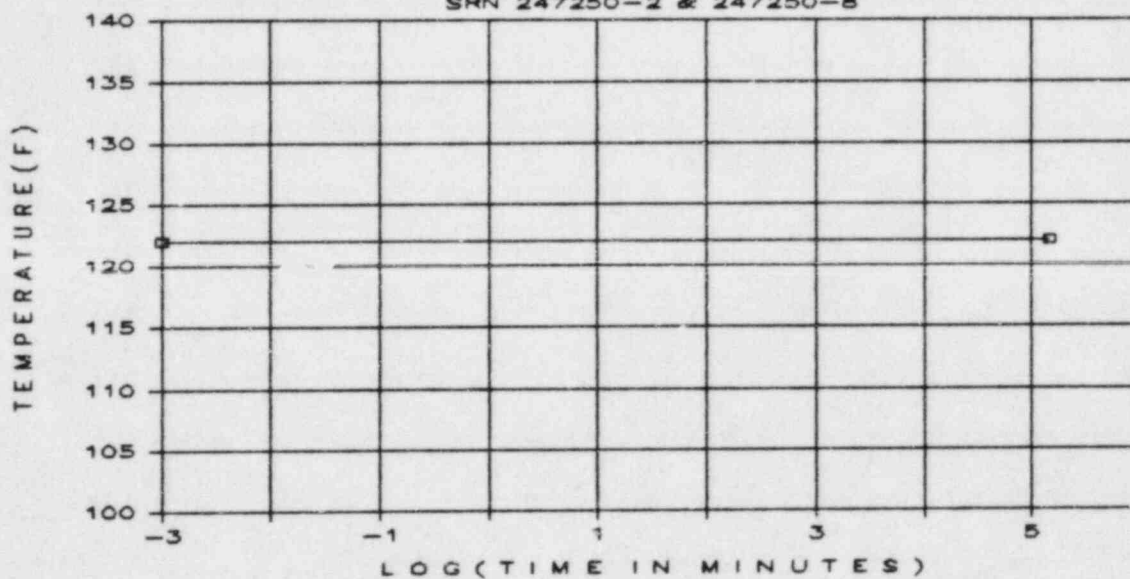
SPECIFIED ACCIDENT PROFILE

SRN 247250-2 & 247250-8



SPECIFIED ACCIDENT PROFILE

SRN 247250-2 & 247250-8



TEMPERATURE -----

TIME 0sec 100days
 LOG (MINUTES) -3.00 5.16
 TEMP(F) 122 122
 TIME(MIN) 0.001 144000

PRESSURE -----

TIME 0sec 100days
 LOG(MINUTES) -3.00 5.16
 PRES(PSIG) -0.0224 -0.0224
 TIME(MIN) 0.001 144000

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247250-3
REV 0
SHEET NO. 2
DATE 11/27/84

MARK NO

MODEL/CATALOG NO.	ENV. ZONE	QUAL. LIFE	OPTIME
REMARKS	SUDIRG		CC

SRN 247250-3

SPEC 247.250

RHS RADIATION MONITORING

1RHS*RE11A

AD-170-2	40 YEARS	1 HR
		A

1RHS*RE11B

AB-170-2	40 YEARS	1 HR
		A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247250-3

REV 0

SHEET NO. 3

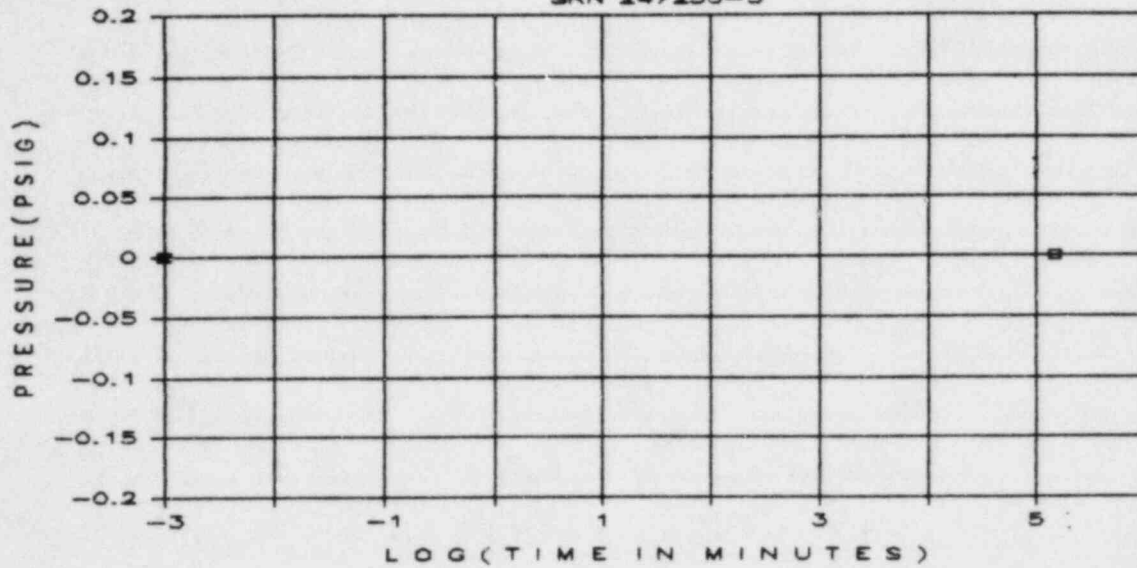
DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. Operability period of the monitor is 1 hour. TID of gamma for 6 hours is 7 rads; TID of gamma for 180 days is 3E2. The technical basis for placement of this equipment in operability Code C after 6 hours will be addressed in the EQD.
 3. Operability period of the monitor is 1 hour. TID of beta for 6 hours is 40 rads; TID of beta for 180 days is 5E2. The technical basis for placement of this equipment in operability Code C after 6 hours will be addressed in the EQD.
 4. Sample pump motor qualification is incomplete. Vendor is to prepare a quote and plan for testing motors to establish a qualified life at plant operating conditions.
 5. In accordance with Reference 2, GA Technologies will provide the necessary maintenance and surveillance schedule needed to maintain 40 years of qualified life.

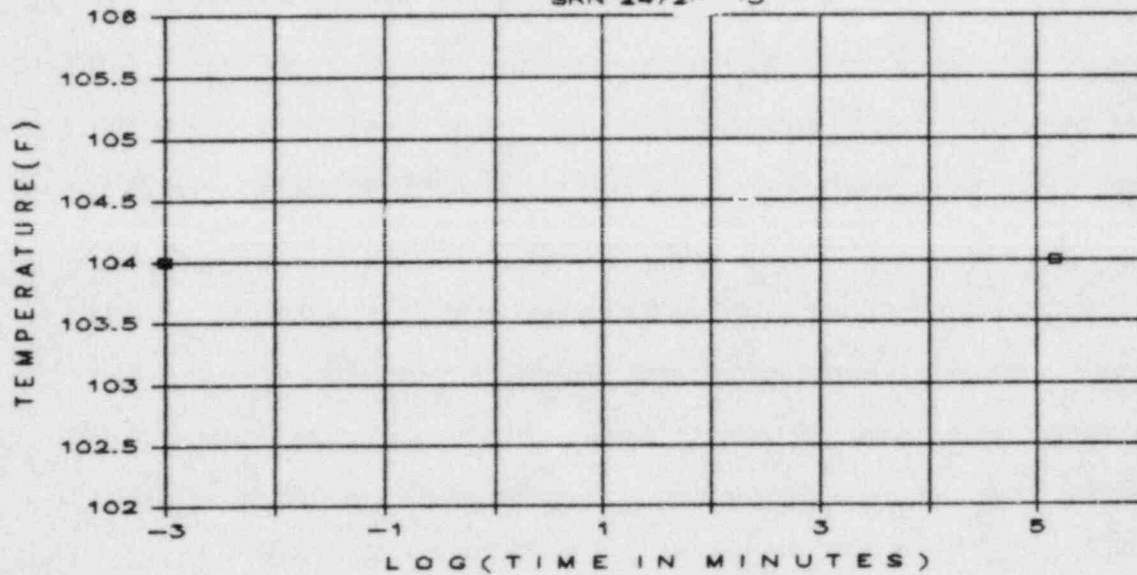
SPECIFIED ACCIDENT PROFILE

SRN 247250-3



SPECIFIED ACCIDENT PROFILE

SRN 247250-3



TEMPERATURE -----

TIME	0sec 100days	
LOG (MINUTES)	-3.00	5.16
TEMP(F)	104	104
TIME(MIN)	0.001	144000

PRESSURE -----

TIME	0sec 100days	
LOG(MINUTES)	-3.00	5.16
PRES(PSIG)	0	0
TIME(MIN)	0.001	144000

SRN 247250-4
REV 0
DATE 05-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						DATE	05-Dec-84
		SHEET 1							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN: DEMO	REMARKS
					SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2		OP.TIME:	N/R	NA	3	2	NA	YES	
SYSTEM: SEE SHEET 2		TEMP (F):							NOTE-1
		NORMAL	90	131	1	2	TEST-SIM	NA	
		ABNORMAL	140	131	1	2	AN+DATA	NA	NOTE-2
TYPE: (DESCRIPTION)		ACCIDENT	NA	NA	NA	NA	NA	NA	
RADIOACTIVITY ELEMENT		PRESS(PSIG)							NOTE-1
[P(I)G MONITOR]		NORMAL	-1.0" H2O	ATMOS	1	2	TEST-SIM	NA	
		ABNORMAL	2.3	ATMOS	1	2	AN+DATA	NA	NOTE-3
MANUFACTURER: GA TECH		ACCIDENT	NA	NA	NA	NA	NA	NA	
		IRH (%):							NOTE-1
MODEL: SEE SHEET 2		NORMAL	50	95	1	2	TEST-SIM	NA	
		ABNORMAL	100		1			NA	NOTE-4
SAFETY FUNCTION: - - -		ACCIDENT	NA	NA	NA	NA	NA	NA	
MONITOR RADIATION		RADIATION:							NOTE-1
		NORM GAMMA	9E2	1.1E3	1	2	AN+DATA	NA	
		ACC GAMMA	NA		1			NA	
OP. CODE: SEE SHEET 2		NORM BETA	2E3		1			NA	NOTE-5
		ACC BETA	NA		1			NA	
		NEUTRON	0		1			NA	
		SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -		SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA									
DEMO: NA									
ZONE NO.: SEE SHEET 2									
SUBMERGENCE:		DOCUMENT REFERENCE:							
SPRAY/FROTH:		1. SPECIFICATION 247.250 REV.0, ADD.1 / E&DCR NO.P40,957A							
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
EQUIPMENT NOT SUBJECTED TO		SDDF # 6247.250-329-022B							
SUBMERGENCE OR SPRAY/FROTH		6247.250-329-023E							
		6247.250-329-045B							
		6247.250-329-091B							
DOCUMENTATION ACCEPTABILITY:		6247.250-329-019B							
NUREG 0588,CAT I		6247.250-329-091A							
ACCEPTABLE FOR ALL ITEMS		6247.250-329-091C							
EXCEPT SAMPLE PUMP MOTOR:		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
SEE NOTES 4 AND 6		PAOP DOCUMENT NO. 245.600, REV.0							
MAINT/SURVEILL - - -									
REFERENCE: 2 (NOTE-7)									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE: 2									

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247250-4

REV 0

SHEET NO. 2

DATE 11/27/84

MARK NO

MODEL/CATALOG NO.
REMARKS

ENV. ZONE
SUBMRG

QUAL. LIFE

OPTIME
CC

SRN 247250-4

SPEC 247.250

RHS RADIATION MONITORING

1RHS*RE111

CT-G

40 YEARS

N/A
C

1RHS*RE112

CT-4

40 YEARS

N/A
C

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247250-4

REV 0

SHEET NO. 3

DATE 11/27/84

NOTES

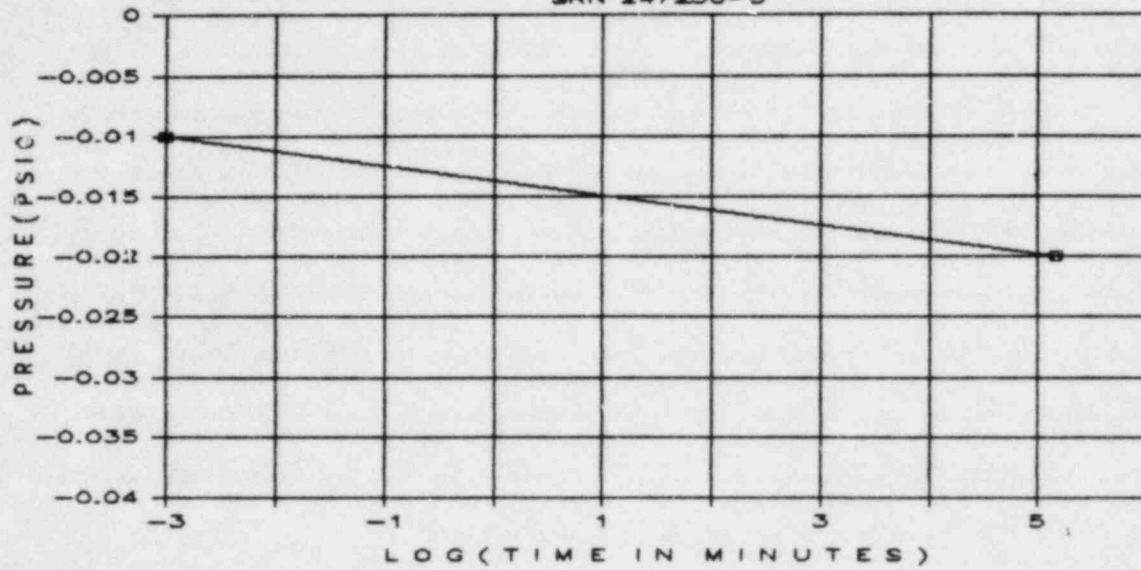
-
1. For complete environmental conditions, see the document referenced.
 2. Monitor is designed to trip at high temperature; therefore, it will not fail and degrade associated Class 1E equipment.
 3. Monitor has no components that are pressure sensitive; therefore, a variation of 8.3 psig in pressure will have no effect on it.
 4. Vendor is to provide justification that the monitor can withstand 100-percent RH.
 5. Beta radiation has no effect on the monitor since the monitor is totally enclosed. See Reference 2.
 6. Sample pump motor qualification is incomplete. Vendor is to prepare a quote and plan for testing motors to establish a qualified life at plant operating conditions.
 7. In accordance with Reference 2, GA Technologies will provide the necessary maintenance and surveillance schedule needed to maintain 40 years of qualified life.

SRN 247250-5
REV 0
DATE 05-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						DATE	05-Dec-84
		SHEET 1							
		DOCUMENT REFERENCE							
		PARAMETER	SPECIFIED	QUALIFIED	SPECIFIED		QUALIFIED	DUAL	MARGIN
		VALUE	VALUE	VALUE	VALUE	METHOD	DEMO	REMARKS	
EQUIP NO.: SEE SHEET 2		OP. TIME:	100 DAYS	>100 DAYS	3	2	TEST-SIM	YES	
SYSTEM: SEE SHEET 2		TEMP (F):							NOTE-1
		NORMAL	122	131	1	2	TEST-SIM	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)		ACCIDENT	122	131	1	2	TEST-SIM	YES	
RADIOACTIVITY ELEMENT		PRESS (PSIG)							NOTE-1
(LIQUID MONITOR)		NORMAL	ATMOS	ATMOS	1	2	TEST-SIM	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: GA TECH		ACCIDENT	ATMOS	ATMOS	1	2	TEST-SIM	NO	
		RH (%):							NOTE-1
MODEL: SEE SHEET 2		NORMAL	90	95	1	2	TEST-SIM	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -		ACCIDENT	90	95	1	2	TEST-SIM	NA	
MONITOR RADIATION		RADIATION:							NOTE-1
		NORM GAMMA	9.6E1		1			NA	
		ACC GAMMA	6.5E2	1.1E3	1	2	AN+DATA	YES	NOTE-2
OP. CODE: SEE SHEET 2		NORM BETA	0		1			NA	
		ACC BETA	4.5E2		1			YES	NOTE-3
		NEUTRON	0		1			NA	
ACCURACY - -		SPRAY	NA	NA	NA	NA	NA	NA	
SPEC: NA		SUBMERGENCE	NA	NA	NA	NA	NA	NA	
DEMO: NA									
ZONE NO.: SEE SHEET 2		DOCUMENT REFERENCE:							
SUBMERGENCE:		1. SPECIFICATION 247.250 REV.0, ADD.1 / E&DCR NO.P40,957A							
SPRAY/FROTH:		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
		SDDF # 6247.250-329-022B							
EQUIPMENT NOT SUBJECTED TO		6247.250-329-023E							
SUBMERGENCE OR SPRAY/FROTH		6247.250-329-091A							
		6247.250-329-091C							
DOCUMENTATION ACCEPTABILITY:		6247.250-329-019B							
NUREG 0588,CAT I		6247.250-329-091B							
ACCEPTABLE FOR ALL ITEMS		6247.250-329-045B							
EXCEPT SAMPLE PUMP MOTOR.		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
SEE NOTE 4		PAOP DOCUMENT NO. 245.600, REV.0							
MAINT/SURVEILL - - -									
REFERENCE: 2 (NOTE-5)									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE: 2									

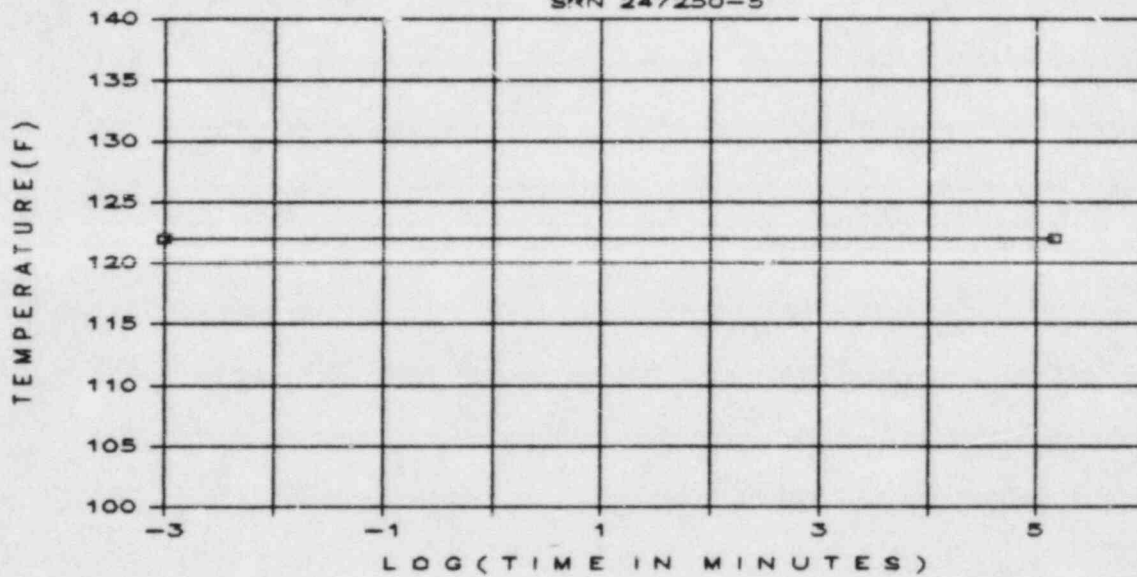
SPECIFIED ACCIDENT PROFILE

SRN 247250-5



SPECIFIED ACCIDENT PROFILE

SRN 247250-5



```

TEMPERATURE -----
TIME          0sec 100days
LOG (MINUTES) -3.00  5.16
TEMP(F)       122    122
TIME(MIN)     0.001 144000
PRESSURE -----
TIME          0sec 100days
LOG(MINUTES) -3.00  5.16
PRES(PSIG)    -0.01 -0.02
TIME(MIN)     0.001 144000
    
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RBS- ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247250-5
REV 0
SHEET NO. 2
DATE 11/27/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME OC
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SRN 247250-5

SPEC 247.250

RHS RADIATION MONITORING

1RHS*RE15A		AB-095-6	40 YEARS	1000 A
1RHS*RE15B		AB-095-6	40 YEARS	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247250-5

REV 0

SHEET NO. 3

DATE 11/27/84

NOTES

1. For complete environmental conditions, see the document referenced.
2. Qualified integrated dose is limited to $1.1E3$ rads due to the RM-80 microprocessor. Excluding the RM-80 microprocessor, the monitor is qualified for $1E4$ rads. The location-specific radiation level TID of gamma for 180 days for the RM-80 microprocessor is $6.5E2$ rads. For the monitor (excluding RM-80), the location-specific radiation level TID of gamma for 180 days is $2.6E3$ rads.
3. Beta radiation has no effect on the monitor, since the monitor is totally enclosed. See Reference 2.
4. Sample pump motor qualification is incomplete. Vendor is to prepare a quote and plan for testing motors to establish a qualified life at plant operating conditions.
5. In accordance with Reference 2, GA Technologies will provide the necessary maintenance and surveillance schedule needed to maintain 40 years of qualified life.

RRS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 247250-6
REV 0
DATE 05-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						REMARKS
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN: DEMO
					SPECIFIED	QUALIFIED		
EQUIP NO.: SEE SHEET 2		OP. TIME:	100 DAYS	>100 DAYS	3	2	AN+DATA	YES
SYSTEM: SEE SHEET 2		TEMP (F):						
		NORMAL	140	140	1	2	TEST-SIM	NA
		ABNORMAL	140	140	1	2	TEST-SIM	NA
TYPE: (DESCRIPTION)		ACCIDENT	330	365	1	2	TEST-SIM	YES
RADIOACTIVITY ELEMENT		PRESS (PSIG)						
(HIGH RANGE RADIATION MONITOR)		NORMAL	0.5	ATMOS	1	2	AN+DATA	NA
		ABNORMAL	2.3	70	1	2	AN+DATA	NA
MANUFACTURER: GA TECH		ACCIDENT	-8 TO 25	70	1	2	TEST-SIM	YES
		RH (%):						
MODEL: SEE SHEET 2		NORMAL	50	95	1	2	TEST-SIM	NA
		ABNORMAL	100	100	1	2	TEST-SIM	NA
SAFETY FUNCTION: - - -		ACCIDENT	100	100	1	2	TEST-SIM	NA
MONITOR RADIATION		RADIATION:						
		NORM GAMMA						NA
		ACC GAMMA	1.34E8	2E8	4	2	TEST-SIM	YES
OP. CODE: SEE SHEET 2		NORM BETA						
		ACC BETA						
		NEUTRON						
		SPRAY	NA	NA	NA	NA	NA	NA
ACCURACY - -		SUBMERGENCE:	NA	NA	NA	NA	NA	NA
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:		DOCUMENT REFERENCE:						
SPRAY/FROTH:		1. SPECIFICATION 247.250 REV.0, ADD.1 / E&DCR NO.P40,957A						
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,						
EQUIPMENT NOT SUBJECTED TO		SDDF # 6247.250-329-045B						
SUBMERGENCE OR SPRAY/FROTH		6247.250-329-023E						
		6247.250-329-043C						
		6247.250-329-070B						
DOCUMENTATION ACCEPTABILITY:		6247.250-329-091C						
NUREG 0588, CAT I		6247.250-329-035C						
ACCEPTABLE FOR ALL ITEMS		6247.250-329-019B						
EXCEPT DETECTOR SIGNAL CABLE.		6247.250-329-091A						
SEE NOTE 3		6247.250-329-091B						
		6247.250-329-043A						
MAINT/SURVEILL - - -		3. POST-ACCIDENT OPERABILITY PERIOD: SEE						
REFERENCE: NOT REQUIRED		FADP DOCUMENT NO. 245.600, REV.0						
		4. CALCULATION NO.12210-EQS-63						
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 2								

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247250-6

REV 0

SHEET NO. 2

DATE 11/27/84

MARK NO

MODEL/CATALOG NO.

ENV. ZONE

QUAL. LIFE

OPTIME

REMARKS

SUBMRG

OC

SRN 247250-6

SPEC 247.250

RHS RADIATION MONITORING

IRHS*RE16A

CT-G

40 YEARS

1000

REG.G.1.97

A

IRHS*RE16B

CT-G

40 YEARS

1000

REG.G.1.97

A

IRHS*RE20A

DN-1

40 YEARS

1000

REG.G.1.97

A

IRHS*RE20B

DN-1

40 YEARS

1000

REG.G.1.97

A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247250-6

REV 0

SHEET NO. 3

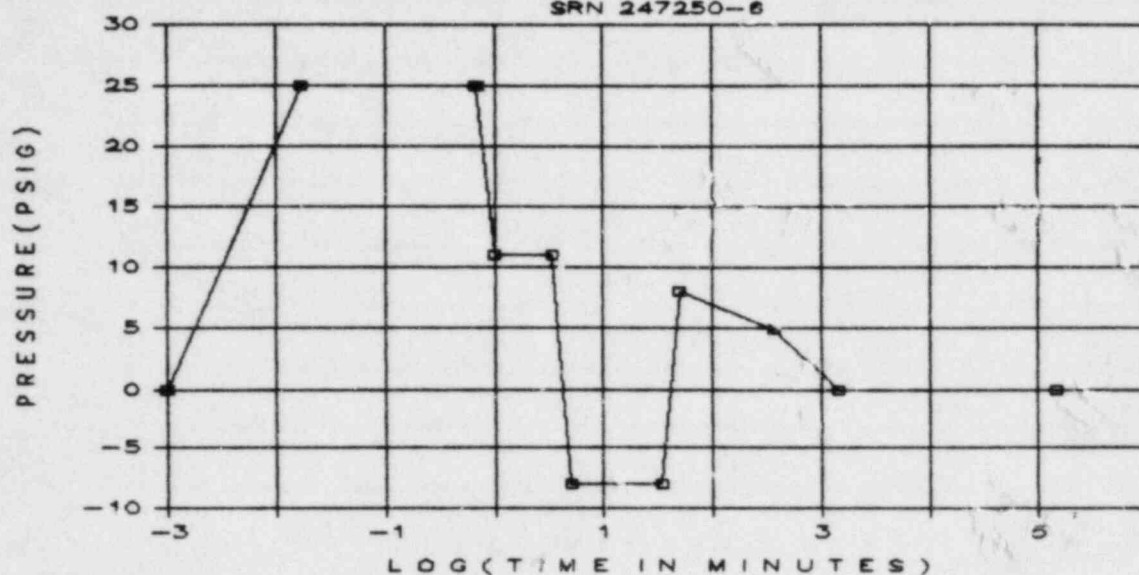
DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. The monitor is qualified for operation at 70 psig; therefore, specified pressure will have no effect on it.
 3. A revised vendor qualification report addressing a cable shrinkage problem is in review. If this report is not adequate, use of another type of cable will be investigated.

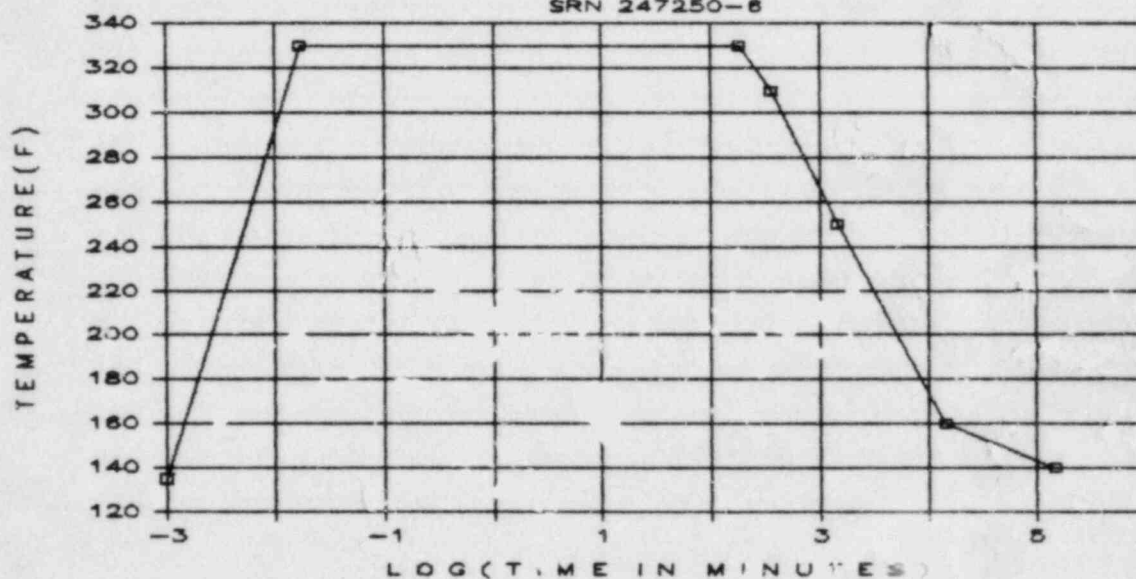
SPECIFIED ACCIDENT PROFILE

SRN 247250-6



SPECIFIED ACCIDENT PROFILE

SRN 247250-6



TEMPERATURE							
TIME	0sec	1sec	3hrs	6hrs	1day	10day	100days
LOG(MINUTES)	-3.00	-1.77	2.26	2.56	3.16	4.16	5.16
TEMP(F)	135	330	330	310	250	160	140
TIME(MIN)	0.001	0.017	180	360	1440	14400	144000

PRESSURE										
TIME	0sec	1sec	40sec	60sec	200sec	300sec	2000sec	3000sec	1hrs	1day 100days
LOG(MINUTES)	-3.00	-1.77	-0.17	0.00	0.52	0.70	1.52	1.70	2.56	3.16 5.16
PRES(PSIG)	0	25	25	11	11	-8	-8	8	5	0 0
TIME(MIN)	0.001	0.017	0.67	1	3.33	5	33.33	50	360	1440 144000

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247250-7
REV 0
SHEET NO. 2
DATE 11/27/84

MARK NO
MODEL/CATALOG NO. ENV. ZONE QUAL. LIFE OPTIME
REMARKS SUBMRG OC

SRN 247250-7

SPEC 247.250

RHS RADIATION MONITORING

1RMS-RE21A

CT-5A 40 YEARS 100D
A

1RMS-RE21B

CT-5A 40 YEARS 100D
A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247250-7

REV 0

SHEET NO. 3

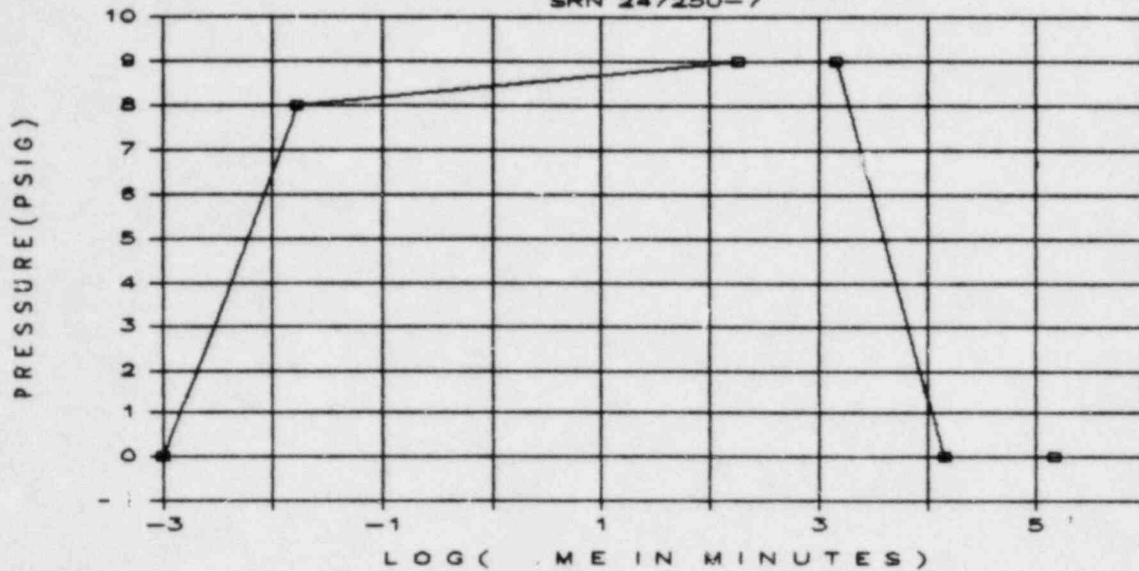
DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. This monitor is an ion chamber, and its construction is similar to the high-range radiation monitor (RD-23). It has no pressure-sensitive component; therefore, specified pressure will have no effect on it.
 3. This monitor is an ion chamber and it has no component that can be affected by humidity; therefore, 100-percent RH will have no effect on it.

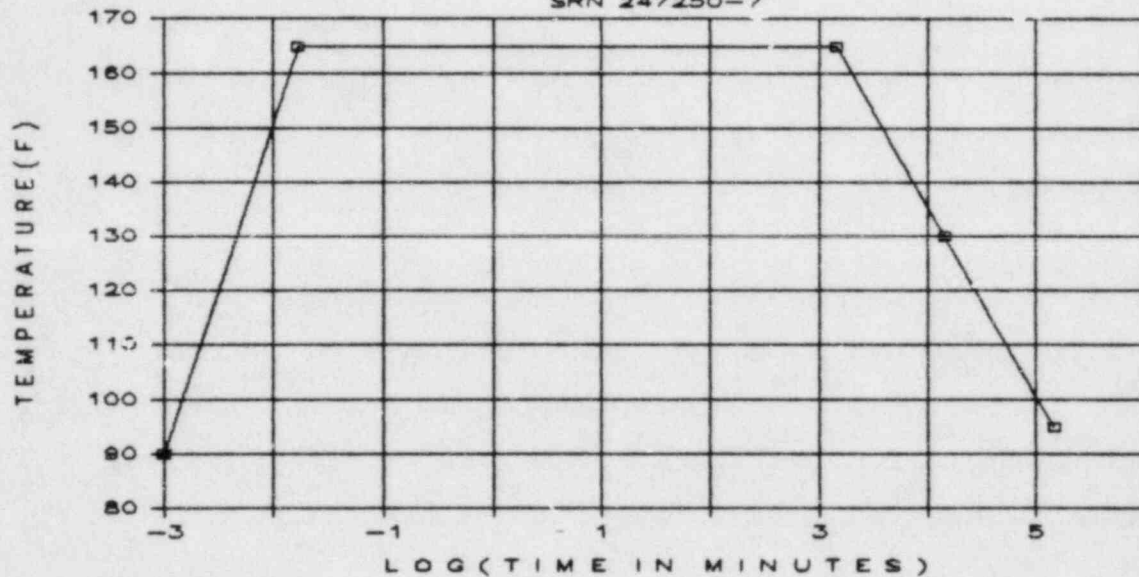
SPECIFIED ACCIDENT PROFILE

SRN 247250-7



SPECIFIED ACCIDENT PROFILE

SRN 247250-7



TEMPERATURE

TIME	0sec	6sec	1day	10days	100days
LOG (MINUTES)	-3.00	-1.77	3.16	4.16	5.16
TEMP(F)	90	165	165	130	95
TIME(MIN)	0.001	0.017	1440	14400	144000

PRESSURE

TIME	0sec	6sec	3hrs	1days	10days	100days
LOG(MINUTES)	-3.00	-1.77	2.26	3.16	4.16	5.16
PRES(PSIG)	0	8	9	9	0	0
TIME(MIN)	0.001	0.017	180	1440	14400	144000

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247250-8
REV 0
SHEET NO. 2
DATE 11/27/84

MARK NO
MODEL/CATALOG NO. ENV. ZONE QUAL. LIFE OPTIME
REMARKS SUBMRG OC

SRN 247250-8

SPEC 247.250

RHS RADIATION MONITORING

1RHS*RE5B

FB-148-G

40 YEARS

1 HR
A

REG.G.1.97

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247250-8

REV 0

SHEET NO. 3

DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. Operability period for this monitor is 1 hr, and 3E2 is the total integrated dose of gamma for 6 hr; therefore, the monitor is qualified for 6 hr. Total integrated dose of gamma for 180 days is 2E3. The technical basis for placement of this equipment in operability Code C after 6 hr will be addressed in the EQD.
 3. Beta radiation has no effect on the monitor since the monitor is totally enclosed (see Reference 2).
 4. In accordance with Reference 2, GA Technologies will provide the necessary maintenance and surveillance schedule needed to maintain 40 years of qualified life.
 5. Sample pump motor qualification is incomplete. Vendor is to prepare a quote and plan for testing motors to establish a qualified life at plant operating conditions.

SRN 247250-9
REV 0
DATE 05-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						DATE	
								05-Dec-84	
								SHEET 1	
		PARAMETER	SPECIFIED	QUALIFIED	DOCUMENT REFERENCE		DUAL	MARGIN	REMARKS
			VALUE	VALUE	SPECIFIED	QUALIFIED	METHOD	DEMO	
EQUIP NO.: SEE SHEET 2		OP.TIME:	N/R	NA	3	2	NA	NA	
SYSTEM: SEE SHEET 2		TEMP (F):							NOTE-1
		NORMAL	90	131	1	2	TEST-SIM	NA	
		ABNORMAL	140	131	1	2	AN+DATA	NA	NOTE-2
TYPE: (DESCRIPTION)		ACCIDENT	NA	NA	NA	NA	NA	NA	
RADIOACTIVITY INDICATOR		PRESS (PSIG)							NOTE-1
		NORMAL	-1.0" H2O	ATMOS	1	2	TEST-SIM	NA	
		ABNORMAL	2.3	ATMOS	1	2	AN+DATA	NA	NOTE-2
MANUFACTURER: GA TECH.		ACCIDENT	NA	NA	NA	NA	NA	NA	
		RH (%):							NOTE-1
MODEL: SEE SHEET 2		NORMAL	50	95	1	2	TEST-SIM	NA	
		ABNORMAL	100	95	1	2	AN+DATA	NA	NOTE-2
SAFETY FUNCTION: - - -		ACCIDENT	NA	NA	NA	NA	NA	NA	
LOCAL INDICATION OF		RADIATION:							NOTE-1
RADIATION		NORM GAMMA	8E3	1E4	1	2	AN+DATA	NA	
		ACC GAMMA	NA					NA	
OP. CODE: SEE SHEET 2		NORM BETA	2E3		1			NA	
		ACC BETA	NA					NA	
		NEUTRON	NA					NA	
		SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -		SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA									
DEMO: NA									
ZONE NO.: SEE SHEET 2									
SUBMERGENCE:		DOCUMENT REFERENCE:							
SPRAY/FROTH:		1. SPECIFICATION 247.250 REV.0, ADD.1 / E&DCR NO.P40,957A							
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
		SDDF # 6247.250-329-044C							
		6247.250-329-091C							
		6247.250-329-019B							
		6247.250-329-045B							
		6247.250-329-091A							
		6247.250-329-023E							
		6247.250-329-091B							
EQUIPMENT NOT SUBJECTED TO		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
SUBMERGENCE OR SPRAY/FROTH		PAOP DOCUMENT NO. 245.600, REV.0							
DOCUMENTATION ACCEPTABILITY:									
ACCEPTABLE TO NUREG 0588,CAT I									
MAINT/SURVEILL - - -									
REFERENCE: 2 (NOTE-3)									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE: 2									

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN - 247250-9

REV 0

SHEET NO. 2

DATE 11/27/84

MARK NO

MODEL/CATALOG NO.

ENV. ZONE

QUAL. LIFE

CP TIME

REMARKS

SUBMRG

CC

SRN 247250-9

SPEC 247.250

RMS RADIATION MONITORING

1RMS*RI21A

CT-5A

40 YEARS

N/A

C

N/R FOR SAFETY FUNCTION

1RMS*RI21B

CT-5A

40 YEARS

N/R

C

N/R FOR SAFETY FUNCTION

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247250-9

REV 0

SHEET NO. 3

DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. Indicator has no safety function during abnormal condition; therefore, it does not have to be qualified for such. However, indicator must be replaced if it fails during an abnormal event.
 3. In accordance with Reference 2, GA Technologies will provide the necessary maintenance and surveillance schedule needed to maintain 40 years of qualified life.

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 247411-1
REV 0
DATE 05-Dec-84
SHEET 1B

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

EQUIPMENT DESCRIPTION	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	REMARKS
				SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2B	OP.TIME:	100 DAYS	100 DAYS	3	2	AN+ DATA	YES	
SYSTEM: SEE SHEET 2B	TEMP (F):							NOTE-1
	NORMAL	122	135	1	2	TEST-SIM	NA	NOTE-2
	ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)	ACCIDENT	122	340	1	2	TEST-SIM	YES	
TERMINAL RACKS-WIRE	PRESS (PSIG)							NOTE-1
RACKS	NORMAL	ATMOS	ATMOS	1	2	TEST-SIM	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: MERCURY/EATON	ACCIDENT	ATMOS	113	1	2	TEST-SIM	YES	
	IRH (%)							NOTE-1
MODEL: SEE SHEET 2B	NORMAL	90	100	1	2	TEST-SIM	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -	ACCIDENT	90	100	1	2	TEST-SIM	NA	
CONTINUITY OF CLASS 1E	RADIATION:							NOTE-1
SERVICE	NORM GAMMA	700		1	2		NA	
	ACC GAMMA	9E6	1.75E8	1	2	TEST-SIM	YES	
OP. CODE: SEE SHEET 2	NORM BETA	0		1	2		NA	
	ACC BETA	500		1	2		NA	
	NEUTRON	0		1	2		NA	
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:	DOCUMENT REFERENCE:							
SPRAY/FROTH:	1. SPECIFICATION 247.411 REV.0, ADD.2							
	2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
EQUIPMENT NOT SUBJECT TO	SDDF # 6247.411-296-010A							
SUBMERGENCE OR SPRAY/FROTH	3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
	PAOP DOCUMENT NO. 245.600, REV.0							
	5. CALCULATION NO. 12210-EDS-47 REV.0 (QUALIFIED LIFE-WIRE)							
DOCUMENTATION ACCEPTABILITY:								
ACCEPTABLE TO NUREG 0588,CAT I								
MAINT/SURVEILL - - -								
REFERENCE: NOT REQUIRED								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 2,4								

RBS-ENVIRONMENTAL IDENTIFICATION PROGRAM
 RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
 SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247411-1
 Rev. 0
 Sheet 1
 Date: 27 Nov 84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBSYS	QUAL. LIFE	OPTIME CC
SRN 247411-1				
SPEC 247.411				
JPB SUPERSTRUCTURE - PRIMARY AUXILIARY BUILDING				
1JPB*RAK1	NONE, UNIQUE Instrument Rack wire	AB-095-6	40 years	1000 A
1JPB*RAK2	NONE, UNIQUE Instrument Rack wire	AB-095-6	40 years	1000 A
1JPB*RAK3	NONE, UNIQUE Instrument Rack wire	AB-141-2	40 years	1000 A
1JPB*RAK4	NONE, UNIQUE Instrument Rack wire	AB-141-1	40 years	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247411-1
REV 0
SHEET NO. 3B
DATE 11/27/84

NOTES

1. For complete environmental conditions, see SWEC Document No. 215.150, Revision 2, 1984.
2. The wire is qualified for more than 40 years at 122°F.

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247411-1

REV 0

SHEET NO. 3B

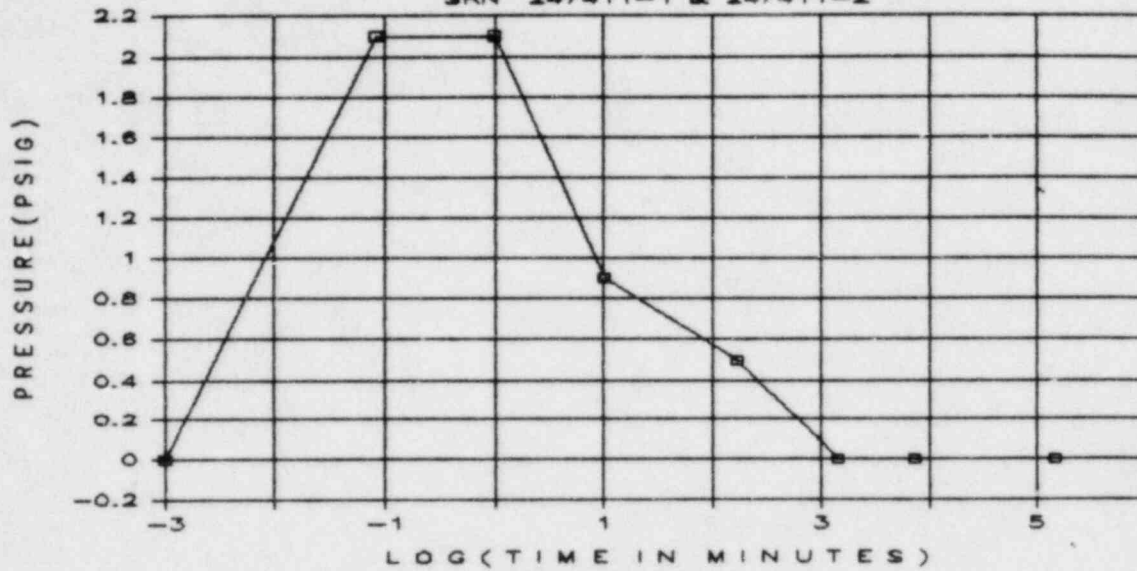
DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see SWEC Document No. 215.150, Revision 2, 1984.
 2. The wire is qualified for more than 40 years at 122°F.

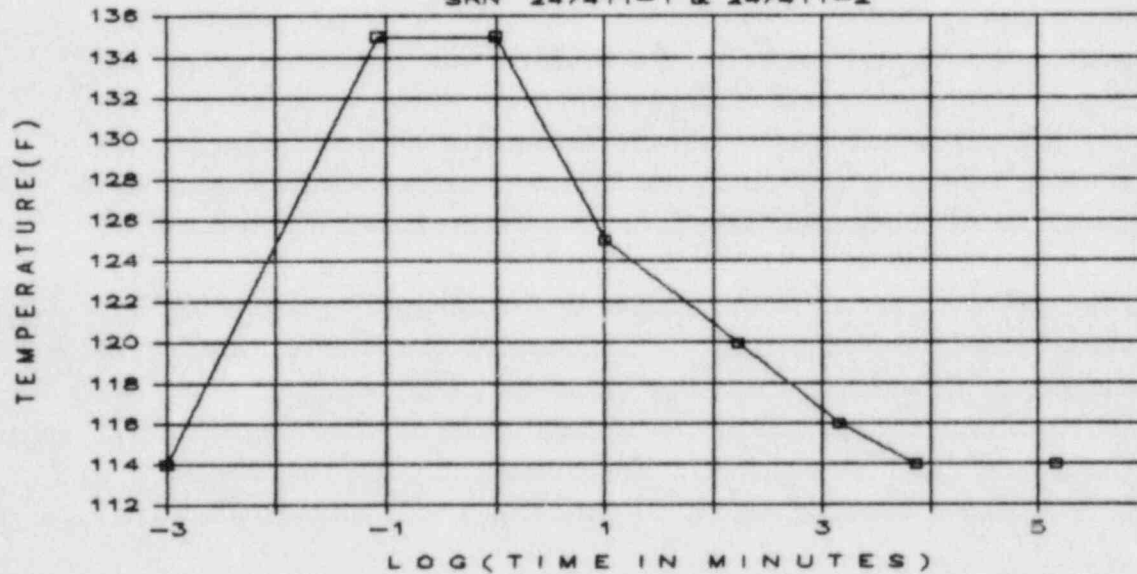
SPECIFIED ACCIDENT PROFILE

SRN 247411-1 & 247411-2



SPECIFIED ACCIDENT PROFILE

SRN 247411-1 & 247411-2

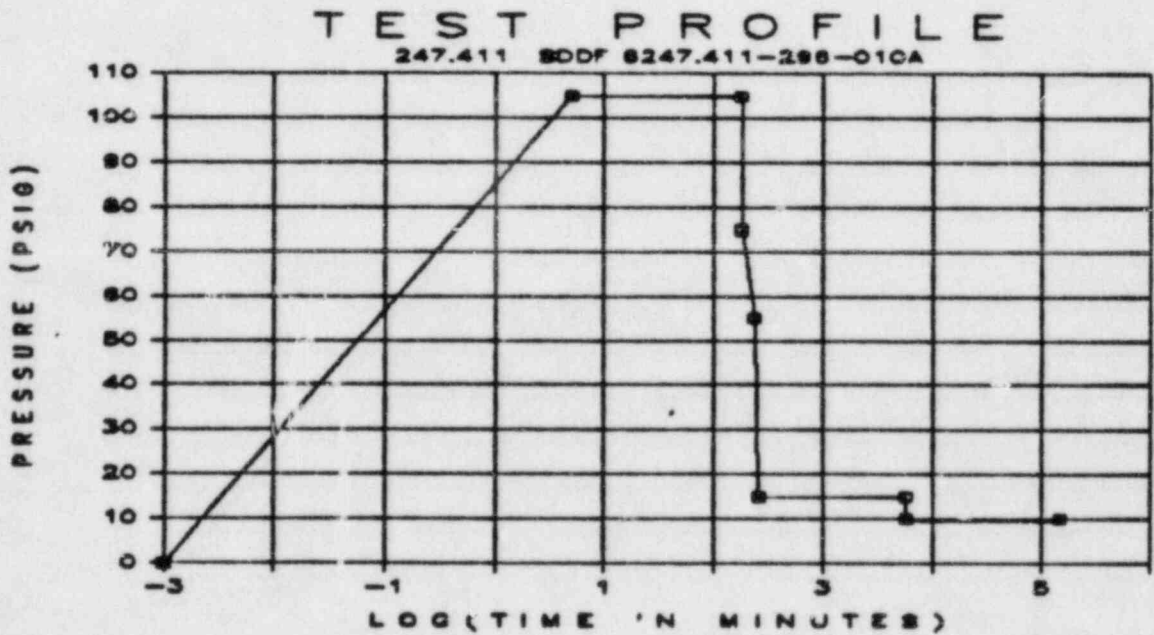
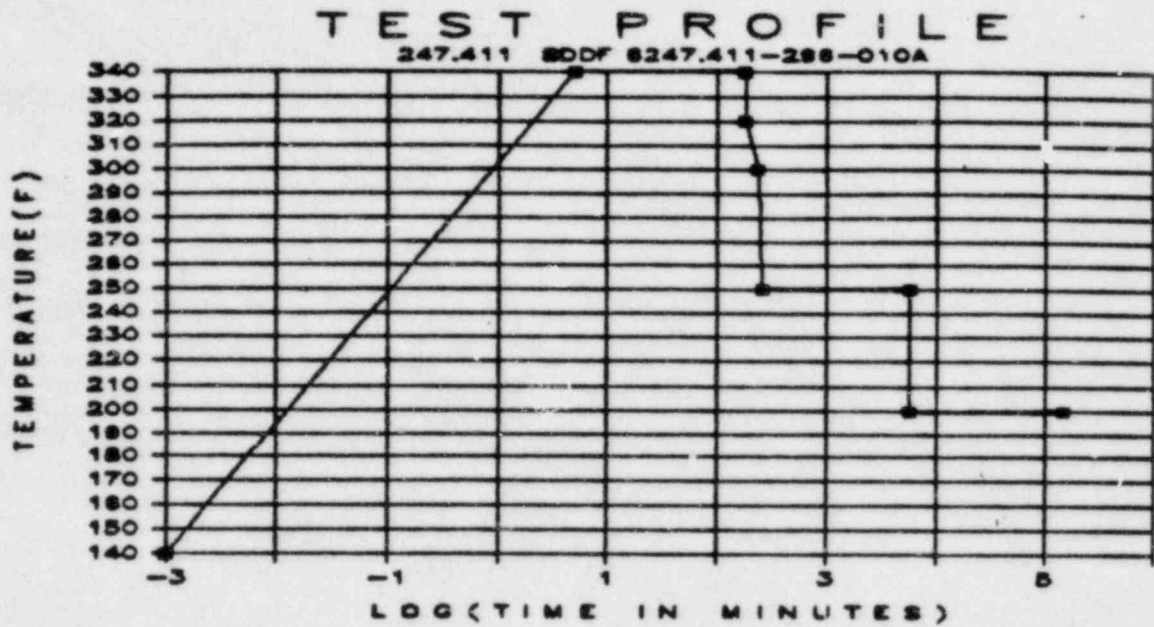


TEMPERATURE

TIME	0sec	5sec	1min	10min	2.8hrs	1day	5days	100days
LOG (MINUTES)	-3.00	-1.08	0.00	1.00	2.23	3.16	3.86	5.16
TEMP (F)	114	135	135	125	120	116	114	114
TIME (MIN)	0.001	0.083	1	10	168	1440	7200	144000

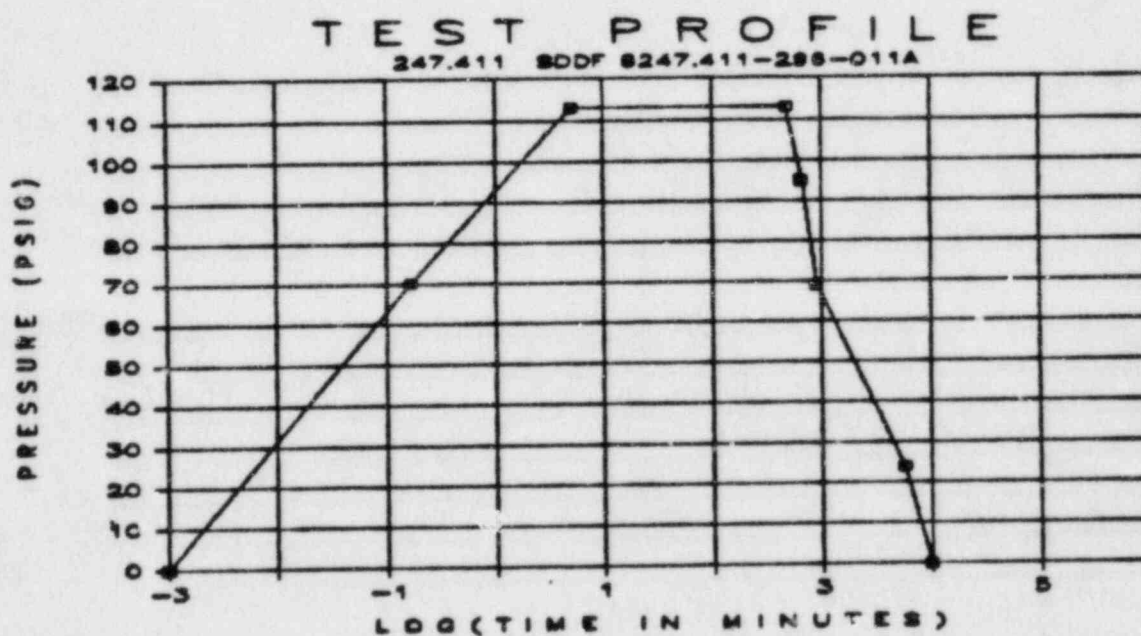
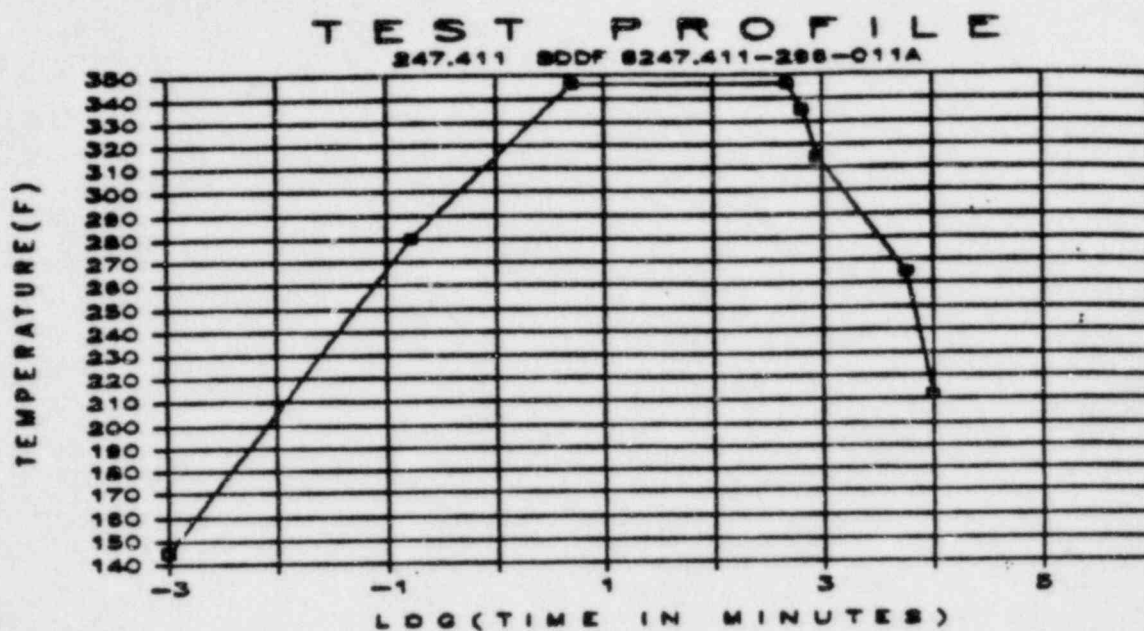
PRESSURE

TIME	0sec	5sec	1min	10min	2.8hrs	1day	5days	100days
LOG (MINUTES)	-3.00	-1.08	0.00	1.00	2.23	3.16	3.86	5.16
PRES (PSIG)	0	2.1	2.1	0.9	0.5	0	0	0
TIME (MIN)	0.001	0.083	1	10	168	1440	7200	144000



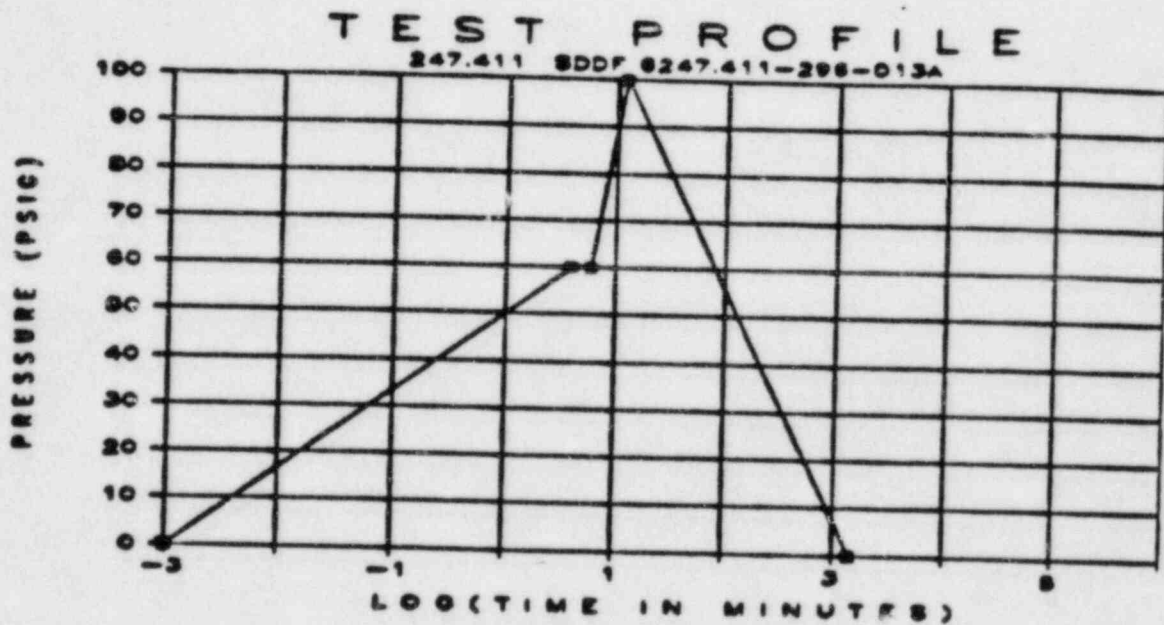
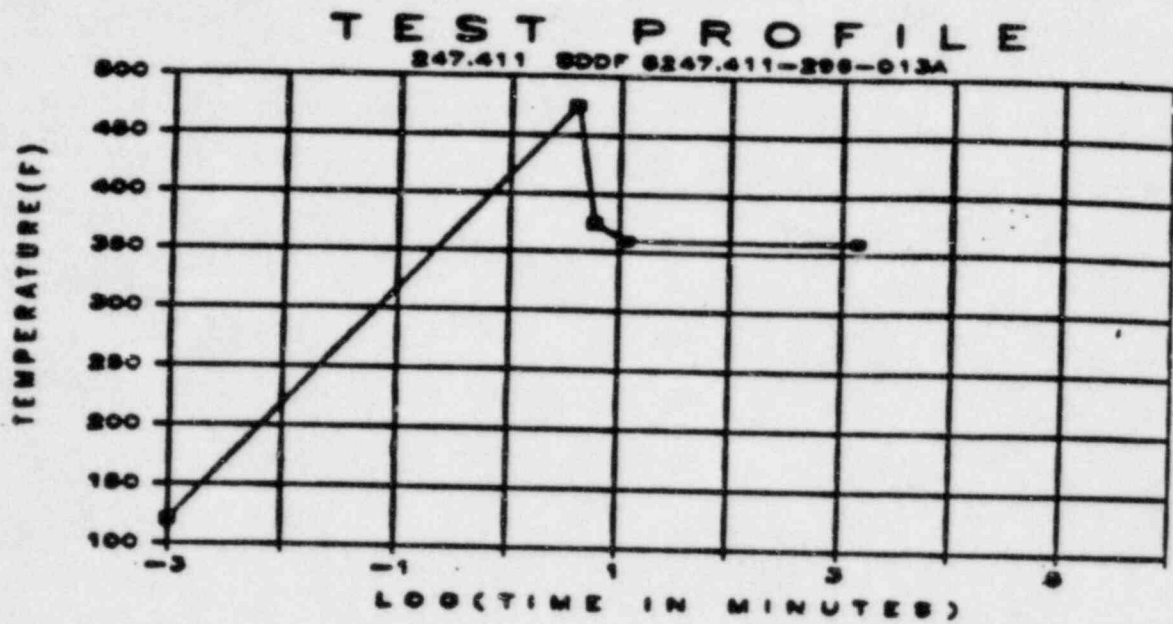
TEST PROFILE DATA FOR 247.411 SDDF 6247.411-296-010A

TIME	0	5min	3hr	3hr	4hr	4hr20min	4days	4days	100days
LOG(MINUTES)	-3.00	0.70	2.26	2.36	2.38	2.42	3.76	3.76	5.16
TEMP(F)	140	340	340	320	320	250	250	200	200
PRES(PSIG)	0	105	105	75	75	15	15	10	10



TEST PROFILE DATA FOR 247.411 SDDF 6247.411-296-011A

TIME	0	10sec	5min	8hr	11hr	15hr	4days	7days
LOG (MINUTES)	-3.00	-0.78	0.70	2.68	2.82	2.95	3.76	4.00
TEMP (F)	145	280	346	346	335	315	265	212
PRES (PSIG)	0	70	113	113	95	69	24	0



TEST PROFILE DATA FOR 247.411 SDDF 6247.411-296-013A

TIME	0	4min	6min	12min	24hr
LOG(MINUTES)	-3.00	0.60	0.78	1.08	3.16
TEMP(F)	120	475	375	360	360
PRES(PSIG)	0	60	60	100	0

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 247411-2
REV 0
DATE 05-Dec-84
SHEET 1A

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	REMARKS
EQUIP NO.: SEE SHEET 2A	OF TIME:	100 DAYS	100 DAYS	3	2	AN+ DATA	YES	NOTE-3
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE-1
	NORMAL	122	135	1	2	TEST-SIM	NA	NOTE-2
	ABNORMAL	NA	346	1	2	TEST-SIM	NA	
TYPE: (DESCRIPTION)	ACCIDENT	122	346	1	2	TEST-SIM	YES	
TERMINAL BOARDS FOR INSTRUMENT	PRESS (PSIG)							NOTE-1
RACKS	NORMAL	-.5" H2O	ATMOS	1	2	TEST-SIM	NA	
	ABNORMAL	ATMOS	ATMOS	1	2	TEST-SIM	NA	
MANUFACTURER: MERCURY/BUCHANAN	ACCIDENT	2.1	113	1	2	TEST-SIM	YES	
MODEL: SEE SHEET 2	RH (%)							NOTE-1
	NORMAL	90	100	1	2	TEST-SIM	NA	
	ABNORMAL	60	100	1	2	TEST-SIM	NA	
SAFETY FUNCTION: - - -	ACCIDENT	100	100	1	2	TEST-SIM	NA	
CONTINUITY OF CLASS 1E	RADIATION:							NOTE-1
SERVICE	NORM GAMMA	700		1	2		NA	
	ACC GAMMA	9E6	2E8	1	2	TEST-SIM	YES	
OP. CODE: SEE SHEET 2	NORM BETA	0		1	2		NA	
	ACC BETA	500		1	2		NA	
	NEUTRON	0		1	2		NA	
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:	DOCUMENT REFERENCE:							
SPRAY/FROTH:	1. SPECIFICATION 247.411 REV.0, ADD.2							
	2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6247.411-296-011A							
EQUIPMENT NOT SUBJECT TO	3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
SUBMERGENCE OR SPRAY/FROTH	FAOP DOCUMENT NO. 245.600, REV.0							
	4. CALCULATION NO. 12210-EDS-46 REV.0 (QUALIFIED LIFE TERMINAL BLOCKS)							
DOCUMENTATION ACCEPTABILITY:	5. CALCULATION NO. 12210-EDS-47 REV.0 (FAOP CALCULATION)							
ACCEPTABLE TO NUREG 0588,CAT I								
MAINT/SURVEILL - - -								
REFERENCE: NOT REQUIRED								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 2,4								

RBS- ENVIRONMENTAL (CATION) PROGRAM
RBS-ENVIRONMENTAL QUALIFIC. DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SKN 247411-2
Rev. 0
Sheet :
Date: 21 Nov 84

MARK NO
MODEL/CATALOG NO. ENV. ZONE QUAL. LIFE OPTIME
REMARKS SUBMRG OC

SRN 247411-2

SPEC 247.411

JPB SUPERSTRUCTURE - PRIMARY AUXILIARY BUILDING

1JPB*RAK1

NONE, UNIQUE
Instrument Rack
Terminal Boards

AB-095-6

40 years

1000
A

1JPB*RAK2

NONE, UNIQUE
Instrument Rack
Terminal Boards

AB-095-6

40 years

1000
A

1JPB*RAK3

NONE, UNIQUE
Instrument Rack
Terminal Boards

AB-141-2

40 years

1000
A

1JPB*RAK4

NONE, UNIQUE
Instrument Rack
Terminal Boards

AB-141-1

40 years

1000
A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247411-2

REV 0

SHEET NO. 3A

DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see SWEC Document No. 215.150, Revision 2, 1984.
 2. Terminal blocks are qualified for more than 40 years at 135°F.
 3. Operability time is extended from 3 days test to 100 days by Arrhenius calculation. See Reference 5.

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 247421-1
REV 1
DATE 10-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION							REMARKS
	PARAMETER	SPECIFIED	QUALIFIED	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	
		VALUE	VALUE	SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2	OP.TIME:	100 DAYS	100 DAYS	3	2	TEST-SIM	YES	
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE 1
	NORMAL	114	122	1	2	TEST-SIM	NA	
	ABNORMAL	NA	150	1	2	TEST-SIM	NA	
TYPE: (DESCRIPTION)	ACCIDENT	114	150	1	2	TEST-SIM	YES	NOTE 2
HYDROGEN ANALYZER-REMOTE	PRESS (PSIG)							NOTE 1
CABINET	NORMAL	ATMOS	ATMOS	1	2	TEST-SIM	NA	
	ABNORMAL	NA	ATMOS	1	2	TEST-SIM	NA	
MANUFACTURER: COMSIP, INC	ACCIDENT	ATMOS	ATMOS	1	2	TEST-SIM	NA	
	RH (%)							NOTE 1
MODEL: SEE SHEET 2	NORMAL	90	95	1	2	TEST-SIM	NA	
	ABNORMAL	NA	95	1	2	TEST-SIM	NA	
SAFETY FUNCTION: - - -	ACCIDENT	90	95	1	2	TEST-SIM	NA	
IDENTIFY HYDROGEN BUILDUP	RADIATION:							NOTE 1
AFTER A LOCA	NORM GAMMA	700		1,4	2	TEST-SIM	NA	
	ACC GAMMA	6E5	1E6	1,4	2	TEST-SIM	YES	
OP. CODE: SEE SHEET 2	NORM BETA	0		1,4	2	NA	NA	
	ACC BETA	500		1,4	2	AN DATA	NA	
	NEUTRON	0				NA	NA	
	SPRAY	NA	NA			NA	NA	
ACCURACY - -	SUBMERGENCE	NA	NA			NA	NA	
SPEC: 5% FULL SCALE								
DEMO: 5% FULL SCALE								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:	DOCUMENT REFERENCE:							
SPRAY/FROTH:	1. SPECIFICATION 247.421, REV. 0, ADD. 1							
	2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6247.421-313-004A							
EQUIPMENT NOT SUBJECTED TO	3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
SUBMERGENCE OR SPRAY/FROTH	PAOP DOCUMENT NO. 245.600, REV.0							
	4. CALCULATION NO. 12210-FR(C)-541 - GAS SPECIFIC RADIATION CALCULATION							
DOCUMENTATION ACCEPTABILITY:								
ACCEPTABLE TO NUREG 0588,CAT I								
MAINT/SURVEILL (NOT REQUIRED)								
REFERENCE:2								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE:2								

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247421-1

Rev 0

Date 27 Nov 94

Sheet 2

MARK NO

MODEL/CATALOG NO.

ENV. ZONE

QUAL. LIFE

OPTIME

REMARKS

SUBMRG

OC

SRN 247421-1

SPEC 247.421

CMS CONTAINMENT ATMOSPHERE MONITORING

1CHS*AT25A

Part of 1CHS*
PNL 10A

AB-114-6

5 Years

1000
A

1CHS*AT25B

Part of 1CHS*
PNL 10B

AB-141-3

5 Years

1000
A

1CHS*PNL10A

KIII,UNIQUE

AB-141-4

5 Years

1000
A

1CHS*PNL10B

KIII,UNIQUE

AB-141-3

5 Years

1000
A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247421-1

REV 0

SHEET NO. 3

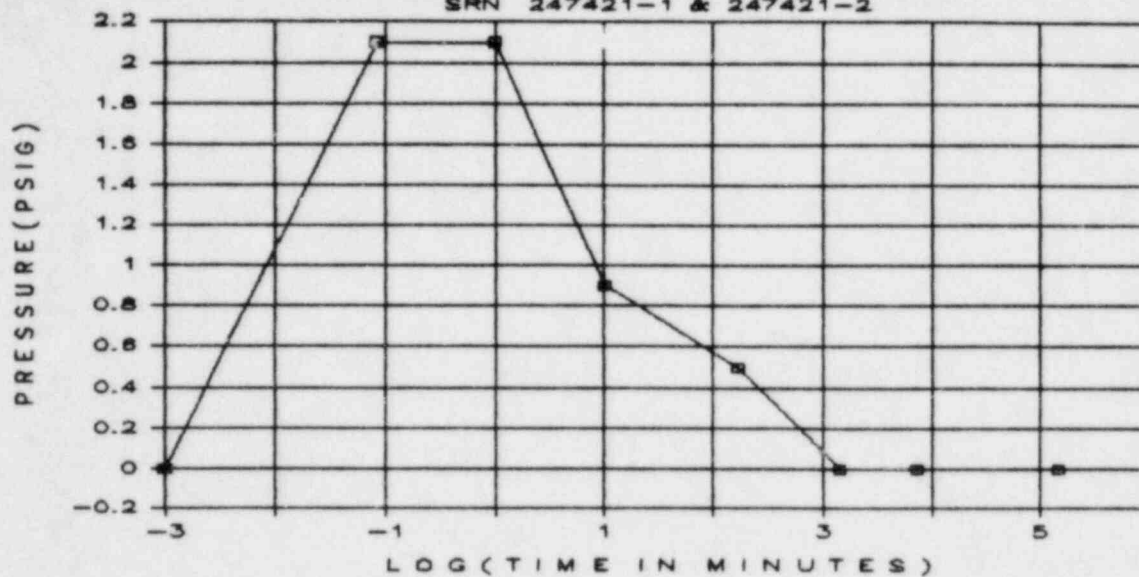
DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see SWEC Document No. 215.150, Revision 2, 1984 and Reference 4.
 2. For a LOCA the temperature is the same as normal and the operability code is A. During a HELB the temperature is 135°F and the operability code is C. Justification of the technical bases for the placement of this equipment in operability Code C for a HELB will be addressed in the EQD.

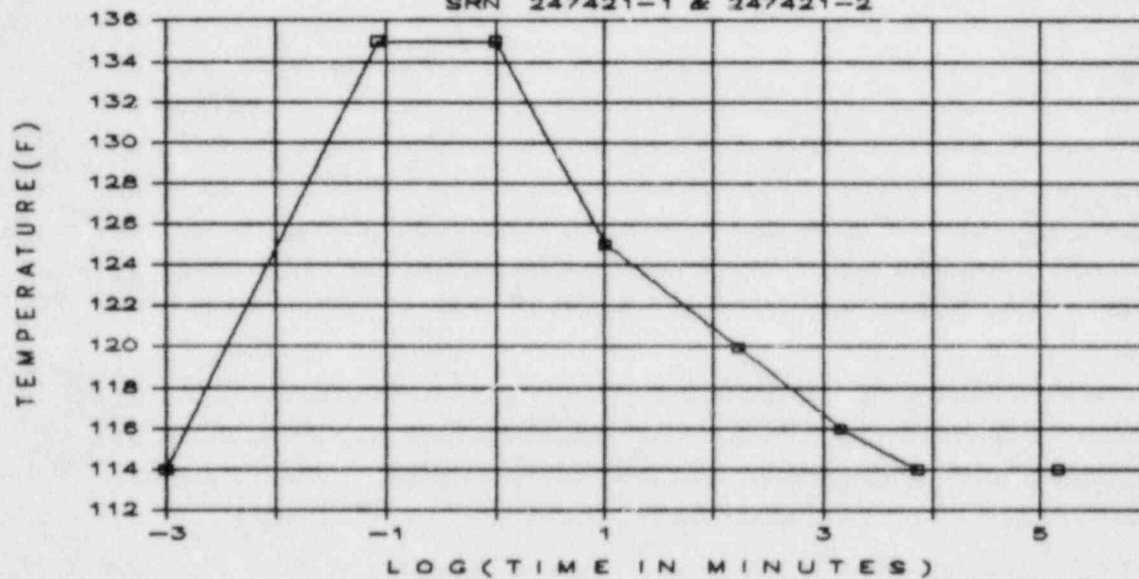
SPECIFIED ACCIDENT PROFILE

SRN 247421-1 & 247421-2



SPECIFIED ACCIDENT PROFILE

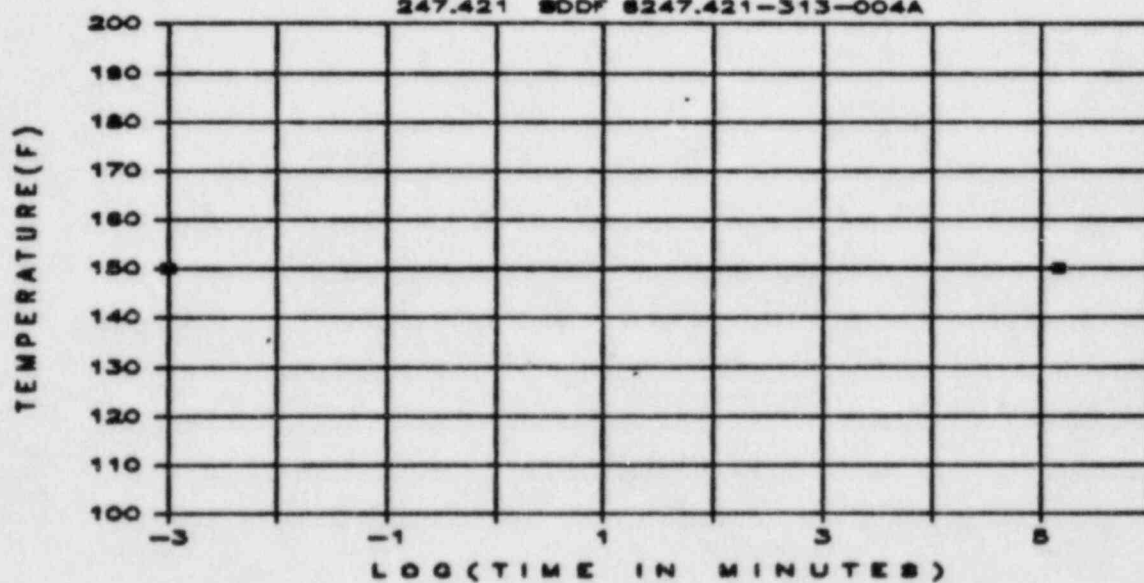
SRN 247421-1 & 247421-2



TEMPERATURE								
TIME	0sec	5sec	1min	10min	2.8hrs	1day	5days	100days
LOG (MINUTES)	-3.00	-1.08	0.00	1.00	2.23	3.16	3.86	5.16
TEMP(F)	114	135	135	125	120	116	114	114
TIME(MIN)	0.001	0.083	1	10	168	1440	7200	144000
PRESSURE								
TIME	0sec	5sec	1min	10min	2.8hrs	1day	5days	100days
LOG(MINUTES)	-3.00	-1.08	0.00	1.00	2.23	3.16	3.86	5.16
PRES(PSIG)	0	2.1	2.1	0.9	0.5	0	0	0
TIME(MIN)	0.001	0.083	1	10	168	1440	7200	144000

TEST PROFILE

247.421 SDDF 6247.421-313-004A



TEST PROFILE DATA FOR 247.421 SDDF 6247.421-313-004A

TIME	0	100days
LOG(MINUTES)	-3.00	5.16
TEMP(F)	150	150

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 247421-2
REV 1
DATE 10-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION							REMARKS
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	
				SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2	OP.TIME:	100 DAYS	100 DAYS	3	2	TEST-SIM	-	
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE 1
	NORMAL	114	122	1	2	TEST-SIM	NA	
	ABNORMAL	NA	150	1	2	TEST-SIM	NA	
TYPE: (DESCRIPTION)	ACCIDENT	114	150	1	2	TEST-SIM	YES	NOTE 2
HYDROGEN ANALYZER-LOCAL	PRESS (PSIG):							NOTE 1
CABINET	NORMAL	ATMOS	ATMOS	1	2	TEST-SIM	NA	
	ABNORMAL	NA	ATMOS	1	2	TEST-SIM	NA	
MANUFACTURER: COMSIP, INC	ACCIDENT	ATMOS	ATMOS	1	2	TEST-SIM	NA	
	RH (%):							NOTE 1
MODEL: SEE SHEET 2	NORMAL	90	95	1	2	TEST-SIM	NA	
	ABNORMAL	NA	95	1	2	TEST-SIM	NA	
SAFETY FUNCTION: - - -	ACCIDENT	90	95	1	2	AN + DATA	NA	
IDENTIFY HYDROGEN BUILDUP	RADIATION:							NOTE 1
AFTER A LOCA	NORM GAMMA	700		1	2	AN + DATA	NA	
	ACC GAMMA	2E4	1E6	1	2	AN + DATA	YES	
OP. CODE: SEE SHEET 2	NORM BETA	0		1	2	NA	NA	
	ACC BETA	500		1	2	AN DATA	NA	
	NEUTRON	0		1	2	NA	NA	
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: 5% FULL SCALE								
DEMO: 5% FULL SCALE								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:	DOCUMENT REFERENCE:							
SPRAY/FROTH:	1. SPECIFICATION 247.421, REV. 0, ADD. 1							
	2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
	SDDF # 6247.421-313-004A							
EQUIPMENT NOT SUBJECTED TO	3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
SUBMERGENCE OR SPRAY/FROTH	PAOP DOCUMENT NO. 245.600, REV.0							
DOCUMENTATION ACCEPTABILITY:								
ACCEPTABLE TO NUREG 0588,CAT I								
MAINT/SURVEILL (NOT REQUIRED)								
REFERENCE:2								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE:2								

PBS-ENVIRONMENTAL QUALIFICATION PROGRAM
 RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
 SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247421-2
Rev. 0
Date: 27 NOV 84
Sheet 2

 MARK NO
 MODEL/CATALOG NO. ENV. ZONE QUAL. LIFE OPTIME
 REMARKS SUBNRG CC

SRN 247421-2

SPEC 247.421

CHS CONTAINMENT ATMOSPHERE MONITORING

1CHS*PNL12A

KIII,UNIQUE AB-141-1 *5 years* 100D
 A

1CHS*PNL12B

KIII,UNIQUE AB-141-2 *5 years* 100D
 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247421-2

REV 0

SHEET NO. 3

DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see SWEC Document No. 215.150, Revision 2, 1984.
 2. For a LOCA the temperature is the same as normal for which the operability code is A. During a HELB the temperature is 135°F and the operability code is C. Justification of the technical bases for the placement of this equipment in operability Code C for a HELB will be addressed in the EQD.

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 247433-1
REV 0
DATE 05-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	REMARKS
					SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2		OP. TIME:	100 DAYS		3	2			
SYSTEM: SEE SHEET 2		TEMP (F):							NOTE-1
VENTILATION SYSTEMS		NORMAL	122		1	2			
		ABNORMAL	NA		1	2			
TYPE: (DESCRIPTION)		ACCIDENT	122		1	2			
THERMAL FLOW DETECTING		PRESS (PSIG)							NOTE-1
ELEMENTS		NORMAL	ATMOS		1	2			
		ABNORMAL	NA		1	2			
MANUFACTURER: FLUID COMPONENTS		ACCIDENT	ATMOS		1	2			
INC.		IRH (%)							NOTE-1
MODEL: SEE SHEET 2		NORMAL	90		1	2			
		ABNORMAL	NA		1	2			
SAFETY FUNCTION: - - -		ACCIDENT	90		1	2			
CONTINUING OPERATION OF		RADIATION:							NOTE-1
SAFETY SYSTEMS		NORM GAMMA			1	2			
		ACC GAMMA	4.4E7 TID		1	2			
OP. CODE: SEE SHEET 2		NORM BETA			1	2			NOTE-3
		ACC BETA			1	2			NOTE-3
		NEUTRON			1	2			
ACCURACY - -		SPRAY	NA	NA	NA	NA	NA	NA	
		SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA									
DEMO: NA									
ZONE NO.: SEE SHEET 2									
SUBMERGENCE:		DOCUMENT REFERENCE:							
SPRAY/FROTH:		1. SPECIFICATION 247.433 REV.0, ADD.3							
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
		SDDE # 6247.433-315-002C (TEST PLAN)							
EQUIPMENT NOT SUBJECT TO		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
SUBMERGENCE OR SPRAY/FROTH		PAOP DOCUMENT NO. 245.600, REV.0							
DOCUMENTATION ACCEPTABILITY:									
NUREG 0588, CAT I									
QUALIFICATION IN PROGRESS									
(SEE NOTE-2)									
MAINT/SURVEILL - - -									
REFERENCE:									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE:									

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247433-1
Rev Q
Date: 27 Nov 84
Sheet 2A

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBNRG	QUAL. LIFE	OPTIME OC
SRN 247433-1				
SPEC 247.433				
GTS GAS TREATMENT STANDBY				
1GTS*FE24A	FR72-1R	AB-141-5	Later	1000 A
1GTS*FE24B	FR72-1R	AB-141-6	Later	1000 A
HVF VENTILATION - FUEL BUILDING				
1HVF*FE109	FR72-4R	FB-148-2	Later	1000 A
1HVF*FE32A	FR72-4R	FB-148-1	Later	1000 A
1HVF*FE32B	FR72-4R	FB-148-1	Later	1000 A
HVR VENTILATION - REACTOR PLANT				
1HVR*FE111	FR72-4R	AB-141-1	Later	1000 A
1HVR*FE113	FR72-4R	AB-141-2	Later	1000 A
1HVR*FE163	FR72-GR	AB-141-2	Later	1000 A
1HVR*FE28A	FR72-GR	CT-G	Later	1000 A
1HVR*FE28B	FR72-4R	CT-G	Later	1000 A
1HVR*FE28C	FR72-4R	CT-G	Later	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247433 -1
Rev 0
Date 27 Nov 84
Sheet 2B

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUCHRG	QUAL. LIFE	OPTIME OC

SRN 247433-1				
HVR VENTILATION - REACTOR PLANT				
1HVR*FE29A	FR72-4R	AB-170-1	Later	100D A
1HVR*FE29B	F272-4R	AB-170-1	Later	100D A
1HVR*FE56A	FR72-4R	AB-141-2	Later	100D A
1HVR*FE56B	F272-4R	AB-141-2	Later	100D A
LSV LEAKAGE CONTROL - PENETRATION VALVE				
1LSV*FE20A	FR72-1R	AB-141-2	Later	30 D A
1LSV*FE20B	FR72-1R	AB-141-2	Later	30 D A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247433-1

REV 0

SHEET NO. 3

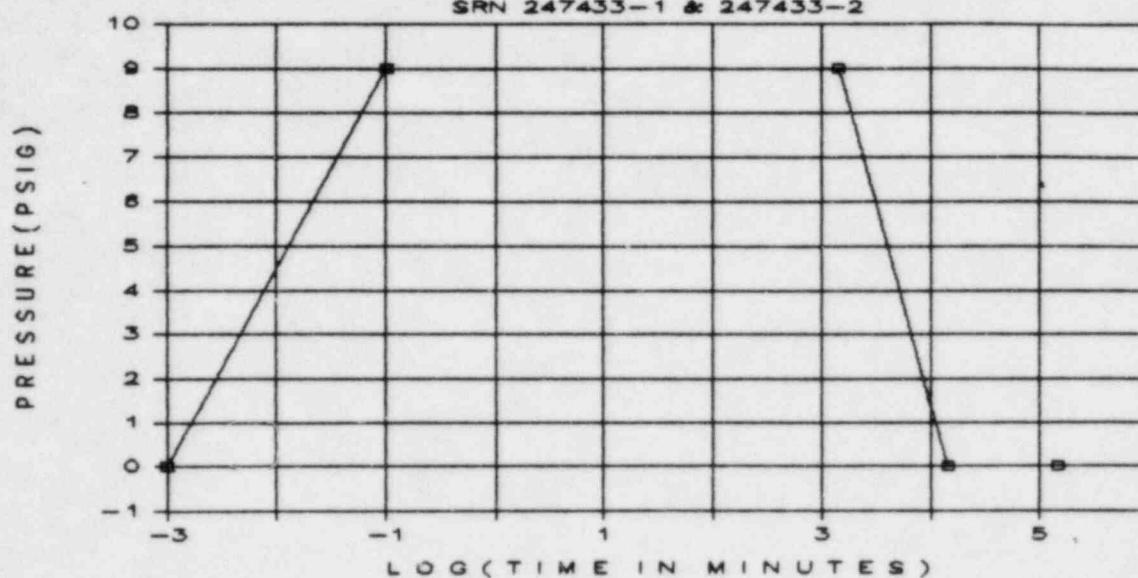
DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see SWEC Document No. 215.150, Revision 2, 1984.
 2. Type test is in progress; expected completion date is January 1985.
 3. Sensor is unaffected by beta; it is hermetically sealed. See Reference 2.

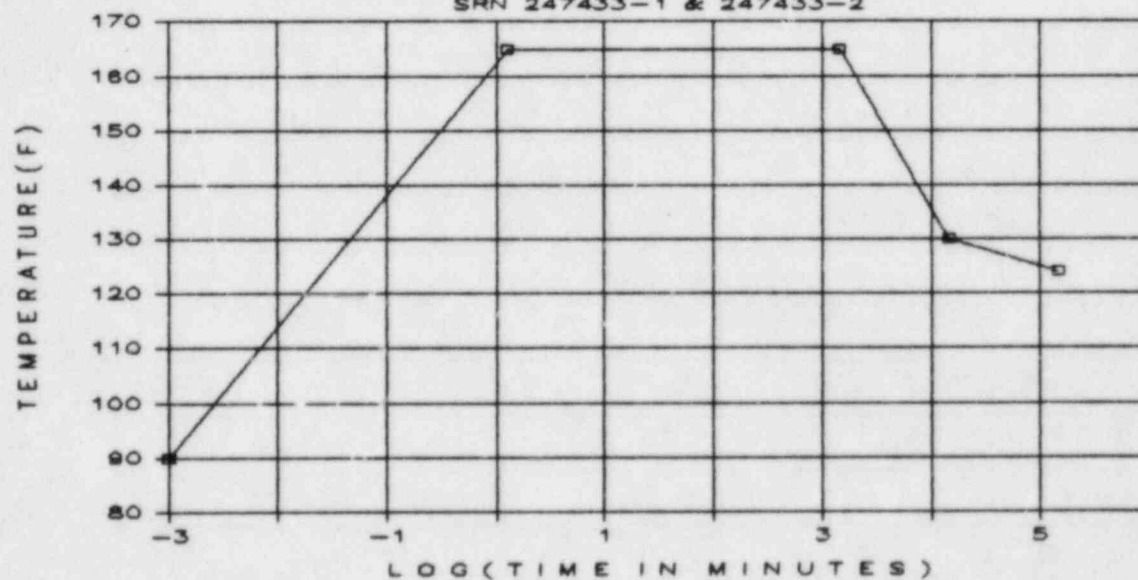
SPECIFIED ACCIDENT PROFILE

SRN 247433-1 & 247433-2



SPECIFIED ACCIDENT PROFILE

SRN 247433-1 & 247433-2



TEMPERATURE					
TIME	0sec	6sec	1day	10days	100days
LOG (MINUTES)	-3.00	0.10	3.16	4.16	5.16
TEMP (F)	90	165	165	130	124
TIME (MIN)	0.001	0.1	1440	14400	144000
PRESSURE					
TIME	0sec	6sec	1day	10days	100days
LOG (MINUTES)	-3.00	-1.00	3.16	4.16	5.16
PRES (PSIG)	0	9	9	0	0
TIME (MIN)	0.001	0.1	1440	14400	144000

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 247433-2
REV 0
DATE 05-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	REMARKS
					SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2		OP.TIME:	100 DAYS		3	2			
SYSTEM: SEE SHEET 2		TEMP (F):							NOTE-1
		NORMAL	122		1	2			
		ABNORMAL	140		1	2			
TYPE: (DESCRIPTION)		ACCIDENT	165		1	2			
ELECTRONICS FOR FLOW DETECTING ELEMENTS		PRESS(PSIG)							NOTE-1
		NORMAL	ATMOS		1	2			
		ABNORMAL	2.3		1	2			
MANUFACTURER: FLUID COMPONENTS INC.		ACCIDENT	9		1	2			
MODEL: SEE SHEET 2		IRH (%)							NOTE-1
		NORMAL	90		1	2			
		ABNORMAL	100		1	2			
SAFETY FUNCTION: - - -		ACCIDENT	100		1	2			
CONTINUING OPERATION OF SAFETY SYSTEMS		RADIATION:							NOTE-1
		NORM GAMMA			1	2			
		ACC GAMMA	.9E6 TID		1	2			NOTE-3
OP. CODE: SEE SHEET 2		NORM BETA			1	2			
		ACC BETA			1	2			
		NEUTRON			1	2			
ACCURACY - -		SPRAY	NA	NA	NA	NA	NA	NA	
SPEC: NA		SUBMERGENCE:	NA	NA	NA	NA	NA	NA	
DEMO: NA									
ZONE NO.: SEE SHEET 2									
SUBMERGENCE:		DOCUMENT REFERENCE:							
SPRAY/FROTH:		1. SPECIFICATION 247.433 REV.0, ADD.3							
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6247.433-315-002C (TEST PLAN)							
EQUIPMENT NOT SUBJECT TO SUBMERGENCE OR SPRAY/FROTH		3. POST-ACCIDENT OPERABILITY PERIOD: SEE PAOP DOCUMENT NO. 245.600, REV.0							
DOCUMENTATION ACCEPTABILITY:									
NUREG 0588, CAT I									
QUALIFICATION IN PROGRESS (SEE NOTE-2)									
MAINT/SURVEILL - - -									
REFERENCE:									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE:									

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247433-2
Rev 0
Date: 27 Nov 84
Sheet 2A

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUCIRG	QUAL. LIFE	OPTIME OC

SRN 247433-2				
SPEC 247.433				
GTS GAS TREATMENT STANDBY				
IGTS*FS24A	FR72-1R	AB-141-5	Later	100D A
IGTS*FS24B	FR72-1R	AB-141-6	Later	100D A
HVF VENTILATION - FUEL BUILDING				
IHV*FS109	FR72-4R	FB-148-2	Later	100D A
IHV*FS32A	FR72-4R	FB-148-1	Later	100D A
IHV*FS32B	FR72-4R	FB-148-1	Later	100D A
HVR VENTILATION - REACTOR PLANT				
IHVR*FS29A	FR72-4R	AB-170-1	Later	100D A
IHVR*FS29B	FR72-4R	AB-170-1	Later	100D A
IHVR*FS56A	FR72-4R	AB-141-2	Later	100D A
IHVR*FS56B	FR72-4R	AB-141-2	Later	100D A
LSV LEAKAGE CONTROL - PENETRATION VALVE				
ILSV*FS20A	FR72-1R	AB-141-2	Later	30 D A

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM
 RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
 SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247433-2
 Rev 0
 Date: 27 Nov 94
 Sheet 2B

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUDIRG	QUAL. LIFE	OPTIME OC
SRN 247433-2				
LSV LEAKAGE CONTROL - PENETRATION VALVE				
1LSVWFS209	FR72-4R	AB-141-3	Later	300 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247433-2

REV 0

SHEET NO. 3

DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see SWEC Document No. 215.150, Revision 2, 1984.
 2. Type test is in progress; expected completion date is January 1985.
 3. Sensor is unaffected by beta; it is hermetically sealed. See Reference 2.

SRN 247461-1
REV 1
DATE 10-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						DATE	10-Dec-84	
		SHEET 1								
		PARAMETER		SPECIFIED	QUALIFIED	DOCUMENT REFERENCE		QUAL	MARGIN	REMARKS
		VALUE		VALUE	SPECIFIED	QUALIFIED	METHOD	DEMO		
EQUIP NO.: SEE SHEET 2		OP.TIME:		100 DAYS	100 DAYS	3	2	AN+DATA	YES	NOTE-2
SYSTEM: SEE SHEET 2		TEMP (F):		- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	NOTE-1
		NORMAL		140	140	1	2	AN+DATA	NA	
		ABNORMAL		NA	200	1	2	AN+DATA	NA	NOTE-3
TYPE: (DESCRIPTION)		ACCIDENT		330	400	1	2	TEST-SIM	YES	
RESISTANCE TEMPERATURE		PRESS (PSIG)		- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	NOTE-1
DETECTOR (RTD)		NORMAL		+0.5	ATMOS	1	2	AN+DATA	NA	
		ABNORMAL		NA	65	1	2	AN+DATA	NA	NOTE-3
MANUFACTURER: PYCO		ACCIDENT		25	65	1	2	TEST-SIM	YES	
		RH (%)		- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	NOTE-1
MODEL: SEE SHEET 2		NORMAL		20 TO 50	100	1	2	AN+DATA	NA	
		ABNORMAL		NA	NA	1	2	AN+DATA	NA	NOTE-3
SAFETY FUNCTION: - - -		ACCIDENT		ALL STEAM	ALL STEAM	1	2	TEST-SIM	NA	
MEASURE & TRANSMIT AIR/WATER		RADIATION:		- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	NOTE-1
TEMPERATURE OF SAFETY SYSTEMS/		NORM GAMMA								
ZONES		ACC GAMMA		1.2EB	2.2EB	1,4	2	TEST-SIM	YES	
OP. CODE: SEE SHEET 2		NORM BETA								
		ACC BETA								
		NEUTRON								
		SPRAY		NA	NA	NA	NA	NA	NA	
ACCURACY - -		SUBMERGENCE		NA	NA	NA	NA	NA	NA	
SPEC: +/- 1.0 DEG. F										
DEMO: SEE NOTE-5										
ZONE NO.: SEE SHEET 2										
SUBMERGENCE:		DOCUMENT REFERENCE:								
SPRAY/FROTH:		1. SPECIFICATION 247.461 REV.1, ADD.3 & E&DCR NO.P40,705B								
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,								
		SDDF # 6247.461-174-004A,B,C,D								
EQUIPMENT NOT SUBJECTED TO		3. POST-ACCIDENT OPERABILITY PERIOD: SEE								
SUBMERGENCE OR SPRAY/FROTH		PAOP DOCUMENT NO. 245.600, REV.0								
		4. CALCULATION NO. 12210-EQS-43								
DOCUMENTATION ACCEPTABILITY:										
ACCEPTABLE TO NUREG 0588,CAT I										
SEE NOTE-5										
MAINT/SURVEILL - - -										
REFERENCE: 2 (SEE NOTE-4)										
QUALIFIED LIFE - - -										
(YEARS): 40										
REFERENCE: 2 (SEE NOTE-4)										

RBS ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247461-1
REV 0
SHEET NO. 2
DATE 11/26/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME OC
SRN 247461-1				
SPEC 247.461				
CHS CONTAINMENT ATMOSPHERE MONITORING				
1CHS*RTD41A	122-3046-12	DH-1	40 YR	1000 A
1CHS*RTD41B	122-3046-12	DH-1	40 YR	1000 A
1CHS*RTD41C	122-3046-12	DH-1	40 YR	1000 A
1CHS*RTD41D	122-3046-12	DH-1	40 YR	1000 A
1CHS*RTD43A	122-3046-12	DH-1	40 YR	1000 A
1CHS*RTD43B	122-3046-12	DH-1	40 YR	1000 A
1CHS*RTD43C	122-3046-12	DH-1	40 YR	1000 A
1CHS*RTD43D	122-3046-12	DH-1	40 YR	1000 A
1CHS*RTD43E	122-3046-12	DH-1	40 YR	1000 A
1CHS*RTD43F	122-3046-12	DH-1	40 YR	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247461-1

REV 1

SHEET NO. 3

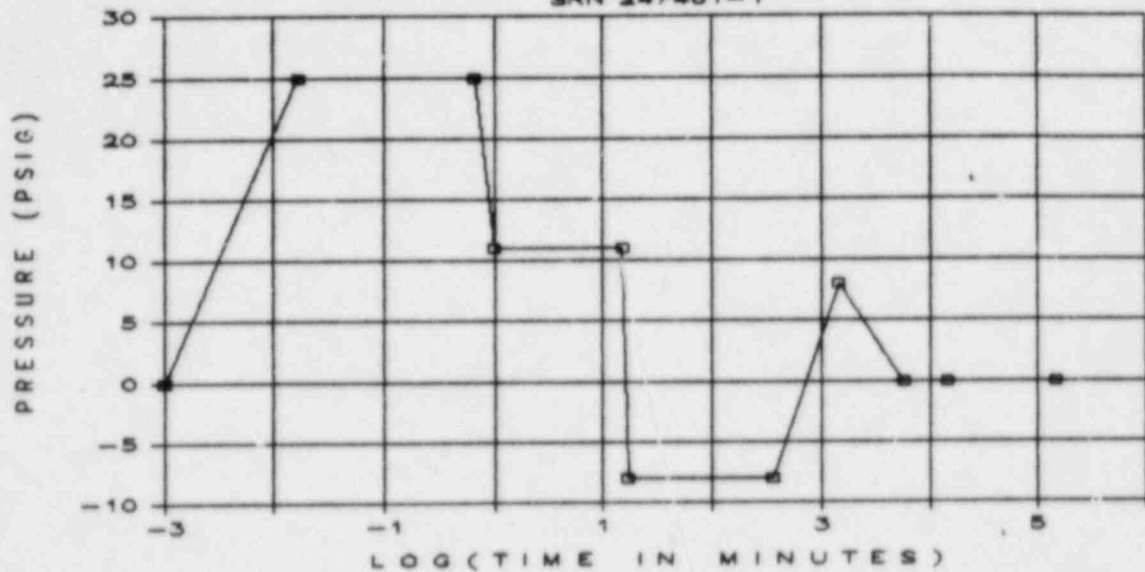
DATE 11/26/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. PAOP extended from 30 days to 100 days. See Reference 2.
 3. Abnormal temperature, pressure, and relative humidity are addressed in Reference 4.
 4. Terminal head gasket must be replaced when terminal head cover is removed in order to maintain qualification.
 5. Factory certification testing of RTDs has a demonstrated accuracy of $<\pm 1.0^{\circ}\text{F}$. The qualification type testing has shown an accuracy of $\pm 3.4^{\circ}\text{F}$. A review of setpoint calculations is in progress to determine whether $\pm 3.4^{\circ}\text{F}$ is an acceptable accuracy.

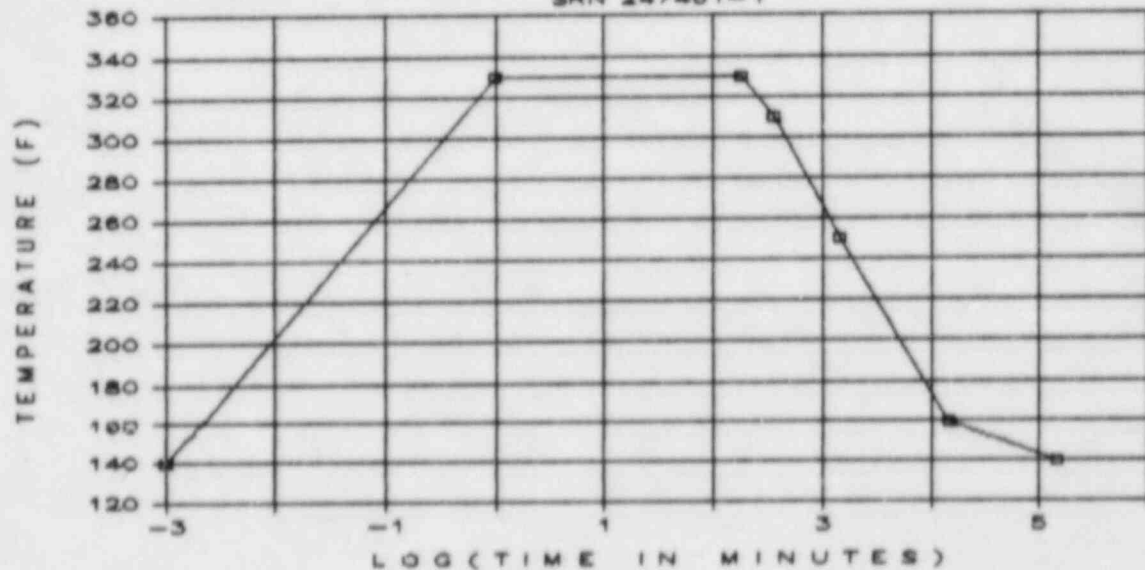
SPECIFIED ACCIDENT PROFILES

SRN 247461-1



SPECIFIED ACCIDENT PROFILES

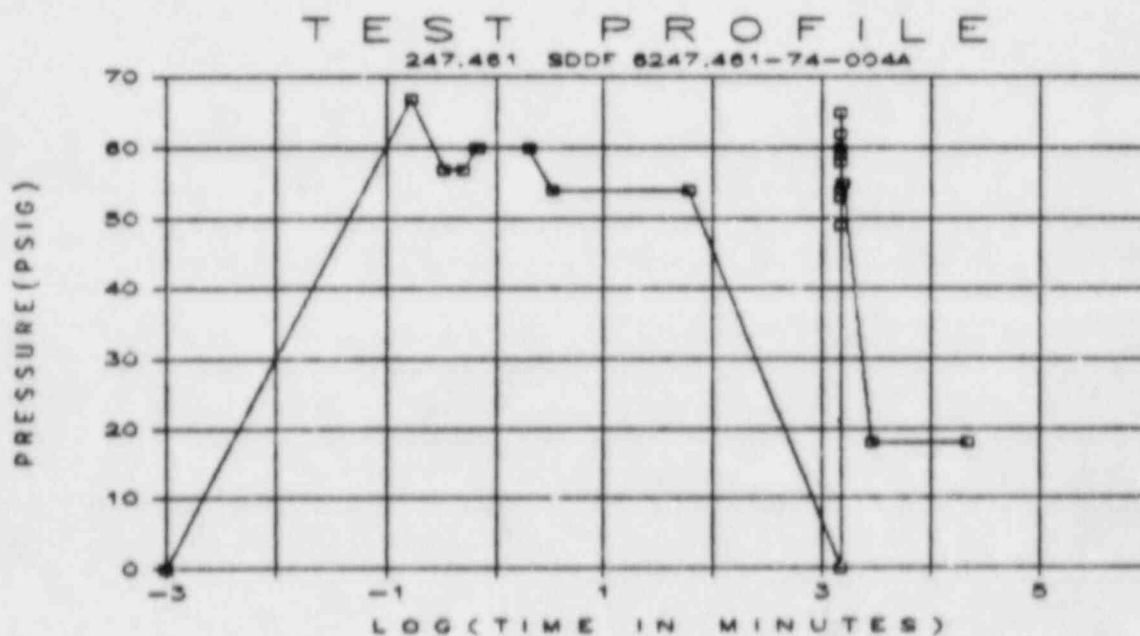
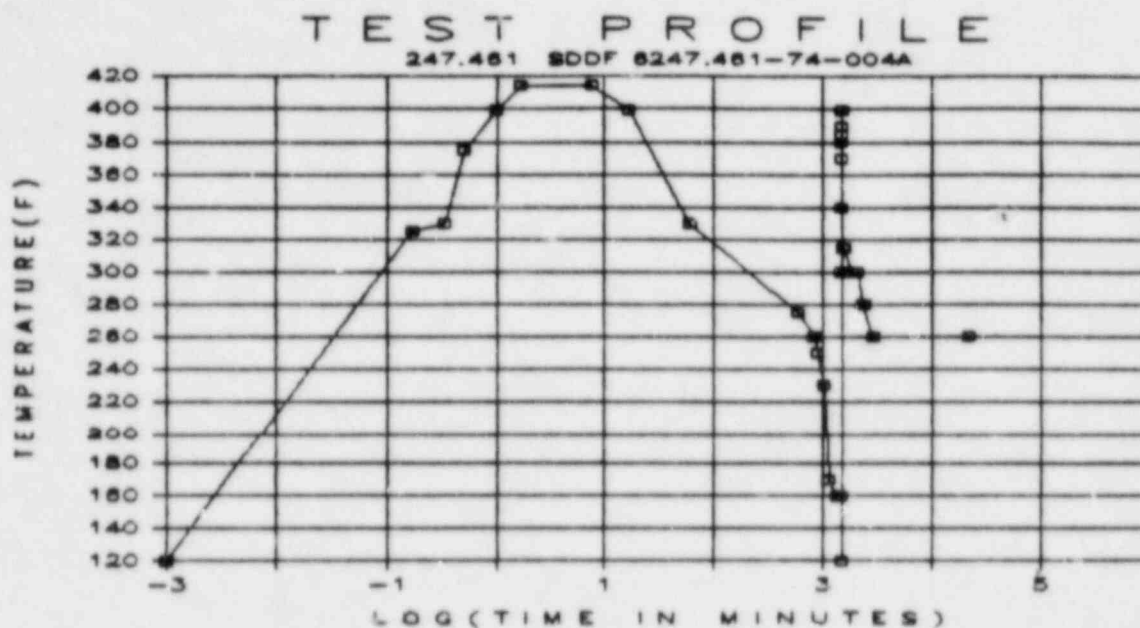
SRN 247461-1



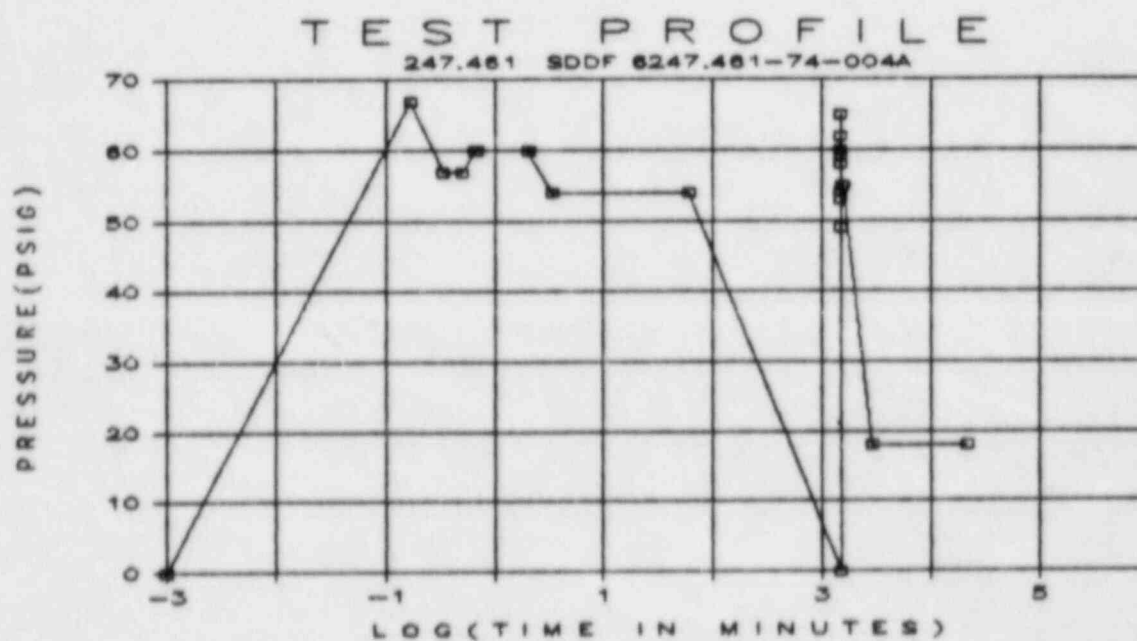
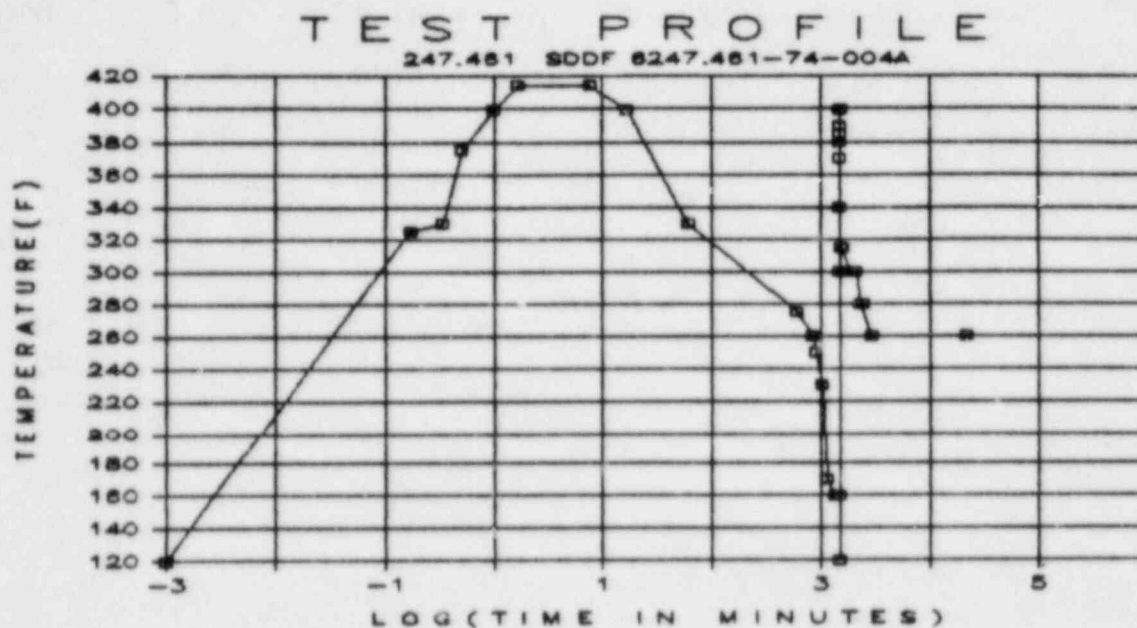
SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION: 247461

TEMPERATURE						
TIME	0	40sec	3hrs	6hrs	1day	10days
LOG (MINUTES)	-3.00	0.00	2.26	2.56	3.16	4.16
TEMP(F)	140	330	330	310	250	160
TIME(MIN)	0.001	1	180	360	1440	14400

PRESSURE										
TIME	0	1.0sec	40sec	60sec	900sec	1000sec	6hrs	1day	4days	10days
LOG(MINUTES)	-3.00	-1.78	-0.18	0.00	1.18	1.22	2.56	3.16	3.76	4.16
PRES(PSIG)	0	25	25	11	11	-8	-8	8	0	0
TIME(MIN)	0.001	0.0167	0.66	1	15	16.7	359	1440	5760	14400



SEE NEXT PAGE FOR DATA



SEE NEXT PAGE FOR DATA

TEST PROFILE DATA FOR 247.461 SDDF 6247.461-74-004A

T E M P E R A T U R E														
TIME	0	10sec	20sec	30sec	60sec	100sec	450sec	1000sec	1hr	10hr	14hr	15hr	17hr	19hr
LOG(MINUTES)	-3.00	-0.78	-0.48	-0.30	0.00	0.22	0.88	1.22	1.78	2.78	2.92	2.95	3.01	3.06
TEMP (F)	120	325	330	375	400	415	415	400	330	275	260	250	230	170

P R E S S U R E														
TIME	0	10sec	20sec	30sec	40sec	2min	200sec	1hr	25hr	25h10s	25h20s	25h30s	25h40s	25h50s
LOG(MINUTES)	-3.00	-0.78	-0.48	-0.30	-0.18	0.30	0.52	1.78	3.18	3.18	3.18	3.18	3.18	3.18
PRESS(PSIG)	0	67	57	57	60	60	54	54	6	53	49	54	59	65

C O N T ' D

T E M P E R A T U R E														
TIME	22hr	25hr	25hr	25h10s	25h20s	25h30s	25h40s	25h50s	25h60s	25hr70s	25h80s	25hr15m	25h16m4	26hr
LOG(MINUTES)	3.12	3.18	3.18	-0.78	-0.48	-0.30	-0.18	-0.08	3.18	0.07	0.12	3.18	3.18	3.19
TEMP (F)	160	160	120	300	340	370	380	385	385	390	400	400	315	315

P R E S S U R E									
TIME	25hr1min	25hr2min	25h150s	25h200s	25h300s	26hr	2days	15days	
LOG(MINUTES)	3.18	3.18	0.40	0.52	0.70	3.19	3.46	4.33	
PRESS(PSIG)	62	62	60	58	55	55	18	18	

C O N T ' D

T E M P E R A T U R E					
TIME	31hr	35hr	39hr	2days	15days
LOG(MINUTES)	3.27	3.32	3.37	3.46	4.33
TEMP (F)	300	300	280	260	260

	PRESSURE													
TIME	0	10sec	20sec	30sec	40sec	2min	200sec	1hr	25hr	25h10s	25h20s	25h30s	25h40s	25h50s
LOG(MINUTES)	-3.00	-0.78	-0.48	-0.30	-0.18	0.30	0.52	1.78	3.18	3.18	3.18	3.18	3.18	3.18
PRESS(PsiG)	0	67	87	57	60	60	54	54	0	53	48	54	59	65

C O N T ' D

TIME	25hr1min	25hr2min	25hr150s	25hr200s	25hr300s	26hr	2days	15days
LOG(MINUTE)	3.18	3.18	0.40	0.52	0.70	3.19	3.46	4.33
PRESS(FSIG)	62	62	60	58	55	55	18	18

CONT'D

TEMPERATURE -----					
TIME	31hr	35hr	39hr	2days	15days
LOG(MINUTES)	3.27	3.32	3.37	3.46	4.33
TEMP (F)	300	300	280	260	260

SRN 247461-2
REV 0
DATE 05-Dec-84
SHEET 1

DATE 05-Dec-84
SHEET 1

		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						DATE	05-Dec-84	
EQUIPMENT DESCRIPTION								SHEET 1		
		DOCUMENT REFERENCE								
		PARAMETER	SPECIFIED	QUALIFIED	SPECIFIED		QUALIFIED	DUAL	MARGIN	REMARKS
			VALUE	VALUE	SPECIFIED		QUALIFIED	METHOD	DEMO	
EQUIP NO.: SEE SHEET 2		OP.TIME:	100 DAYS	100 DAYS	3	2	AN+DATA	YES		NOTE-2
SYSTEM: SEE SHEET 2		TEMP (F):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	NOTE-1
		NORMAL	100	140	1	2	AN+DATA	NA		
		ABNORMAL	185	200	1	2	AN+DATA	NA		NOTE-3
TYPE: (DESCRIPTION)		ACCIDENT	185	400	1	2	TEST-SIM	YES		
RESISTANCE TEMPERATURE		PRESS(PSIG)	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	NOTE-1
DETECTOR (RTD)		NORMAL	- .1 TO -1"W	ATMOS	1	2	AN+DATA	NA		
		ABNORMAL	2.3	65	1	2	AN+DATA	NA		NOTE-3
MANUFACTURER: PYCO		ACCIDENT	9	65	1	2	TEST-SIM	YES		
		RH (%):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	NOTE-1
MODEL: SEE SHEET 2		NORMAL	20 TO 50	100	1	2	AN+DATA	NA		
		ABNORMAL	NA	NA	1	2	AN+DATA	NA		NOTE-3
SAFETY FUNCTION: - - -		ACCIDENT	100	ALL STEAM	1	2	TEST-SIM	NA		
MEASURE & TRANSMIT AIR/WATER		RADIATION:	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	NOTE-1
TEMPERATURE OF SAFETY SYSTEMS/		NORM GAMMA:								
ZONES		ACC GAMMA	2.6E7	2.2EB	1,4	2	TEST-SIM	YES		
OP. CODE: SEE SHEET 2		NORM BETA								
		ACC BETA								
		NEUTRON								
		SPRAY	7 SEC	10 SEC	5	2,4	TEST-SIM	NA		NOTE-6
ACCURACY - -		SUBMERGENCE:	7 SEC	10 SEC	5	2,4	AN+DATA	NA		NOTE-6
SPEC: +/- 1.0 DEG. F										
DEMO: SEE NOTE-5										
ZONE NO.: SEE SHEET 2										
SUBMERGENCE: SEE NOTE-6		DOCUMENT REFERENCE:								
SPRAY/FROTH: SEE NOTE-6		1. SPECIFICATION 247.461 REV.1, ADD.3 & E&DCR NO.P40,705A								
		2. VENDOR ENVIRONMENTAL DUALIFICATION REPORT,								
		SDDF # 6247.461-174-004A,B,C,D								
		3. POST-ACCIDENT OPERABILITY PERIOD: SEE								
		PAOP DOCUMENT NO. 245.600, REV.0								
		4. CALCULATION NO. 12210-EDS-43								
		5. FSAR APP. 6A FIG. 6A-10.2								
DOCUMENTATION ACCEPTABILITY:										
ACCEPTABLE TO NUREG 0588,CAT I										
SEE NOTE-5										
MAINT/SURVEILL - - -										
REFERENCE: 2 (SEE NOTE-4)										
QUALIFIED LIFE - - -										
(YEARS): 40										
REFERENCE: 2 (SEE NOTE-4)										

RBS ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247461-2
REV 0
SHEET NO. 2A
DATE 11/26/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBIRG	QUAL. LIFE	OPTIME OC
SRN 247461-2				
SPEC 247.461				
CHS CONTAINMENT ATMOSPHERE MONITORING				
1CHS*RTD24A	122-3046-12	CT-SP Y	40 YR	1000 A
1CHS*RTD24B	122-3046-12	CT-SP Y	40 YR	1000 A
1CHS*RTD24C	122-3046-12	CT-SP Y	40 YR	1000 A
1CHS*RTD24D	122-3046-12	CT-SP Y	40 YR	1000 A
1CHS*RTD24E	122-3046-12	CT-SP Y	40 YR	1000 A
1CHS*RTD24F	122-3046-12	CT-SP Y	40 YR	1000 A
1CHS*RTD24G	122-3046-12	CT-SP Y	40 YR	1000 A
1CHS*RTD24H	122-3046-12	CT-SP Y	40 YR	1000 A
1CHS*RTD24J	122-3046-12	CT-SP Y	40 YR	1000 A
1CHS*RTD24K	122-3046-12	CT-SP Y	40 YR	1000 A
1CHS*RTD40A	122-3046-12	CT-SP Y	40 YR	1000 A
1CHS*RTD40B	122-3046-12	CT-SP Y	40 YR	1000 A

RBS ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247461-2
REV 0
SHEET NO. 2B
DATE 11/26/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBIRG	QUAL. LIFE	OPTIME OC
SRN 247461-2				
SPEC 247.461				
CHS CONTAINMENT ATMOSPHERE MONITORING				
1CHS*RTD40C	122-3046-12	CT-SP Y	40 YR	1000 A
1CHS*RTD40D	122-3046-12	CT-SP Y	40 YR	1000 A
1CHS*RTD42A	122-3046-12	CT-G	40 YR	1000 A
1CHS*RTD42B	122-3046-12	CT-2	40 YR	1000 A
1CHS*RTD42C	122-3046-12	CT-G	40 YR	1000 A
1CHS*RTD42D	122-3046-12	CT-G	40 YR	1000 A
1CHS*RTD42E	122-3046-12	CT-3	40 YR	1000 A
1CHS*RTD42F	122-3046-12	CT-3	40 YR	1000 A
1CHS*RTD42G	122-3046-12	CT-G	40 YR	1000 A
1CHS*RTD42J	122-3046-12	CT-3	40 YR	1000 A
1CHS*RTD42K	122-3046-12	CT-G	40 YR	1000 A
1CHS*RTD42H	122-3046-12	CT-G	40 YR	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247461-2

REV 0

SHEET NO. 3

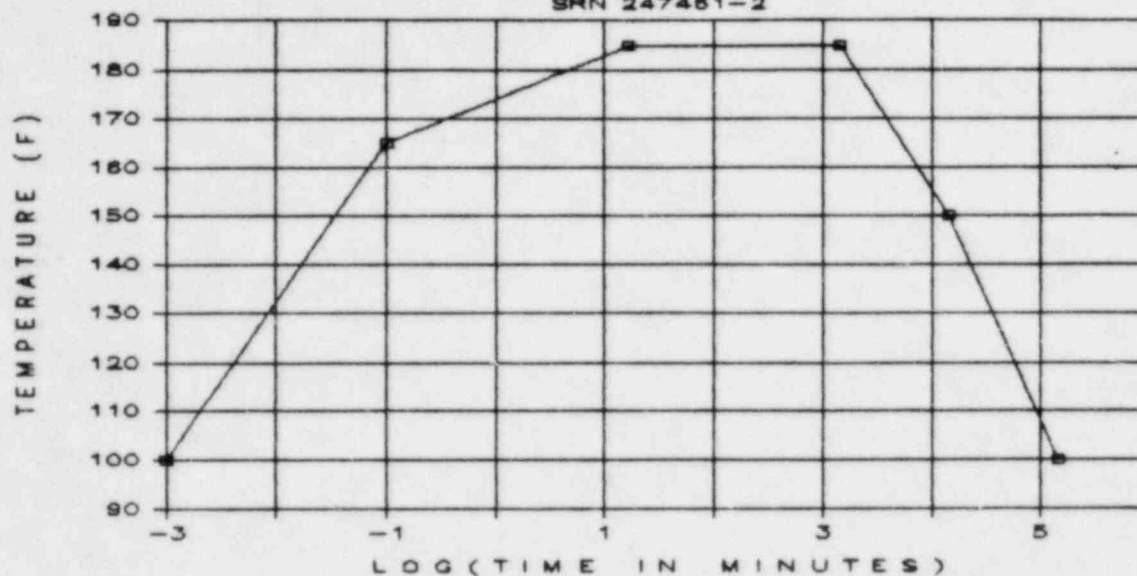
DATE 11/26/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. PAOP extended from 30 days to 100 days. See Reference 2.
 3. Abnormal temperature, pressure, and relative humidity are addressed in Reference 4.
 4. Terminal head gasket must be replaced with a new gasket whenever head cover is removed in order to maintain qualification.
 5. Factory certification testing of RTDs has a demonstrated accuracy of $<\pm 1.0^{\circ}\text{F}$. The qualification type testing has shown an accuracy of $\pm 3.4^{\circ}\text{F}$. A review of the set-point calculations is in progress to determine whether $\pm 3.4^{\circ}\text{F}$ is an acceptable accuracy.
 6. Equipment in containment below 109 ft is subject to submergence and between 109 ft and 120 ft is subject to spray/froth as a result of pool swell. The Yes shown on page 2 for submergence applies to the RTD thermowell, which is always submerged to measure suppression pool water temperature. The RTD termination coverhead is subjected to spray/froth for only 7 seconds.

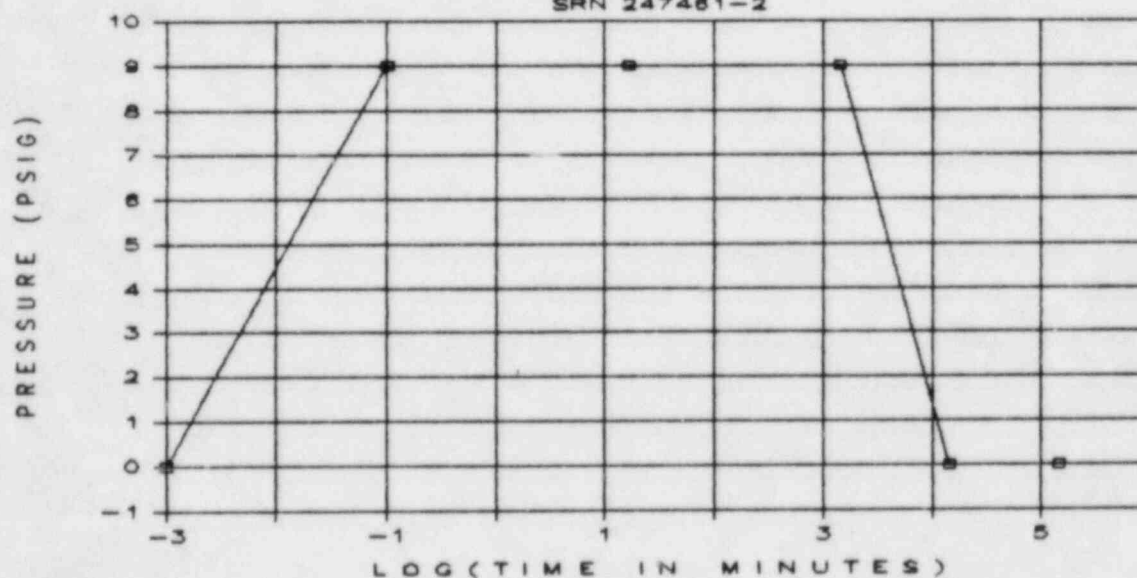
SPECIFIED ACCIDENT PROFILES

SRN 247461-2



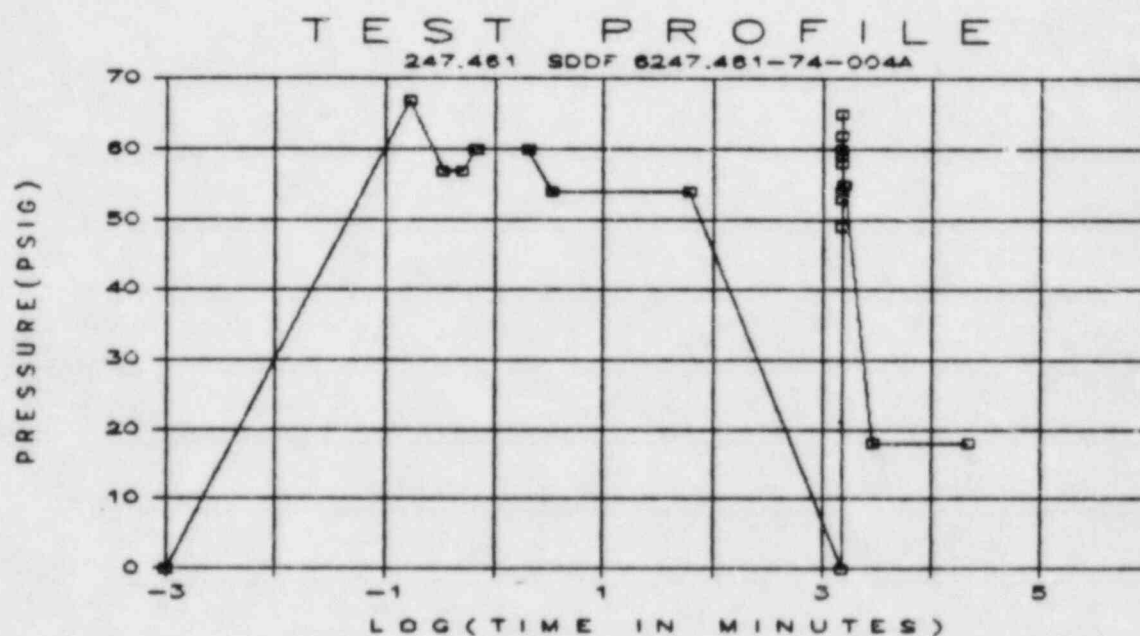
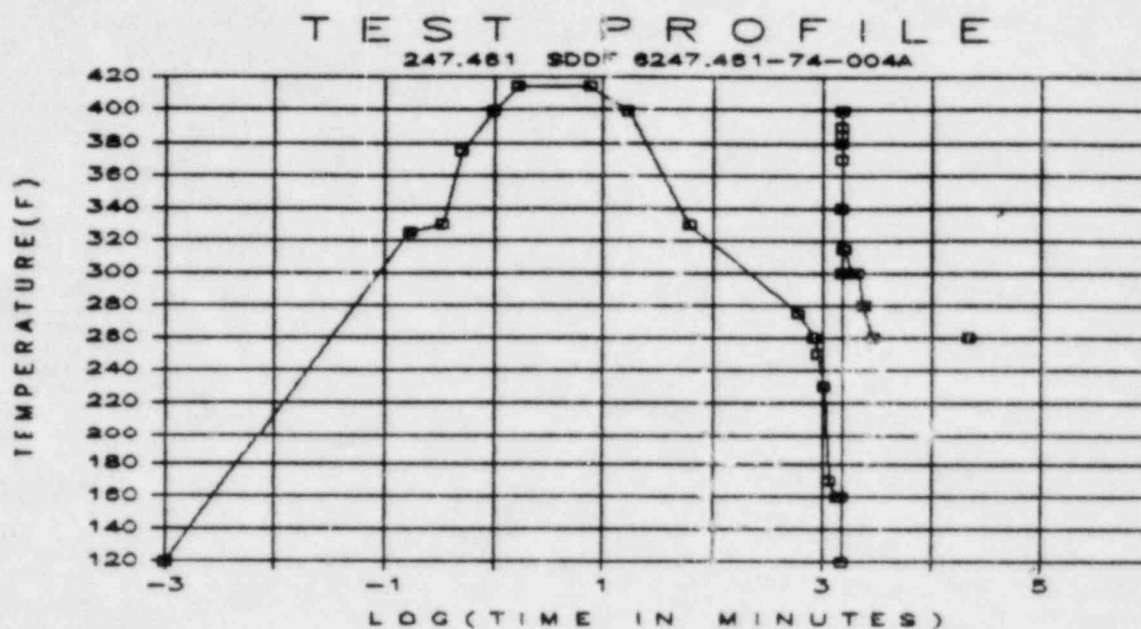
SPECIFIED ACCIDENT PROFILES

SRN 247461-2



SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION: 247461

TEMPERATURE						
TIME	0	6sec	1000sec	24hrs	10days	100days
LOG (MINUTES)	-3.00	-1.00	1.22	3.16	4.16	5.16
TEMP(F)	100	165	185	185	150	100
TIME(MIN)	0.001	0.1	16.7	1440	14400	144000
PRESSURE						
TIME	0	6sec	100sec	24hrs	10days	100days
LOG(MINUTES)	-3.00	-1.00	1.22	3.16	4.16	5.16
PRES(PSIG)	0	9	9	9	0	0
TIME(MIN)	0.001	0.1	16.7	1440	14400	144000



SEE NEXT PAGE FOR DATA

TEST PROFILE DATA FOR 247.461 SDDF 6247.461-74-004A

T E M P E R A T U R E														
TIME	0	10sec	20sec	30sec	60sec	100sec	450sec	1000sec	1hr	10hr	14hr	15hr	17hr	19hr
LOG(MINUTES)	-3.00	-0.78	-0.48	-0.30	0.00	0.22	0.88	1.22	1.78	2.78	2.92	2.95	3.01	3.06
TEMP (F)	120	325	330	375	400	415	415	400	330	275	260	250	230	170

P R E S S U R E														
TIME	0	10sec	20sec	30sec	40sec	2min	200sec	1hr	25hr	25h10s	25h20s	25h30s	25h40s	25h50s
LOG(MINUTES)	-3.00	-0.78	-0.48	-0.30	-0.18	0.30	0.52	1.78	3.18	3.18	3.18	3.18	3.18	3.18
PRESS(PSIG)	0	67	57	57	60	60	54	54	6	53	49	54	59	65

C O N T ' D

T E M P E R A T U R E														
TIME	22hr	25hr	25hr	25h10s	25h20s	25h30s	25h40s	25h50s	25h60s	25hr70s	25h80s	25hr15m	25h16m4	26hr
LOG(MINUTES)	3.12	3.18	3.18	-0.78	-0.48	-0.30	-0.18	-0.08	3.18	0.07	0.12	3.18	3.18	3.19
TEMP (F)	160	160	120	300	340	370	380	385	385	390	400	400	315	315

P R E S S U R E													
TIME	25hr1min	25hr2min	25h150s	25h200s	25h300s	26hr	2days	15days					
LOG(MINUTES)	3.18	3.18	0.40	0.52	0.70	3.19	3.46	4.33					
PRESS(PSIG)	62	62	60	58	55	55	10	18					

C O N T ' D

T E M P E R A T U R E					
TIME	31hr	35hr	39hr	2days	15days
LOG(MINUTES)	3.27	3.32	3.37	3.46	4.33
TEMP (F)	300	300	280	260	260

RBS ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - MARSH ENVIRONMENT ONLY

SRN 247461-3

REV 0

SHEET NO. 2A

DATE 11/26/84

HARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME OC

SRN 247461-3				
SPEC 247.461				
GTS GAS TREATMENT STANDBY				
1GTS*RTD18A	122-4030-04	AB-141-5	40 YR	1000 A
1GTS*RTD18B	122-4030-04	AB-141-6	40 YR	1000 A
1GTS*RTD27A	122-4030-04	AB-141-5	40 YR	1000 A
1GTS*RTD27B	122-4030-04	AB-141-6	40 YR	1000 A
HVF VENTILATION - FUEL BUILDING				
1HVF*RTD1A	122-4030-04	FB-148-G	40 YR	1000 A
1HVF*RTD1B	122-4030-04	FB-148-1	40 YR	1000 A
1HVF*RTD30A	122-4030-04	FB-148-G	40 YR	1000 A
1HVF*RTD30B	122-4030-04	FB-148-1	40 YR	1000 A
RHS RESIDUAL HEAT REMOVAL SYSTEM				
1RHS*RTD47A	122-4030-04	AB-070-8	40 YR	1000 A
1RHS*RTD47B	122-4030-04	AB-070-7	40 YR	1000 A

RBS ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247461-3
REV 0
SHEET NO. 2B
DATE 11/26/84

MARK NO
MODEL/CATALOG NO. ENV. ZONE QUAL. LIFE OPTIME
REMARKS SUEHRG OC

SRN 247461-3

SFC SPENT FUEL POOL COOLING AND CLEAN-UP

1SFCwRTD7A

122-4030-04

FB-070-1

40YR

100D
A

1SFCwRTD7B

122-4030-04

FB-070-1

40YR

100D
A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247461-3

REV 1

SHEET NO. 3

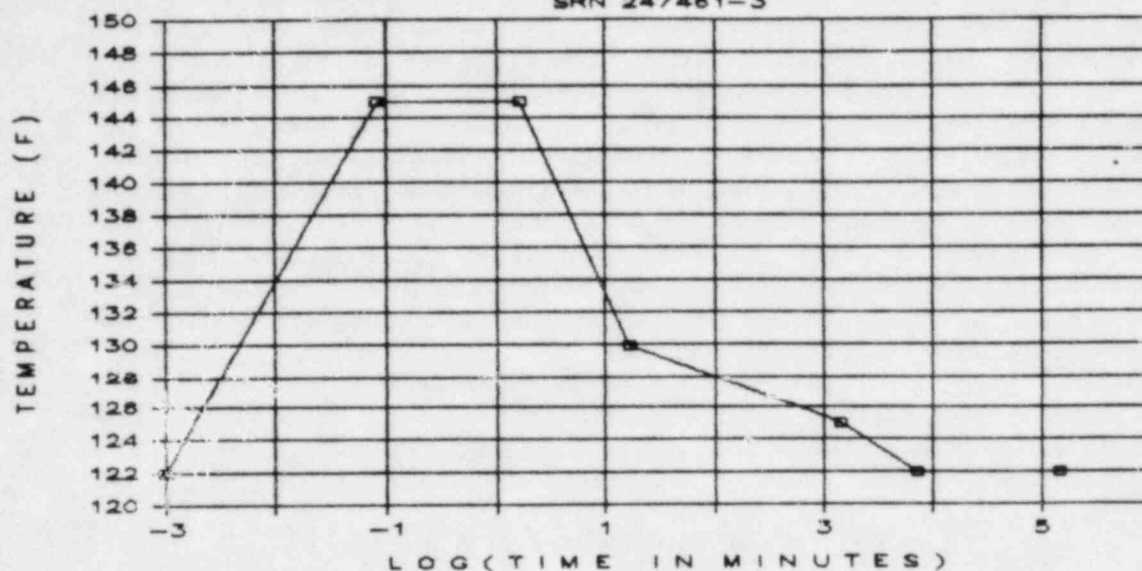
DATE 11/26/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. PAOP extended from 30 days to 100 days. See Reference 2.
 3. Abnormal temperature, pressure, and relative humidity are addressed in Reference 4.
 4. Terminal head gasket must be replaced with a new gasket whenever head cover is removed in order to maintain qualification.
 5. Factory certification testing of RTDs has demonstrated accuracy of $<\pm 1.0^{\circ}\text{F}$. The qualification type testing has shown an accuracy of $\pm 3.4^{\circ}\text{F}$. A review of the setpoint calculations is in progress to determine whether $\pm 3.4^{\circ}\text{F}$ is an acceptable accuracy.

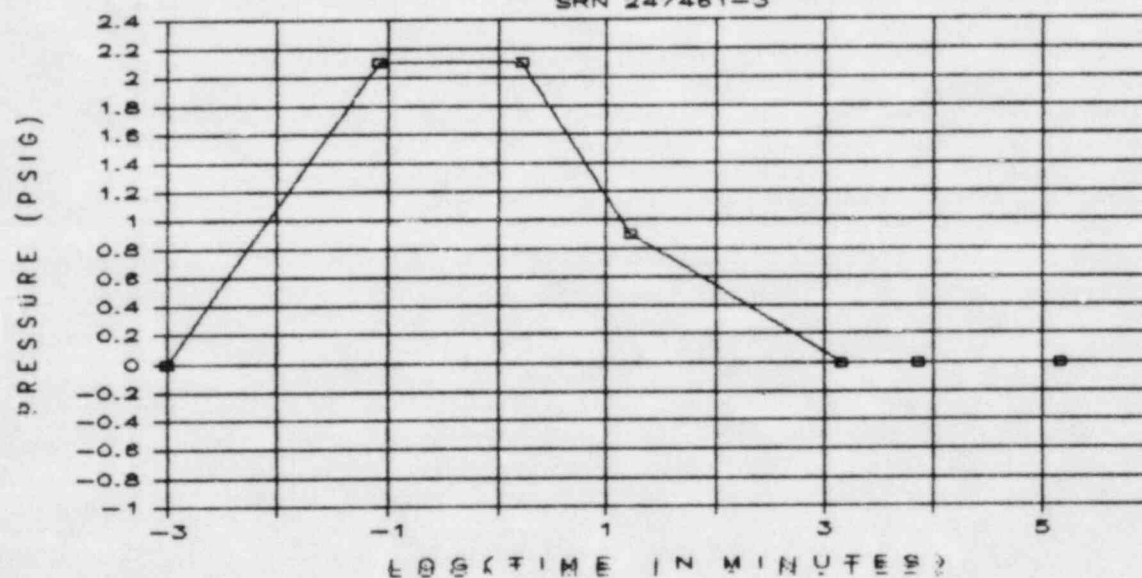
SPECIFIED ACCIDENT PROFILES

SRN 247461-3



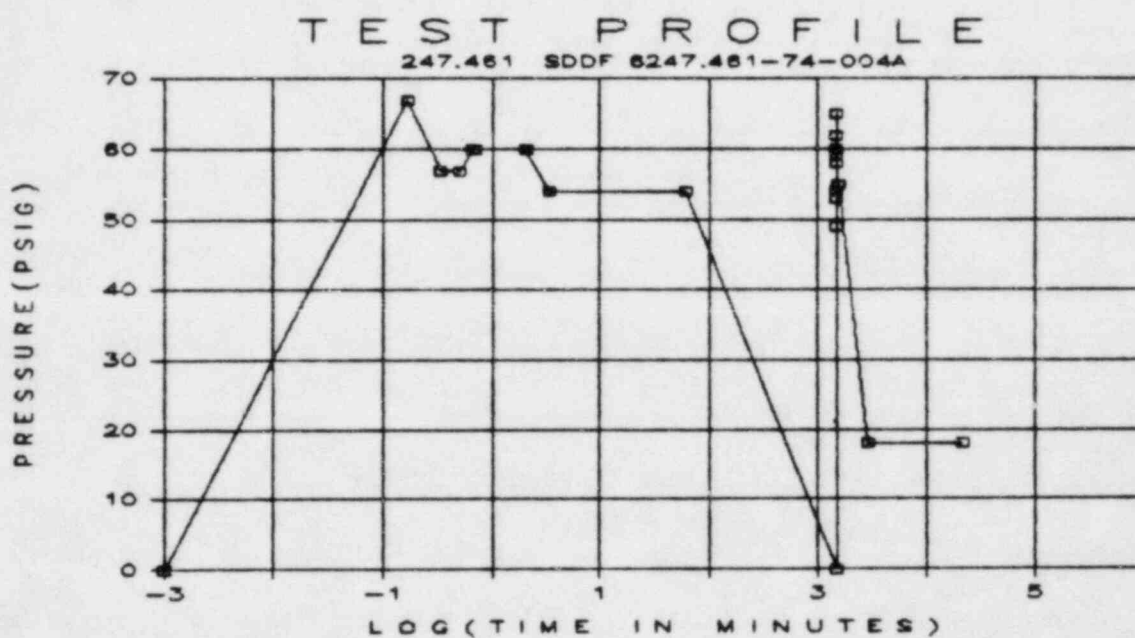
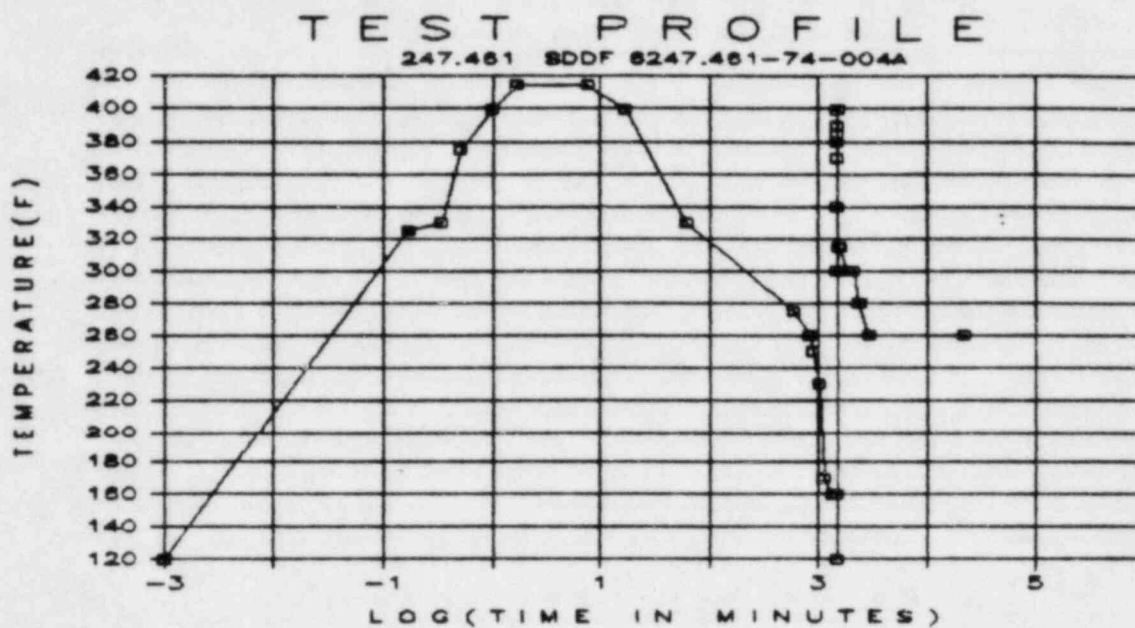
SPECIFIED ACCIDENT PROFILES

SRN 247461-3



SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION: 247461

TEMPERATURE							
TIME	0	5sec	100sec	1000sec	1day	5days	100days
LOG (MINUTES)	-3.00	-1.08	0.22	1.22	3.16	3.86	5.16
TEMP(F)	122	145	145	130	125	122	122
TIME(MIN)	0.001	0.083	1.65	16.5	1440	7200	144000
PRESSURE							
TIME	0	5sec	100sec	1000sec	1day	5days	100days
LOG(MINUTES)	-3.00	-1.08	0.22	1.22	3.16	3.86	5.16
PRES(PSIG)	0	2.1	2.1	0.9	0	0	0
TIME(MIN)	0.001	0.083	1.65	16.5	1440	7200	144000



SEE NEXT PAGE FOR DATA

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 247481-1

REV 0

DATE 03-Dec-84

SHEET 1

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	REMARKS
EQUIP NO.: SEE SHEET 2	OP.TIME:	100 DAYS	>1 YR	3	2	TEST-SIM	YES	
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE-1
	NORMAL	122	122	1	2	AN+DATA	NA	NOTE-2
	ABNORMAL	140	303	1	2	TEST-SIM	NA	
	ACCIDENT	280	303	1	2	TEST-SIM	YES	
TYPE: (DESCRIPTION)	PRESS (PSIG)							
TRANSMITTERS-PRESSURE, LEVEL,	NORMAL	0	0	1	2	TEST-SIM	NA	
FLOW AND DIFFERENTIAL	ABNORMAL	2.3	55	1	2	TEST-SIM	NA	
PRESSURE	ACCIDENT	9	55	1	2	TEST-SIM	YES	
MANUFACTURER: ROSEMOUNT, INC.	RH (%)							
	NORMAL	100	100	1	2	TEST-SIM	NA	
MODEL: SEE SHEET 2	ABNORMAL	100	100	1	2	TEST-SIM	NA	
	ACCIDENT	100	100	1	2	TEST-SIM	NA	
SAFETY FUNCTION: - - -	RADIATION:							
MEASURE, MONITOR OR CONTROL	NORM GAMMA			1	2			
VARIOUS PROCESS VARIABLES	ACC GAMMA	2.2E7 TID	2.44E7	1	2	TEST-SIM	YES	NOTE-3
OP. CODE: SEE SHEET 2	NORM BETA			1	2			
	ACC BETA			1	2			
	NEUTRON			1	2			
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: 0.25% CAL.SPAN								
DEMO: SEE NOTE 4,5								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:	DOCUMENT REFERENCE:							
SPRAY/FROTH:	1. SPECIFICATION 247.481 REV.1, ADD.3							
	2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
	SDDF # 6247.481-130-002B & 002C							
EQUIPMENT NOT SUBJECT TO	3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
SUBMERGENCE OR SPRAY/FROTH	PAOP DOCUMENT NO. 245.600, REV.0							
	4. CALCULATION NO.12210-EDS-24,REV.0 (QUALIFIED LIFE)							
DOCUMENTATION ACCEPTABILITY:	5. CALCULATION NO. 12210-EDS-25,REV.0 (DEMONSTRATED ACCURACIES)							
ACCEPTABLE TO NUREG 0588,CAT I	6. CALCULATION NO. 12210-EDS-57,REV.0 (OPERABILITY TIME)							
MAINT/SURVEILL - - -								
REFERENCE: NOT REQUIRED								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 4								
SEE NOTE-2								

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247481-1
Rev. 0
Sheet No 2A
Date: 27 Nov. 84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME OC

SRN 247481-1				
SPEC 247.481				
CCP COMPONENT COOLING - PRIMARY CONTAINMENT OR REACTOR				
1CCP*PT1A	1153G37	AB-070-8	15.5 years	1000 A
1CCP*PT1B	1153G37	AB-070-8	15.5 years	1000 A
1CCP*PT1C	1153GB7	AB-070-8	15.5 years	1000 A
1CCP*PT1D	1153GB7	AB-070-8	15.5 years	1000 A
1CCP*PT1E	1153GB7	AB-070-8	15.5 years	1000 A
1CCP*PT1F	1153GB7	AB-070-8	15.5 years	1000 A
1CCP*PT1G	1153GB7	AB-070-8	15.5 years	1000 A
1CCP*PT1H	1153GB7	AB-070-8	15.5 years	1000 A
CHS CONTAINMENT ATMOSPHERE MONITORING				
1CHS*LT23A	11530B5PG, 1159C60A Note 6	CT-SP Y	20 years	1000 A
1CHS*LT23B	11530B5PG, 1159C60A Note 6	CT-SP Y	20 years	1000 A
1CHS*PDT29A	1153036	AB-141-1	14.7 years	1000 A

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247481-1

Rev. 0

Sheet No 2B

Date: 27 Nov 84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME CC

SRN 247481-1				
CHS CONTAINMENT ATMOSPHERE MONITORING				
1CHS*PDT29B	11530B4	AB-141-2	14.7 years	1000 A
1CHS*PT2A	1153AB6	AB-141-1	14.7 years	1000 A
1CHS*PT2B	1153AB6	AB-141-2	14.7 years	1000 A
1CHS*PT4A	1153AB6	AB-141-1	14.7 years	1000 A
1CHS*PT4B	1153AB6	AB-141-2	14.7 years	1000 A
DFR DRAINS - REACTOR PLANT FLOOR				
1DFR*LT134	11530B4PG, 1159C30A	AB-070-1	20 years	1000 A
1DFR*LT135	11530B4PG, 1159C30A	AB-070-2	16.7 years	1000 A
1DFR*LT136	11530B4PG, 1159C30A	AB-070-3	18.2 years	1000 A
1DFR*LT137	11530B4PG, 1159C30A	AB-070-4	20 years	1000 A
1DFR*LT138	11530B4PG, 1159C30A	AB-070-5	15.7 years	1000 A
1DFR*LT139	11530B4PG, 1159C30A	AB-070-6	20 years	1000 A
HVR VENTILATION - REACTOR PLANT				
1HVR*PDT60A	11530B3PA	AB-141-2	14.7 years	1000 A
1HVR*PDT60B	11530B3PA	AB-141-2	14.7 years	1000 A
1HVR*PDT60C	11530B3PA	AB-141-2	14.7 years	1000 A

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247481-1

Rev. 0

Sheet No 2C

Date: 27 Nov 81

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBURG	QUAL. LIFE	OPTIME OC

SRN 247481-1				
HVR VENTILATION - REACTOR PLANT				
1HVR*PDT60D	1153DB3PA	AB-141-2	14.7 years	100D A
1HVR*PDT60E	1153DB3PA	AB-141-2	14.7 years	100D A
1HVR*PDT60F	1153DB3PA	AB-141-2	14.7 years	100D A
IAS INSTRUMENT AIR				
1IAS*PT39A	1153GB7	AB-141-5	15.5 years	1HR A
1IAS*PT39B	1153GB7	AB-141-6	15.5 years	100D A
1IAS*PT43A	1153GB7	FB-148-G	20 years	100D A
1IAS*PT43B	1153GB7	FB-148-G	20 years	100D A
1IAS*PT48A	1153GB7	AB-141-5	15.5 years	100D A
1IAS*PT48B	1153GB7	AB-141-6	13.3 years	100D A
1IAS*PT49A	1153GB7	FB-148-G	20 years	100D A
1IAS*PT49B	1153GB7	FB-148-G	20 years	100D A

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247481-1
Rev. 0
Sheet No. 2D
Date: 27 Nov 84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUDMRG	QUAL. LIFE	OPTIME OC

SRN 247481-1				
ISC		*		
1ISC*PT101	1153GB9PA	CT-G	20 years	N/R B
LSV LEAKAGE CONTROL - PENETRATION VALVE				
1LSV*PT10A	1153GB6PA	AB-141-2	14.7 years	30 D A
1LSV*PT10B	1153GB6PA	AB-141-2	14.7 years	30 D A
1LSV*PT12A	1153GB6PA	AB-141-2	14.7 years	30 D A
1LSV*PT12B	1153GB6PA	AB-141-2	14.7 years	30 D A
1LSV*PT14A	1153GB6PA	AB-114-6	13.3 years	30 D A
1LSV*PT14B	1153GB6PA	AB-141-2	14.7 years	30 D A
1LSV*PT17A	1153GB6PA	AB-095-2	18 years	30 D A
1LSV*PT17B	1153GB6PA	AB-141-2	14.7 years	30 D A
1LSV*PT21A	1153GB6PA	AB-114-6	13.3 years	30 D A
1LSV*PT21B	1153GB6PA	AB-114-5	13.3 years	30 D A
1LSV*PT22A	1153GB7	AB-141-2	14.7 years	30 D A

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247481-1
Rev. 0
Sheet No 2 E
Date: 27 Nov 84

HARH NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBORG	QUAL. LIFE	OPTIME OC

SRN 247481-1				
LSV LEAKAGE CONTROL - PENETRATION VALVE				
1LSV*PT22B	1153GB7	AB-114-3	17.9 years	30 D A
1LSV*PT26A	1153GB7PA	AB-141-2	14.7 years	30 D A
1LSV*PT26B	1153GB7PA	AB-114-3	15.5 years	30 D A
1LSV*PT9A	1153GB7	AB-141-2	14.7 years	30 D A
1LSV*PT9B	1153GP7	AB-114-3	15.5 years	30 D A
RHS RESIDUAL HEAT REMOVAL SYSTEM				
1RHS*FT15B	1153DB6PA	AB-095-5	15.5 years	N/R B
1RHS*FT15C	1153DB6PA	AB-095-6	12.7 years	N/R B
1RHS*LT119	1153DBEPA	CT-G	20 years	N/R B
SFC SPENT FUEL POOL COOLING AND CLEAN-UP				
1SFC*LT11A	1153DB4PG, 1159C10A	CT-5A	20 years	N/R A
1SFC*LT11S	1153DB4PG, 1159C10A	CT-G	20 years	N/R A

RBS ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247481-1
Rev. 0
Sheet No. 2 F
Date 2/1/74

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUSMRG	QUAL. LIFE	OPTIME OC

SRN 247481-1				
SFC SPENT FUEL POOL COOLING AND CLEAN-UP				
1SFC*LT28A	1153DB4PG,1159C10A	FB-113-1	20 Years	1000 A
1SFC*LT28B	1153DB4PG,1159C10A	FB-113-1	20 Years	1000 A
SHP SERVICE WATER				
1SHP*FT59A	1153DB4	FB-095-G	10.7 Years	1000 A
1SHP*FT59B	1153DB4	FB-095-G	10.7 Years	1000 A
1SHP*FT60A	1153DB4	FB-095-G	10.7 Years	1000 A
1SHP*FT60B	1153DB4	FB-095-G	10.7 Years	1000 A
1SHP*FT64A	1153DB5	PT-3	18 Years	1000 A
1SHP*FT64B	1153DB5	PT-3	18 Years	1000 A
1SHP*PT21A	1153GB7	PT-3	15.5 Years	1000 A
1SHP*PT21B	1153GB7	PT-3	15.5 Years	1000 A
1SHP*PT21C	1153GB7	PT-3	15.5 Years	1000 A
1SHP*PT21D	1153GB7	PT-3	15.5 Years	1000 A

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM
 RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
 SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247481-1
 Rev 0
 Sheet No 2G
 Date 27 Nov 84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUSHRG	QUAL. LIFE	OPTIME OC

SRN 247481-1				
SHP SERVICE WATER				
1SHP*PT21E	1153GB7	PT-3	15.5 years	1000 A
1SHP*PT21F	1153GB7	PT-3	15.5 years	1000 A
1SHP*PT21G	1153GB7	PT-3	15.5 years	1000 A
1SHP*PT21H	1153GB7	PT-3	15.5 years	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247481-1

REV 0

SHEET NO. 3

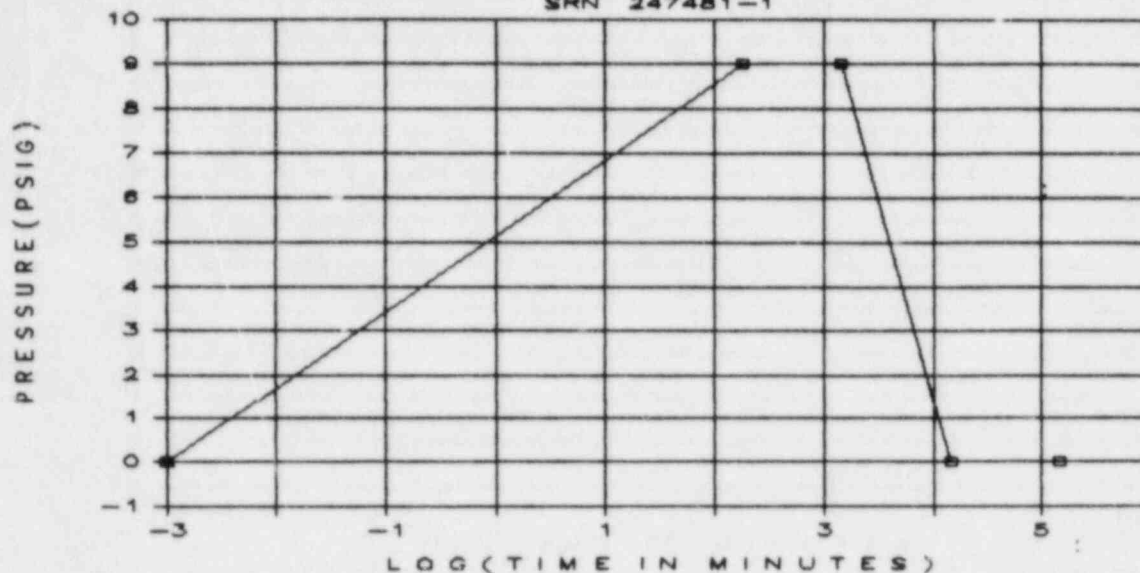
DATE 11/27/84

NOTES

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1. For complete environmental conditions, see SWEC Document No. 215.150, Revision 2, 1984.
 2. See Calculation No. 12210-EQS-24, Revision 0 for qualified life at service temperatures.
 3. The transmitter is hermetically sealed and not affected by beta.
 4. Factory certification testing of transmitters shows factory-calibrated accuracies of less than 0.25 percent of calibrated span.
 5. Environmental qualification testing and SWEC calculation have shown that demonstrated accuracies vary from 1.5 percent to 18 percent of calibrated span (see Reference 5). SWEC setpoint calculations allow for demonstrated accuracies.
 6. Only the capillary seals are subject to submergence; transmitters are above submergence and spray/froth level.

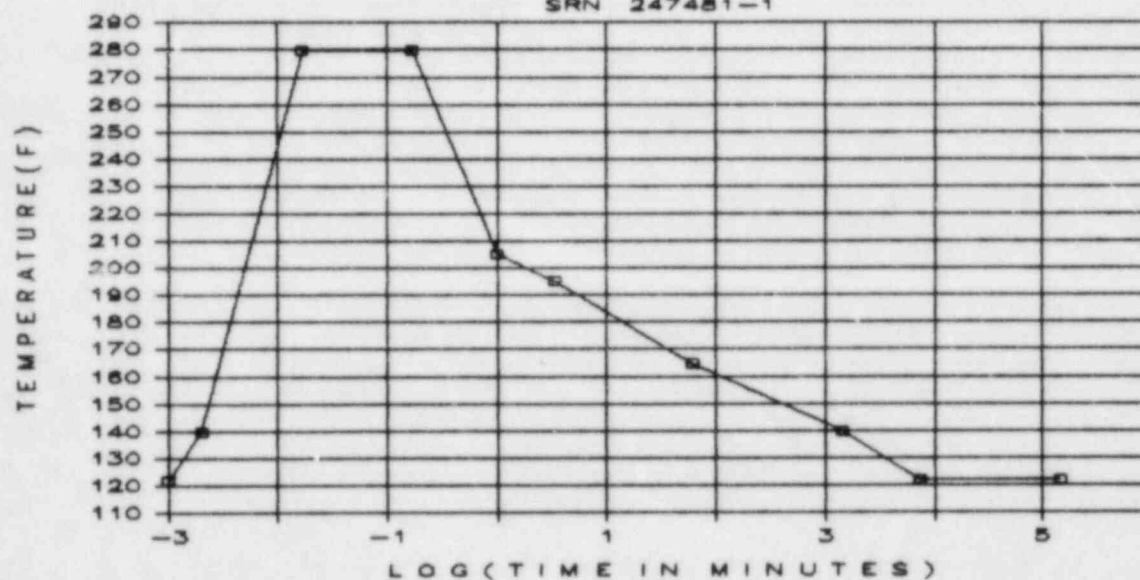
SPECIFIED ACCIDENT PROFILE

SRN 247481-1



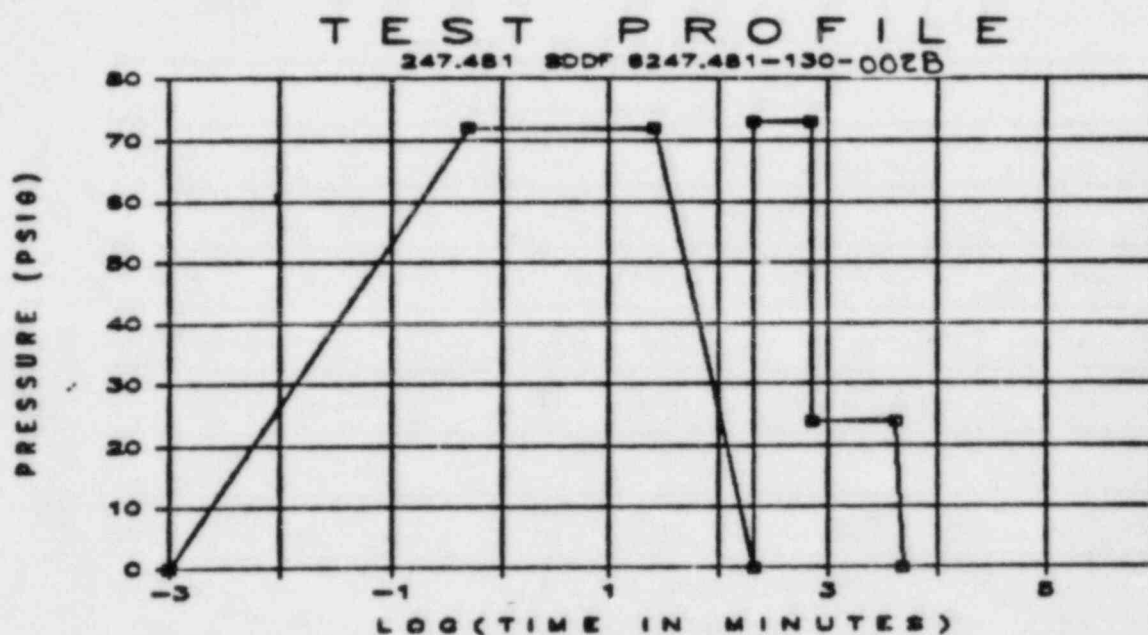
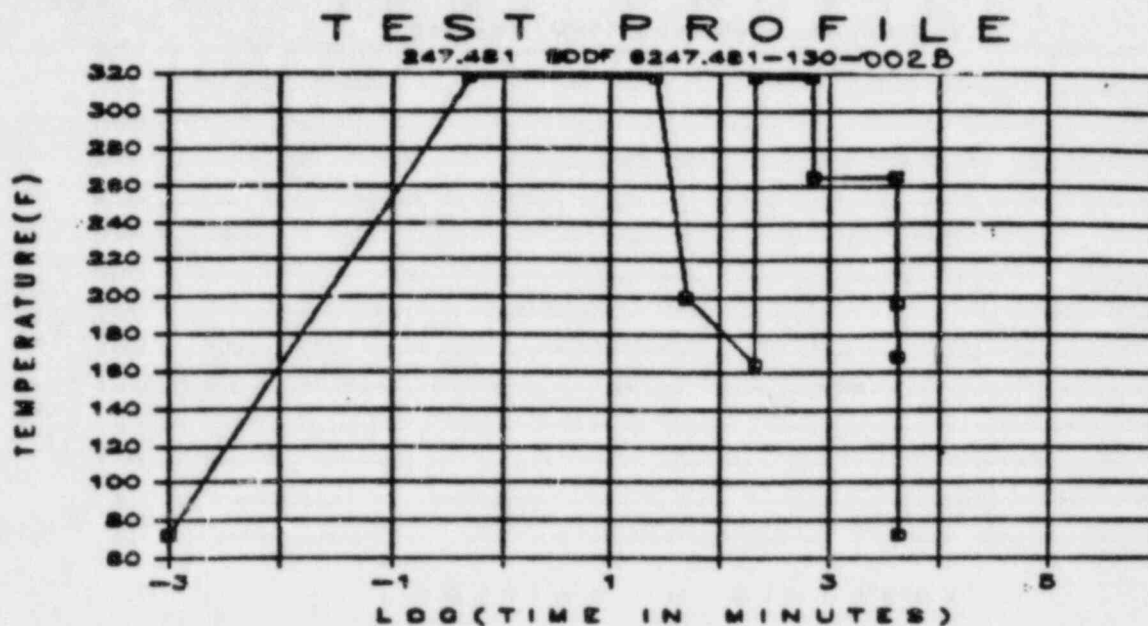
SPECIFIED ACCIDENT PROFILE

SRN 247481-1



TEMPERATURE										
TIME	0sec	0.1sec	1sec	10sec	60sec	200sec	1hr	1day	5days	100days
LOG (MINUTES)	-3.00	-2.70	-1.77	-0.77	0.00	0.52	1.78	3.16	3.86	5.16
TEMP (F)	122	140	280	280	205	195	165	140	122	122
TIME (MIN)	0.001	0.002	0.017	0.17	1	3.33	60	1440	7200	144000

PRESSURE					
TIME	0sec	3hrs	1day	10days	100days
LOG (MINUTES)	-3.00	2.26	3.16	4.16	5.16
PRES (PSIG)	0	9	9	0	0
TIME (MIN)	0.001	180	1440	14400	144000



TEST PROFILE DATA FOR 247.481 BDDF 6247.481-130-002B

TEMPERATURE												
TIME	0	30sec	26min	50min	3hr30min	3hr32.5min	11hr50min	11hr52min	68hr50min	69hr50min	70hr50min	72hr50min
LOG (MINUTES)	-3.00	-0.30	1.41	1.70	2.32	2.33	2.85	2.85	3.62	3.62	3.63	3.64
TEMP (F)	72	318	318	200	164	318	318	265	265	197	168	72
PRESSURE												
TIME	0	30sec	26min	3hr30min	3hr32.5min	11hr50min	11hr52min	69hr50min	81hr			
LOG (MINUTES)	-3.00	-0.30	1.41	2.32	2.33	2.85	2.85	3.62	3.69			
PRES (PSIG)	0	72	72	0	73	73	24	24	0			

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 247491-1

REV 0

DATE 05-Dec-84

SHEET 1

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

EQUIPMENT DESCRIPTION	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		DUAL METHOD	MARGIN: DEMO	REMARKS
				SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2	OP.TIME:	1 HR	100 DAYS	3	2,4	AN+DATA	YES	NOTE-3
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE-1
	NORMAL	140	140	1	2,4	TEST-IDENT	NA	NOTE-2
	ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)	ACCIDENT	330	346	1	2	TEST-IDENT	YES	
SOLENOID VALVE	PRESS (PSIG):							NOTE-1
	NORMAL	.5	ATMOS	1	2	AN+DATA	NA	NOTE-4
	ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: ASCO	ACCIDENT	25 TO -8	110	1	2	TEST-IDENT	YES	NOTE-4
	RH (%):							NOTE-1
MODEL: SEE SHEET 2	NORMAL	50	100	1	2	TEST-IDENT	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -	ACCIDENT	100	100	1	2	TEST-IDENT	NA	
SAMPLE LINE ISOLATION (DRYWELL)	RADIATION:							NOTE-1
	NORM GAMMA						NA	
	ACC GAMMA	1.28EB TID	2EB	4	2	TEST-IDENT	YES	NOTE-5
OP. CODE: SEE SHEET 2	NORM BETA						NA	
	ACC BETA						NA	
	NEUTRON						NA	
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:	DOCUMENT REFERENCE:							
SPRAY/FROTH:	1. SPECIFICATION 247.491 REV.0 ADD.6 / E&DCR P40,702A (FIGURE-1)							
	2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
EQUIPMENT NOT SUBJECT TO	SDDF # 6247.491-163-007B							
SUBMERGENCE OR SPRAY/FROTH	3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
	PAOP DOCUMENT NO. 245.600, REV.0							
	4. CALCULATION NO. 12210-EDS-42							
DOCUMENTATION ACCEPTABILITY:	5. ASCO INSTALLATION AND MAINTENANCE INSTRUCTIONS FORM NO. V-5970							
ACCEPTABLE TO NUREG 0588,CAT 1	6. CALCULATION NO. 12210-EDS-50							
MAINT/SURVEILL - - -								
REFERENCE: 4,5								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 4								

1

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247491-1

REV 0

SHEET NO. 3

DATE 11/29/84

NOTES

1. For complete environmental profile, see document referenced.
2. For qualified life, see Reference 4. In the qualified life calculation, the temperature rise by the actuated coil is considered.
3. Operability time extended from 30 to 100 days plus margin by the Arrhenius calculation. See Reference 4.
4. Solenoid valves are qualified for 110 psig; therefore, +0.5 normal and -8 psig accident will have no effect on the valves.
5. RBS worst case combined radiation for gamma, beta, and neutron for 40 years of qualified life plus accident, including applicable beta and neutron reduction to coil and EPDM, is as follows:

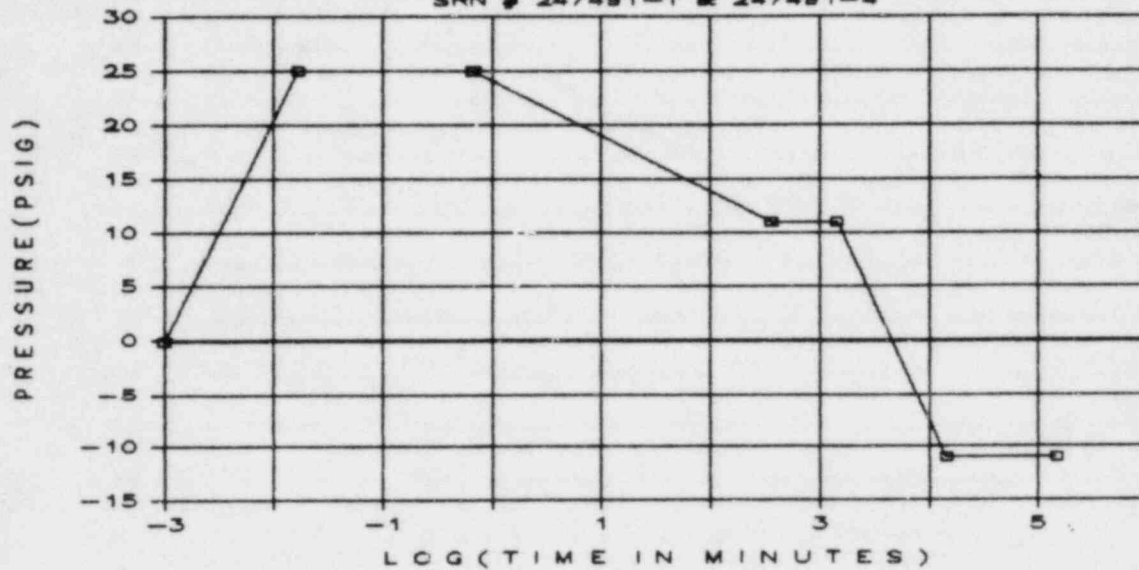
Combined radiation in DW-1 to solenoid coil is 1.21E8 rads equivalent to gamma.

Combined radiation in DW-1 to EPDM is 1.28E8 rads equivalent to gamma (9.9E7 rads for gamma, 1.087×10^7 rads for beta, and 1.76E7 rads for neutron).

See Reference 4.

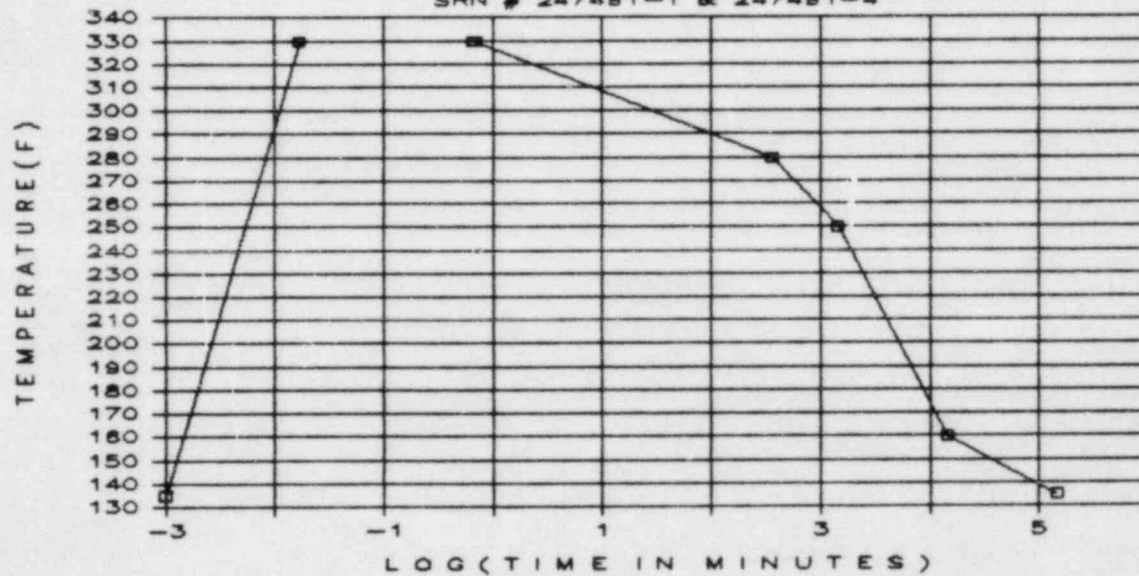
SPECIFIED ACCIDENT PROFILE

SRN # 247491-1 & 247491-4

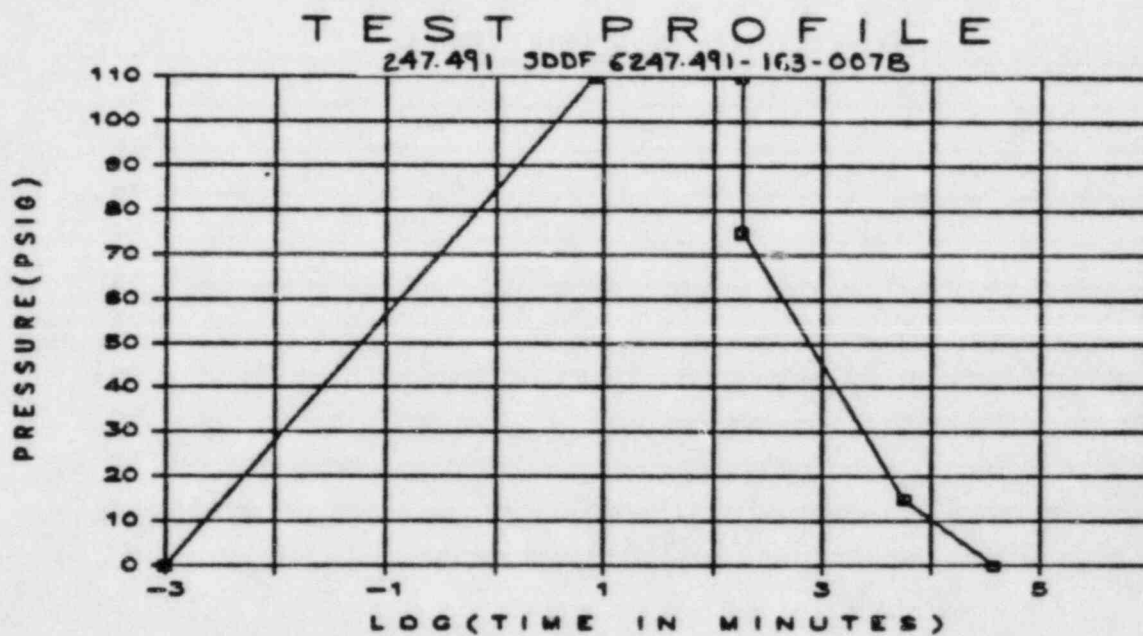
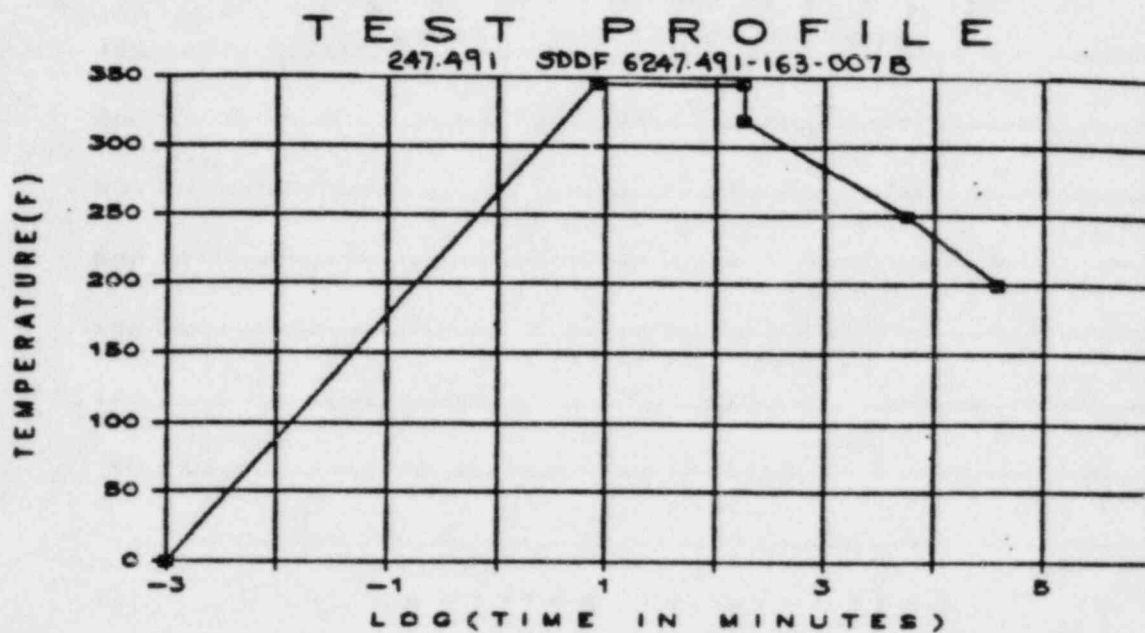


SPECIFIED ACCIDENT PROFILE

SRN # 247491-1 & 247491-4



TEMPERATURE							
TIME	0sec	1sec	40sec	6hr	1day	10days	100days
LOG (MINUTES)	-3.00	-1.77	-0.17	2.56	3.16	4.16	5.16
TEMP(F)	135	330	330	280	250	160	135
TIME(MIN)	0.001	0.017	0.67	360	1440	14400	144000
PRESSURE							
TIME	0sec	1sec	40sec	6hr	1day	10days	100days
LOG(MINUTES)	-3.00	-1.77	-0.17	2.56	3.16	4.16	5.16
PRES(PSIG)	0	25	25	11	11	-11	-11
TIME(MIN)	0.001	0.017	0.67	360	1440	14400	144000

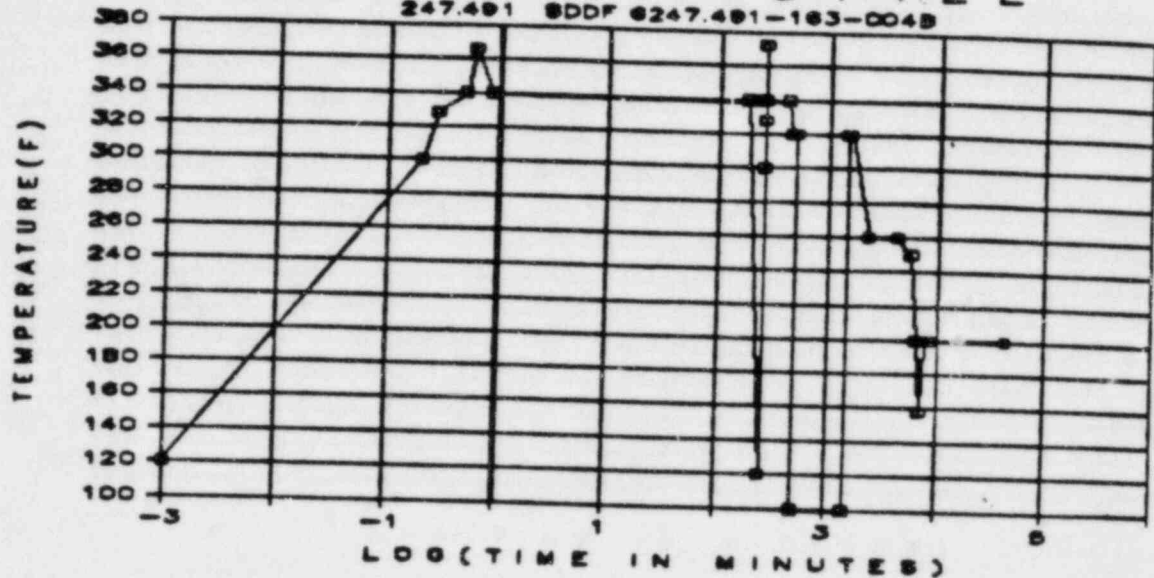


TEST PROFILE DATA FOR 247.491 SDDF 6247.491-163-007B
SOLENOID VALVES

TIME	0	8min	3hr	3hr	4days	26days
LOG (MINUTES)	-3.00	0.90	2.26	2.26	3.76	4.57
TEMP (F)	0	346	346	320	250	200
PRES (PSIG)	0	110	110	75	15	0

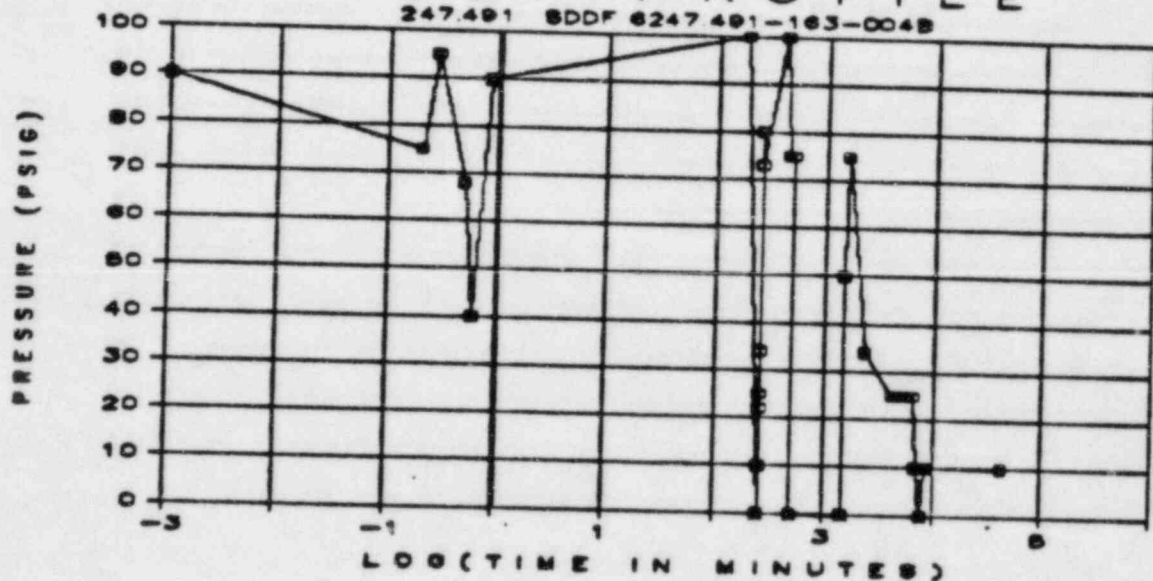
TEST PROFILE

247.491 SDDF 6247.491-163-004B



TEST PROFILE

247.491 SDDF 6247.491-163-004B



TEST PROFILE DATA FOR 247.491 SDDF 6247.491-163-004B

TIME	0	12sec	16.7sec	30sec	36.7sec	50.6sec	3hr6min	4hr20min	4h21m11.7s	4h21m23.4s
LOG (MINUTES)	-3.00	-0.70	-0.56	-0.30	-0.21	-0.07	2.27	2.41	2.42	2.42
TEMP (F)	120	300	328	340	366	340	340	120	300	328
PRES (PSIG)	90	75	95	68	40	90	100	0	25	34
CONT'D										
TIME	4h21m25s	4h21m34s	4h23m18.2s	4h23m33.8s	7hr5min	7hr35min	8hr35min	8hr36min	24hr55min	24hr56min
LOG (MINUTES)	2.42	2.42	2.42	2.42	2.63	2.66	2.71	2.71	3.17	3.17
TEMP (F)	340	373	328	340	340	320	320	100	100	320
PRES (PSIG)	22	10	80	73	100	75	75	0	0	50
CONT'D										
TIME	26hr55min	39.5hr	3days	4days	4.5days	5days	5.5days	6days	30days	
LOG (MINUTES)	3.21	3.37	3.64	3.76	3.81	3.86	3.90	3.94	4.64	
TEMP (F)	320	260	260	250	200	158	200	200	200	
PRES (PSIG)	75	34	25	25	25	10	0	10	10	

SRN 247491-2
REV 0
DATE 05-DEC-84
SHEET 1

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET
ENVIRONMENTAL CONDITIONS AND QUALIFICATION

EQUIPMENT DESCRIPTION	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE	QUAL METHOD	MARGIN DEMO	REMARKS
EQUIP NO.: SEE SHEET 2	OP. TIME:	70 MIN	100 DAYS	3	AN+DATA	YES	NOTE-3
SYSTEM: SEE SHEET 2	TEMP (F):						NOTE-1
	NORMAL	122	140	1	TEST-IDENT	NA	NOTE-2
	ABNORMAL	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)	ACCIDENT:	280	346	1	TEST-IDENT	YES	
SOLENOID VALVE	PRESS (PSIG):						
	NORMAL	1" H2O	ATMOS	1	AN+DATA	NA	NOTE-1
	ABNORMAL	NA	NA	NA	NA	NA	
MANUFACTURER: ASCO	ACCIDENT:	9	110	1	TEST-IDENT	YES	
MODEL: SEE SHEET 2	ACCIDENT:						NOTE-1
	ACCIDENT:	90	100	1	TEST-IDENT	NA	
	ABNORMAL	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -	ACCIDENT:	100	100	1	TEST-IDENT	NA	
ISOLATE CONTAINMENT UPON LOCA	RADIATION:						NOTE-1
SIGNAL, OR CONTROL CHILLER	NORM GAMMA:						
WATER FLOW	ACC GAMMA:	2.9E7 TID	2E8	1	TEST-IDENT	YES	
OP. CODE: SEE SHEET 2	NORM BETA						NA
	ACC BETA						NA
	NEUTRON						NA
	SPRAY	NA	NA	NA	NA	NA	NA
	SUBMERGENCE:	NA	NA	NA	NA	NA	NA
ACCURACY - -							
SPEC: NA							
DEMO: NA							
ZONE NO.: SEE SHEET 2							
SUBMERGENCE:							
SPRAY/FROTH:							
EQUIPMENT NOT SUBJECT TO							
SUBMERGENCE OR SPRAY/FROTH							
DOCUMENTATION ACCEPTABILITY:							
ACCEPTABLE TO NUREG 0588, CAT 1							
MAINT/SURVEILL - -							
REFERENCE: 4,5							
QUALIFIED LIFE - -							
(YEARS): SEE SHEET 2							
REFERENCE: 4 (NOTE-4)							

DOCUMENT REFERENCE:

1. SPECIFICATION 247.491 REV.0 ADD.6 / EDCR P40,702A(FIGURE-2)
2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6247.491-163-007B
3. POST-ACCIDENT OPERABILITY PERIOD: SEE PAOF DOCUMENT NO. 245.600, REV.0
4. CALCULATION NO. 12210-EOS-42
5. ASCO INSTALLATION AND MAINTENANCE INSTRUCTIONS FORM NO. A-5970

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247491-2

REV 1

SHEET NO. 2

DATE 12-12-84

MARK NO

MODEL/CATALOG NO.
REMARKS

ENV. ZONE
SUCHRS

QUAL. LIFE

OPTIME
OC

SRN 247491-2

SPEC 247.491

B33 REACTOR RECIRC VALVE FLOW CONTROL

1B33*SOVF000

NP8320
NOTE-4

CT-3

9.6 YR

1 HR
A

DER DRAINS - REACTOR BLDG EQUIPMENT

1DER*SOV126

NP8320
NOTE-4

CT-3

9.6 YR

1HR
A

1DER*SOV127

NP8320
NOTE-4

FB-113-G

2.2 YR

1HR
A

DFR DRAINS - REACTOR PLANT FLOOR

1DFR*SOV101

NP8320
NOTE-4

CT-3

9.6 YR

1HR
A

1DFR*SOV102

NP 8320

AB-114-6

2.2 YR

1HR
A

E51 REACTOR CORE ISOLATION COOLING SYSTEM

1E51*SOVF004

NP8320

AB-070-3

2.2 YR

70H
A

1E51*SOVF005

NP8320

AB-070-3

2.2 YR

70 H
A

1E51*SOVF025

NP8320

AB-070-3

2.2 YR

70 H
A

1E51*SOVF026

NP8320

AB-070-3

2.2 YR

70 H
A

1E51*SOVF054

NP8320

AB-070-3

40 YR

70 H
A

HVN CHILLED WATER - VENTILATION

1HVN*SOV5A

NP8320

CT-G

9.6 YR

1 HR
A

1HVN*SOV5B

NP8320

CT-G

9.6 YR

1 HR
A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247491-2

REV 0

SHEET NO. 3

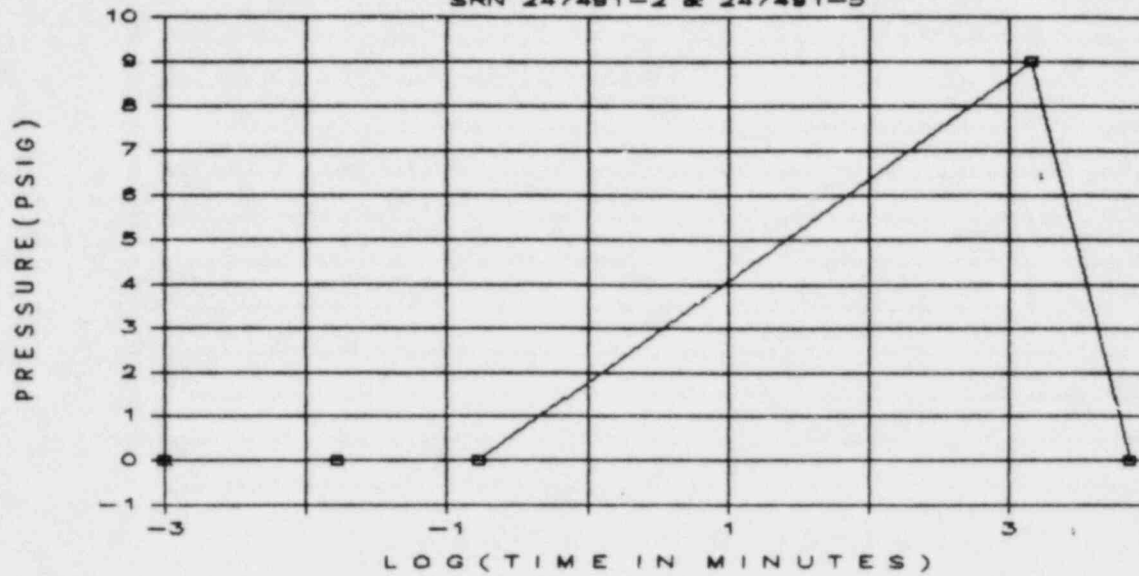
DATE 11/29/84

NOTES

-
1. For complete environmental profile, see documents referenced.
 2. For qualified life, see Reference 4. In the qualified life calculation, the temperature rise by the actuated coil is considered.
 3. Operability time extended from 30 to 100 days plus margin by the Arrhenius calculation. See Reference 4.
 4. The qualified life of this component can be extended to 40 years by periodic maintenance or replacement. See References 2 and 4.

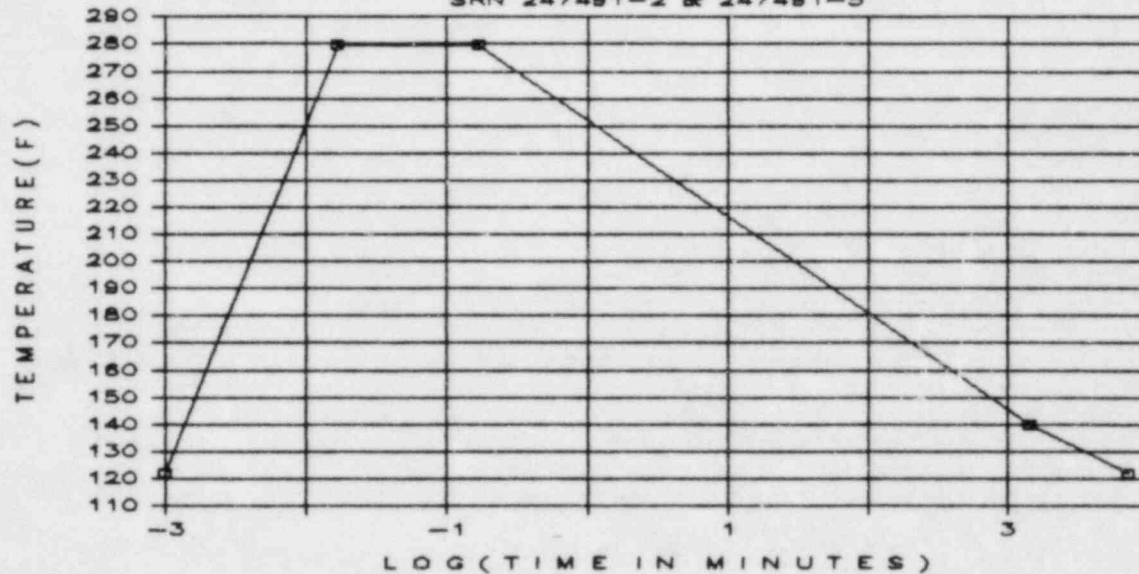
SPECIFIED ACCIDENT PROFILE

SRN 247491-2 & 247491-5



SPECIFIED ACCIDENT PROFILE

SRN 247491-2 & 247491-5

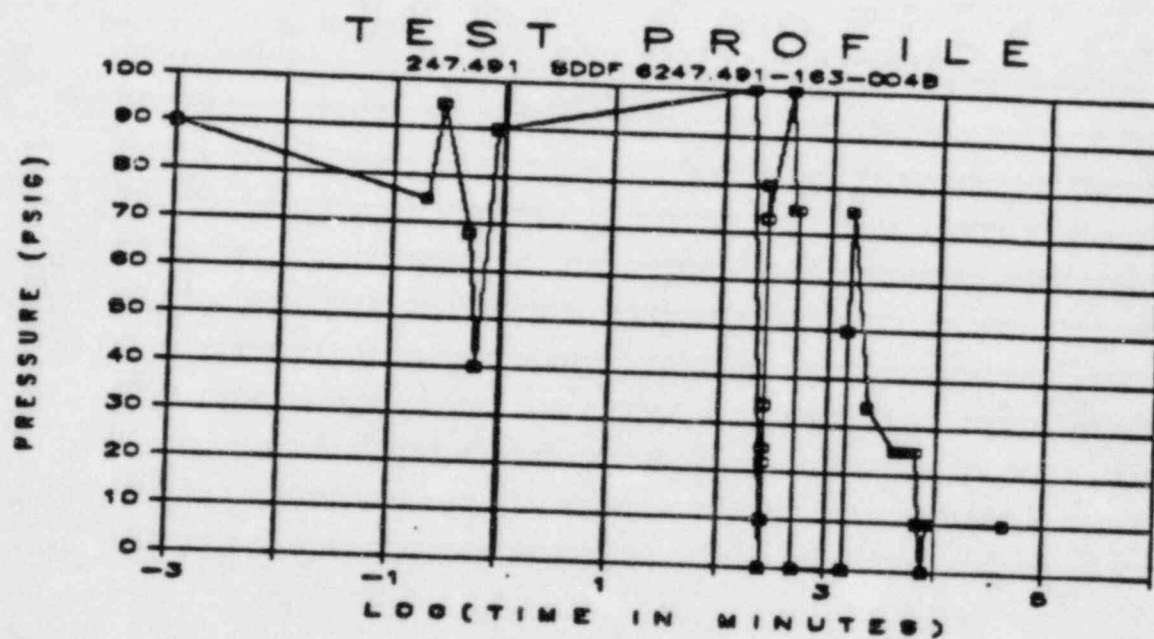
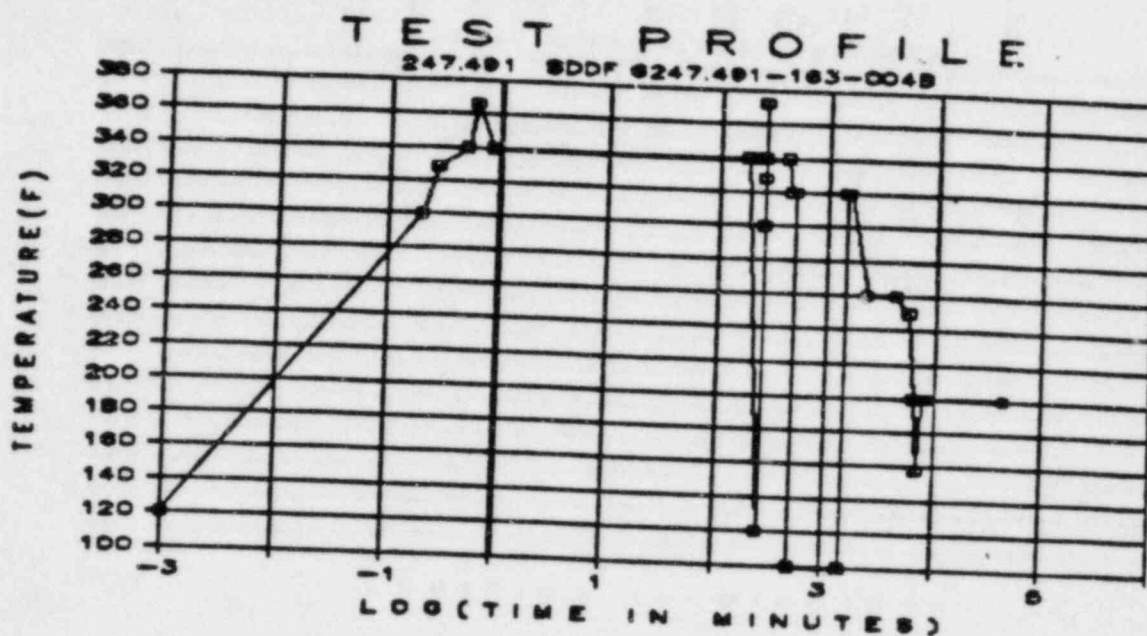


TEMPERATURE

TIME	0sec	1sec	10sec	1day	5days
LOG (MINUTES)	-3.00	-1.77	-0.78	3.16	3.86
TEMP (F)	122	280	280	140	122
TIME (MIN)	0.001	0.017	0.167	1440	7200

PRESSURE

TIME	0sec	1sec	10sec	1day	5days
LOG (MINUTES)	-3.00	-1.77	-0.78	3.16	3.86
PRES (PSIG)	0	0	0	9	0
TIME (MIN)	0.001	0.017	0.167	1440	7200



TEST PROFILE DATA FOR 247.491 SDDF 6247.491-163-004B

TIME	0	12sec	16.7sec	30sec	36.7sec	50.6sec	3hr6min	4hr20min	4h21m11.7s	4h21m23.4s
LOG (MINUTES)	-3.00	-0.70	-0.56	-0.30	-0.21	-0.07	2.27	2.41	2.42	2.42
TEMP (F)	120	300	328	340	366	340	340	120	300	328
PRES (PSIG)	90	75	95	68	40	90	100	0	25	34
CONT'D										
TIME	4h21m25s	4h21m34s	4h23m18.2s	4h23m33.8s	7hr5min	7hr35min	8hr35min	8hr36min	24hr55min	24hr56min
LOG (MINUTES)	2.42	2.42	2.42	2.42	2.63	2.66	2.71	2.71	3.17	3.17
TEMP (F)	340	373	328	340	340	320	320	100	100	320
PRES (PSIG)	22	10	80	73	100	75	75	0	0	50
CONT'D										
TIME	26hr55min	39.5hr	3days	4days	4.5days	5days	5.5days	6days	30days	
LOG (MINUTES)	3.21	3.37	3.64	3.76	3.81	3.86	3.90	3.94	4.64	
TEMP (F)	320	260	260	250	200	158	200	200	200	
PRES (PSIG)	75	34	25	25	25	10	0	10	10	

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 247491-3
REV 1
DATE 13-DEC-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						REMARKS	
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	
					SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2		OP.TIME:	100 DAYS	>100 DAYS	3	2,4	AN+DATA	YES	NOTE-3
SYSTEM: SEE SHEET 2		TEMP (F):							NOTE-1
		NORMAL	122	140	1	2,4	TEST-IDENT	NA	NOTE-2
		ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)		ACCIDENT	135	346	1	2	TEST-IDENT	YES	
SOLENOID VALVE		PRESS (PSIG)							NOTE-1
		NORMAL	-1/4 TO 1/2"W	ATMOS	1	2	AN+DATA	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: ASCO		ACCIDENT	2.1	110	1	2	TEST-IDENT	YES	
		RH (%):							NOTE-1
MODEL: SEE SHEET 2		NORMAL	90	100	1	2	TEST-IDENT	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -		ACCIDENT	100	100	1	2	TEST-IDENT	NA	
SEE NOTE 5		RADIATION:							NOTE-1
		NORM GAMMA						NA	
OP. CODE: SEE SHEET 2		ACC GAMMA	2.9E7 TID	2E8	1	2	TEST-IDENT	YES	
		NORM BETA						NA	
		ACC BETA						NA	
		NEUTRON						NA	
ACCURACY - -		SPRAY	NA	NA	NA	NA	NA	NA	
SPEC: NA		SUBMERGENCE	NA	NA	NA	NA	NA	NA	
DEMO: NA									
ZONE NO.: SEE SHEET 2									
SUBMERGENCE:		DOCUMENT REFERENCE:							
SPRAY/FROTH:		1. SPECIFICATION 247.491 REV.0 ADD.6 / E&DCR P40.702A(Figure-3)							
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
EQUIPMENT NOT SUBJECT TO		SDDF # 6247.491-163-007B							
SUBMERGENCE OR SPRAY/FROTH		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
		PAOP DOCUMENT NO. 245.600, REV.0							
		4. CALCULATION NO. 12210-EQS-42							
DOCUMENTATION ACCEPTABILITY:		5. ASCO INSTALLATION AND MAINTENANCE INSTRUCTIONS FORM NO. V-5970							
ACCEPTABLE TO NUREG 0588,CAT I									
MAINT/SURVEILL - - -									
REFERENCE: 4,5									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE: 4 (NOTE-4)									

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247491-3
REV 0
SHEET NO. 2
DATE 12-6-84

HARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME OC
SRN 247491-3				
SPEC 247.491				
E12 RESIDUAL HEAT REMOVAL				
1E12*SOVF051A	NPB320 NOTE-5	AB-114-8	40 YR	N/R B
1E12*SOVF051B	NPB320 NOTE-5	AB-114-8	40 YR	N/R B
1E12*SOVF065A	NPB320 NOTE-4,6	AB-070-5	40 YR	N/R B
1E12*SOVF065B	NPB320 NOTE-4,6	AB-070-5	40 YR	N/R B
SNP SERVICE WATER				
1SNP*SOV51A	DBQ, NPB320 NOTE-7	AB-141-2	2.2 YR	1000 A
1SNP*SOV51B	DBQ, NPB320 NOTE-7	AB-141-3	2.2 YR	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247491-3

REV 0

SHEET NO. 3

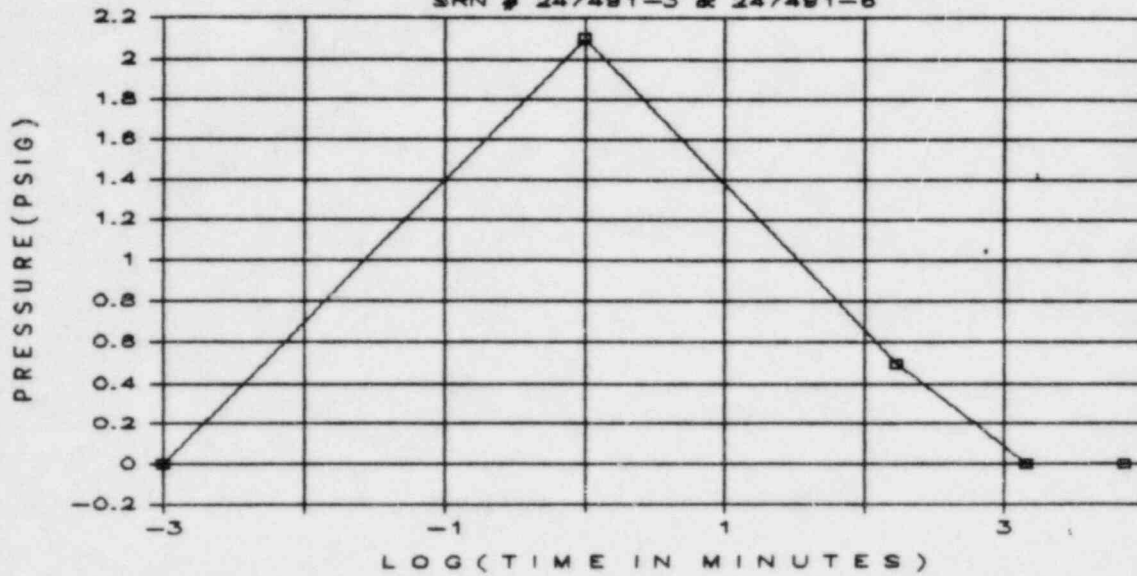
DATE 11/29/84

NOTES

-
1. For complete environmental conditions, see conditions referenced.
 2. For qualified life, see Reference 4. In the qualified life calculation, the temperature rise by the actuated coil is considered.
 3. Operability time extended from 30 to 100 days plus margin by the Arrhenius calculation. See Reference 4.
 4. The qualified life of this component can be extended to 40 years by periodic maintenance or replacement. See References 2 and 4.
 5. Safety Functions - Control steam pressure in heat exchanger; control heat exchange water level; and standby service water isolation valve for penetration valve leakage control compressor.

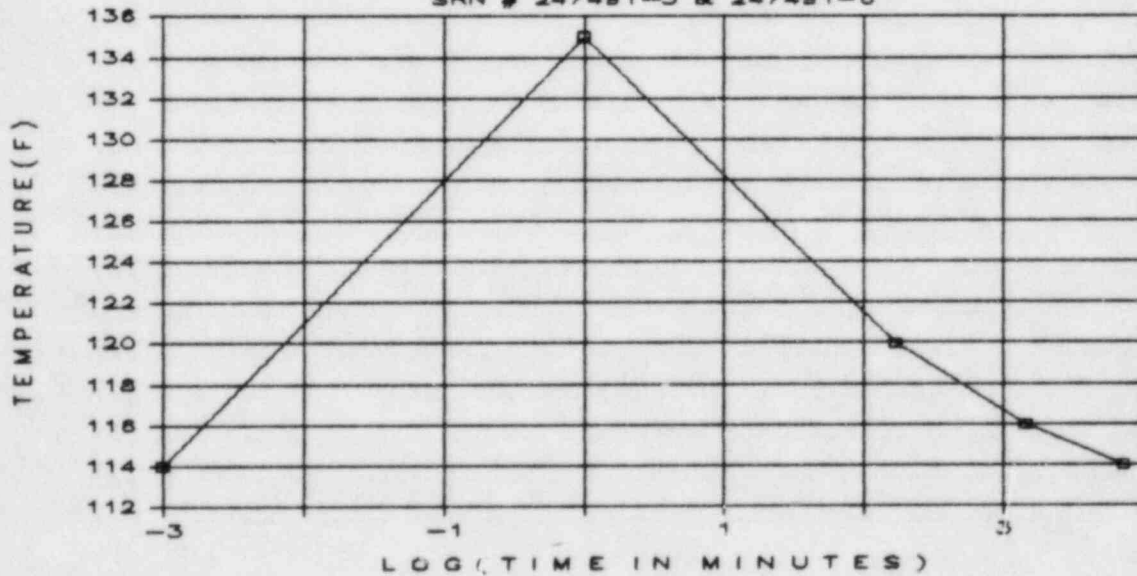
SPECIFIED ACCIDENT PROFILE

SRN # 247491-3 & 247491-6



SPECIFIED ACCIDENT PROFILE

SRN # 247491-3 & 247491-6

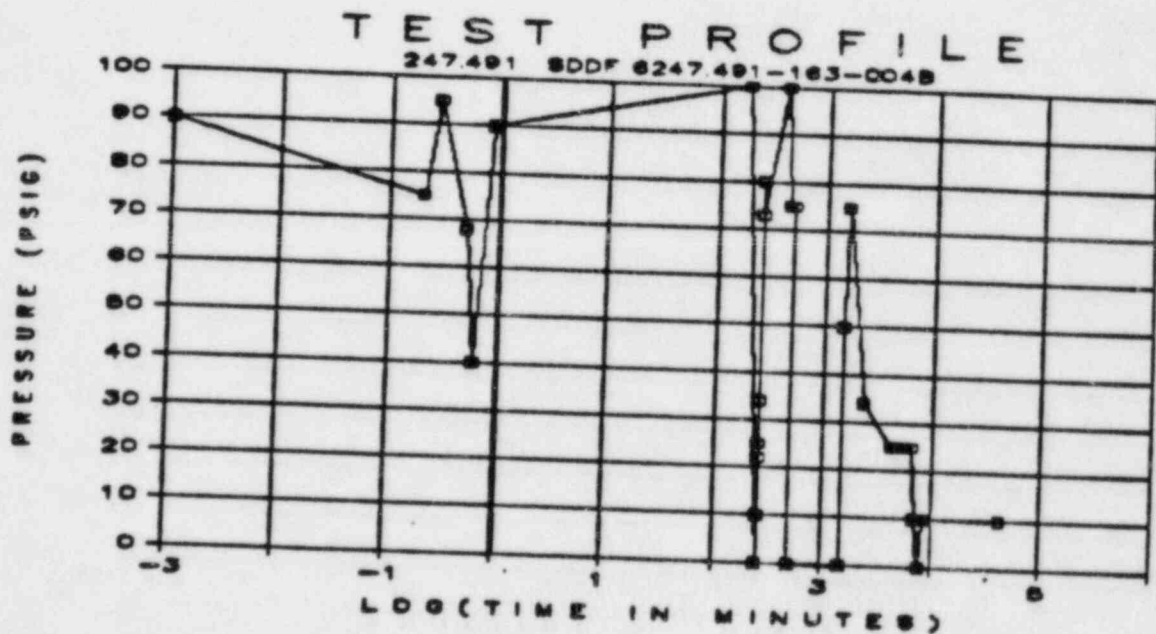
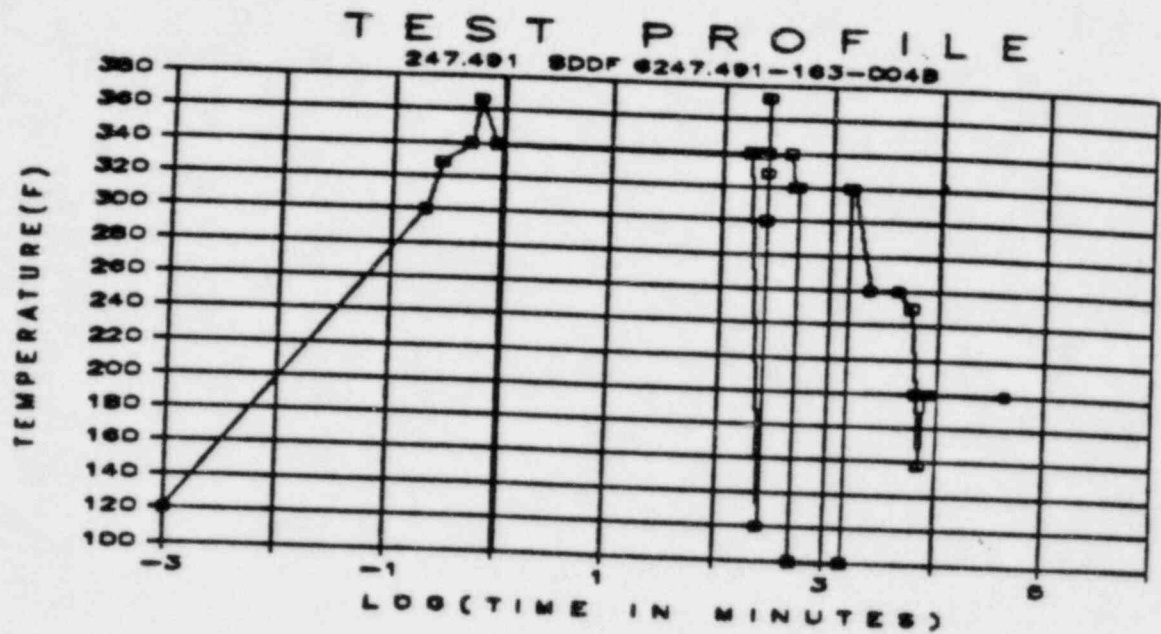


TEMPERATURE

TIME	0sec	60sec	2.8hrs	1day	5days
LOG(MINUTES)	-3.00	0.00	2.23	3.16	3.86
TEMP(F)	114	135	120	116	114
TIME(MIN)	0.001	1	168	1440	7200

PRESSURE

TIME	0sec	60sec	2.8hrs	1day	5days
LOG(MINUTES)	-3.00	0.00	2.23	3.16	3.86
PRES(PSIG)	0	2.1	0.5	0	0
TIME(MIN)	0.001	1	168	1440	7200



TEST PROFILE DATA FOR 247.491 SDDF 6247.491-163-004B

TIME	0	12sec	16.7sec	30sec	36.7sec	50.6sec	3hr6min	4hr20min	4h21m11.7s	4h21m23.4s
LOG(MINUTES)	-3.00	-0.70	-0.56	-0.30	-0.21	-0.07	2.27	2.41	2.42	2.42
TEMP (F)	120	300	328	340	366	340	340	120	300	328
PRES(PSIG)	90	75	95	68	40	90	100	0	25	34
CONT'D										
TIME	4h21m25s	4h21m34s	4h23m18.2s	4h23m33.8s	7hr5min	7hr35min	8hr35min	8hr36min	24hr55min	24hr56min
LOG(MINUTES)	2.42	2.42	2.42	2.42	2.63	2.66	2.71	2.71	3.17	3.17
TEMP (F)	340	373	328	340	340	320	320	100	100	320
PRES(PSIG)	22	10	80	73	100	75	75	0	0	50
CONT'D										
TIME	26hr55min	39.5hr	3days	4days	4.5days	5days	5.5days	6days	30days	
LOG(MINUTES)	3.21	3.37	3.64	3.76	3.81	3.86	3.90	3.94	4.64	
TEMP (F)	320	260	260	250	200	158	200	200	200	
PRES(PSIG)	75	34	25	25	25	10	0	10	10	

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 247491-4

REV 0

DATE 05-Dec-84

SHEET 1

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

EQUIPMENT DESCRIPTION	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	REMARKS
				SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2	OP. TIME:	1 HR	100 DAYS	3	2	AN+DATA	YES	NOTE-3
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE-1
	NORMAL	140	194	1	2	TEST-IDENT	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)	ACCIDENT	330	375	1	2	TEST-IDENT	YES	
LIMIT SWITCH	PRESS (PSIG)							NOTE-1
	NORMAL	.5	ATMOS	1	2	AN+DATA	NA	NOTE-4
	ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: NAMCO	ACCIDENT	25 TO -8	100	1	2	TEST-IDENT	YES	NOTE-4
	RH (%)							NOTE-1
MODEL: SEE SHEET 2	NORMAL	50	100	1	2	TEST-IDENT	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -	ACCIDENT	100	100	1	2	TEST-IDENT	NA	
SAMPLE LINE ISOLATION	RADIATION:							NOTE-1
(DRYWELL)	NORM GAMMA						NA	
	ACC GAMMA	1.2E8 TID	2E8	1,5	2	TEST-IDENT	YES	
OP. CODE: SEE SHEET 2	NORM BETA						NA	
	ACC BETA						NA	
	NEUTRON						NA	
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:	DOCUMENT REFERENCE:							
SPRAY/FROTH:	1. SPECIFICATION 247.491 REV.0 ADD.6 / E&DCR F40,702A (FIGURE-1)							
	2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
EQUIPMENT NOT SUBJECT TO	SDDF # 6247.491-163-004R							
SUBMERGENCE OR SPRAY/FROTH	3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
	PAOP DOCUMENT NO. 245.600, REV.0							
	4. CALCULATION NO. 12210-EQS-49							
DOCUMENTATION ACCEPTABILITY:	5. CALCULATION NO. 12210-EQS-50							
ACCEPTABLE TO NUREG 0588, CAT I								
MAINT/SURVEILL - - -								
REFERENCE: 2,4								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 2,4 (NOTE-2)								

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247491-4
REV 0
SHEET NO. 2
DATE 12-6-84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME OC
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SRN 247491-4

SPEC 247.491

B33 REACTOR RECIRC VALVE FLOW CONTROL

1B33*AOVF019

DBQ,EA180

DH-1

1.84R

1 HR
A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247491-4

REV 0

SHEET NO. 3

DATE 11/29/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. The qualified life of this component can be extended to 40 years by periodic maintenance or replacement. See References 2 and 4.
 3. Operability time extended from 30 to 100 days plus margin by the Arrhenius calculation. See Reference 4.
 4. Limit switches are qualified for 100 psig; therefore, 0.5 normal and -8 psig accident will have no effect on the valve.

RES - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 247491-5
REV 0
DATE 05-Dec-84
SHEET 1

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION						
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN: DEMO
EQUIP NO.: SEE SHEET 2	OP.TIME:	70 MIN	100 DAYS	3	4	AN+DATA	YES
SYSTEM: SEE SHEET 2	TEMP (F):						
	NORMAL	122	194	1	2	TEST-IDENT	NA
	ABNORMAL	NA	NA	NA	NA	NA	NA
TYPE: (DESCRIPTION)	ACCIDENT	280	375	1	2	TEST-IDENT	YES
LIMIT SWITCH	PRESS (PSIG)						
	NORMAL	-1" H2O	ATMOS	1	2	AN+DATA	NA
	ABNORMAL	NA	NA	NA	NA	NA	NA
MANUFACTURER: NAMCO	ACCIDENT	9	100	1	2	TEST-IDENT	YES
	RH (%)						
MODEL: SEE SHEET 2	NORMAL	90	100	1	2	TEST-IDENT	NA
	ABNORMAL	NA	NA	NA	NA	NA	NA
SAFETY FUNCTION: - - -	ACCIDENT	100	100	1	2	TEST-IDENT	NA
ISOLATE CONTAINMENT UPON LOCA	RADIATION:						
SIGNAL, OR CONTROL CHILLER	NORM GAMMA						NA
WATER FLOW.	ACC GAMMA	2.9E7 TID	2E8	1	2	TEST-IDENT	YES
OP. CODE: SEE SHEET 2	NORM BETA						NA
	ACC BETA						NA
	NEUTRON						NA
	SPRAY	NA	NA	NA	NA	NA	NA
ACCURACY - -	SUBMERGENCE	NA	NA	NA	NA	NA	NA
SPEC: NA							
DEMO: NA							
ZONE NO.: SEE SHEET 2							
SUBMERGENCE:	DOCUMENT REFERENCE:						
SPRAY/FROTH:	1. SPECIFICATION 247.491 REV.0 ADD.6 / E&DCR P40,702A(FIGURE-2)						
	2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,						
EQUIPMENT NOT SUBJECT TO	SDDF # 6247.491-163-004B						
SUBMERGENCE OR SPRAY/FROTH	3. POST-ACCIDENT OPERABILITY PERIOD: SEE						
	PAOP DOCUMENT NO. 245.600, REV.0						
	4. CALCULATION NO. 12210-EOS-49						
DOCUMENTATION ACCEPTABILITY:							
ACCEPTABLE TO NUREG 0588,CAT I							
MAINT/SURVEILL - - -							
REFERENCE: 2,4							
QUALIFIED LIFE - - -							
(YEARS): SEE SHEET 2							
REFERENCE: 2,4 (NOTE-2)							

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247491-5
REV 1
SHEET NO. 2A
DATE 12-6-84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBIRG	QUAL. LIFE	OPTIME OC
SRN 247491-5				
SPEC 247.491				
B33 REACTOR RECIRC VALVE FLOW CONTROL				
1B33*AOVF020	DBQ, EA180 NOTE-4	CT-3	40YR	1 HR A
DER DRAINS - REACTOR BLDG EQUIPMENT				
1DER*AOV126	ET, EA180 NOTE-4	CT-3	40YR	1HR A
1DER*AOV127	ET, EA180 NOTE-4	FB-113-G	40YR	1HR A
DFR DRAINS - REACTOR PLANT FLOOR				
1DFR*AOV101	ET, EA180 NOTE-4	CT-3	40YR	1HR A
1DFR*AOV102	ET, EA180	AB-114-6	40YR	1HR A
E51 REACTOR CORE ISOLATION COOLING SYSTEM				
1E51*AOVF004	ES, EA180	AB-070-3	40YR	70 H A
1E51*AOVF005	ES, EA180	AB-070-3	40YR	70 H A
1E51*AOVF025	DBQ, EA180	AB-070-3	40YR	70 H A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247491-5

REV 1

SHEET NO. 23

DATE 12-6-84

MARK NO

MODEL/CATALOG NO.

ENV. ZONE

QUAL. LIFE

OPTIME

REMARKS

SUSHRG

OC

SRN 247491-5

E51 REACTOR CORE ISOLATION COOLING SYSTEM

1E51*AOVF026

DBQ, EA180

AB-070-3

40YR

70 H
A

1E51*AOVF059

DBQ, EA180

AB-070-3

40YR

70 H
A

HVN CHILLED WATER - VENTILATION

1HVN*TV5A

ED, EA180

CT-G

40YR

1 HR
A

1HVN*TV5B

ED, EA180

CT-G

40YR

1 HR
A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247491-5

REV 0

SHEET NO. 3

DATE 11/29/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. The qualified life of this component can be extended to 40 years by periodic maintenance or replacement. See References 2 and 4.
 3. Operability time extended from 30 to 100 days plus margin by the Arrhenius calculation. See Reference 4.

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 247491-6
REV 0
DATE 03-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
	PARAMETER	SPECIFIED	QUALIFIED	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	REMARKS
		VALUE	VALUE	SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2	OP.TIME:	100 DAYS	100 DAYS	3	4	AN+DATA	YES	NOTE-3
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE-1
	NORMAL	122	194	1	2	TEST-IDENT	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)	ACCIDENT	135	375	1	2	TEST-IDENT	YES	
LIMIT SWITCH	PRESS(PSIG)							NOTE-1
	NORMAL	-1/4TO-1/2W	0	1	2	AN+DATA	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: NAMCO	ACCIDENT	2.1	100	1	2	TEST-IDENT	YES	
	RH (%)							NOTE-1
MODEL: SEE SHEET 2	NORMAL	90	100	1	2	TEST-IDENT	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -	ACCIDENT	100	100	1	2	TEST-IDENT	NA	
STANDBY SERVICE WATER ISOL.	RADIATION:							NOTE-1
VALVE FOR PENETRATION VALVE	NORM GAMMA						NA	
LEAKAGE CONTROL COMPRESSOR.	ACC GAMMA	2.9E7 TID	2EB	1	2	TEST-IDENT	YES	
OP. CODE: SEE SHEET 2	NORM BETA						NA	
	ACC BETA						NA	
	NEUTRON						NA	
ACCURACY - -	SPRAY	NA	NA	NA	NA	NA	NA	
	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:								
SPRAY/FROTH:								
EQUIPMENT NOT SUBJECT TO								
SUBMERGENCE OR SPRAY/FROTH								
DOCUMENTATION ACCEPTABILITY:								
ACCEPTABLE TO NUREG 0588,CAT I								
MAINT/SURVEILL - - -								
REFERENCE: 2,4								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 2,4 (NOTE-2)								

- DOCUMENT REFERENCE:
1. SPECIFICATION 247.491 REV.0 ADD.6 / E&DCR P40,702A(FIGURE-3)
 2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6247.491-163-004B
 3. POST-ACCIDENT OPERABILITY PERIOD: SEE PAOP DOCUMENT NO. 245.600, REV.0
 4. CALCULATION NO. 12210-EDS-49

RBC ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
 SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247491-6
 REV 0
 SHEET NO. 2
 DATE 12-6-84

 MARK NO. MODEL/CATALOG NO. ENV. ZONE QUAL. LIFE OPTIME
 REMARKS SUBMRG OC

SRN 247491-6

SPEC 247.491

SHP SERVICE WATER

1SHP#AOVS1A

EA180

AB-141-3

40YR

1000
A

1SHP#AOVS1B

EA180

AB-141-3

40YR

1000
A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247491-6

REV 0

SHEET NO. 3

DATE 11/29/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. The qualified life of this component can be extended to 40 years by periodic maintenance or replacement. See References 2 and 4.
 3. Operability time extended from 30 to 100 days plus margin by the Arrhenius calculation. See Reference 4.

SRN 247497-1
REV 0
DATE 03-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						DATE	03-Dec-84
		SHEET 1							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	REMARKS
					SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2		OP. TIME:	30 DAYS		3	2			
SYSTEM: SEE SHEET 2		TEMP (F):							NOTE-1
		NORMAL	122		1	2			
		ABNORMAL	NA		1	2			
TYPE: (DESCRIPTION)		ACCIDENT:	150		1	2			
ELECTRO-HYDRAULIC ACTUATORS		PRESS (PSIG):							NOTE-1
		NORMAL	ATMOS		1	2			
		ABNORMAL	NA		1	2			
MANUFACTURER: BORG WARNER		ACCIDENT:	2.1		1	2			
		RH (%):							NOTE-1
MODEL: SEE SHEET 2		NORMAL	90		1	2			
		ABNORMAL	NA		1	2			
SAFETY FUNCTION: - - -		ACCIDENT:	100		1	2			
CONTROL SEAL AIR PRESSURE		RADIATION:							NOTE-1
		NORM GAMMA:			1	2			
		ACC GAMMA:	7E6 TID		1	2			
OP. CODE: SEE SHEET 2		NORM BETA:			1	2			
		ACC BETA:			1	2			
		NEUTRON			1	2			
ACCURACY - -		SPRAY	NA	NA	NA	NA	NA	NA	
SPEC: NA		SUBMERGENCE:	NA	NA	NA	NA	NA	NA	
DEMO: NA									
ZONE NO.: SEE SHEET 2									
SUBMERGENCE:		DOCUMENT REFERENCE:							
SPRAY/FROTH:		1. SPECIFICATION 247.497 REV.0, ADD.1 / E&DCR P40.457B							
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
EQUIPMENT NOT SUBJECT TO		SDDF # (AWAITING REPORT)							
SUBMERGENCE OR SPRAY/FROTH		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
		PAOP DOCUMENT NO. 245.600, REV.0							
DOCUMENTATION ACCEPTABILITY:									
NUREG 0589, CAT I									
QUALIFICATION IN PROGRESS									
MAINT/SURVEILL - - -									
REFERENCE:									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE:									

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247497-1
REV 0
SHEET NO. 2
DATE 12-6-84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME OC
SRN 247497-1				
SPEC 247.497				
E33 MAIN STEAM ISOLATION VALVE SEALS				
1E33*PVF002	EC ELECTRONICS(CB-116-2)	AB-114-6	30 D A	
1E33*PVF022	EC ELECTRONICS(CB-116-2)	AB-114-3	30 D A	
LSV LEAKAGE CONTROL - PENETRATION VALVE				
1LSV*PV10A	EC	AB-141-2	30 D A	
1LSV*PV10B	EC	AB-141-3	30 D A	

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247497-1

REV 0

SHEET NO. 3

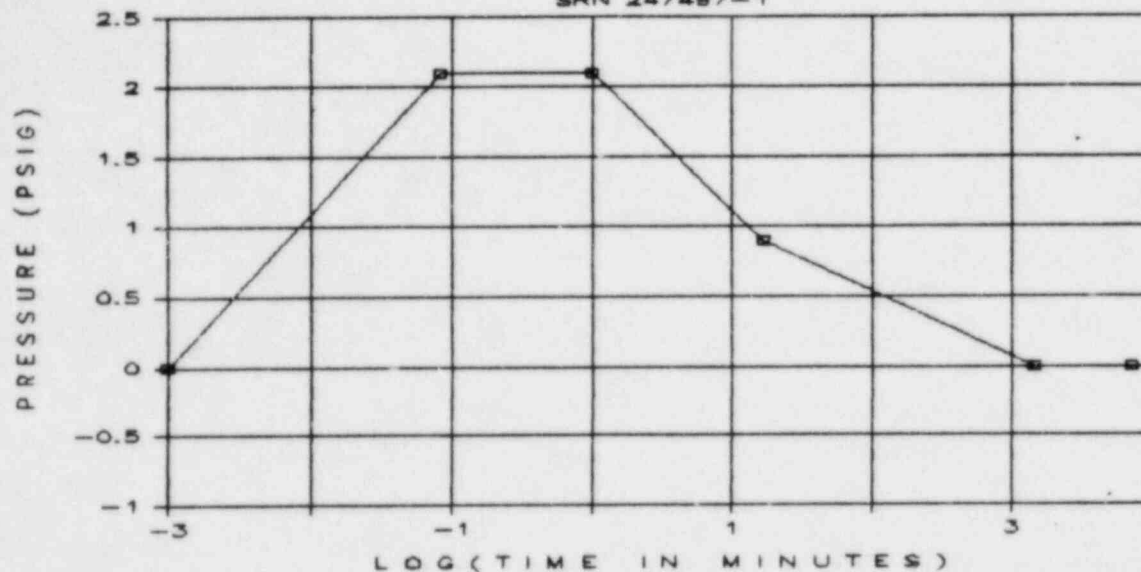
DATE 11/28/84

NOTES

1. For complete environmental conditions, see the document referenced.

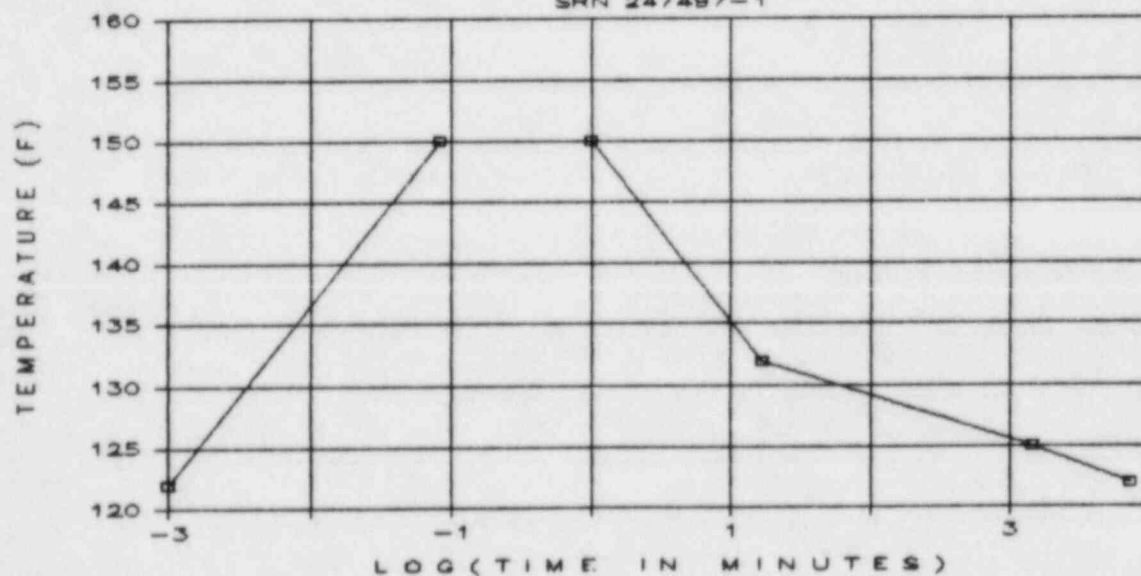
SPECIFIED ACCIDENT PROFILES

SRN 247497-1



SPECIFIED ACCIDENT PROFILES

SRN 247497-1



TEMPERATURE						
TIME	0	5sec	60sec	1000sec	1day	5days
LOG (MINUTES)	-3.00	-1.08	0.00	1.22	3.16	3.86
TEMP (F)	122	150	150	132	125	122
TIME (MIN)	0.001	0.083	1	16.7	1440	7200
PRESSURE						
TIME	0	5sec	60sec	1000sec	1day	5days
LOG (MINUTES)	-3.00	-1.08	0.00	1.22	3.16	3.86
PRES (PSIG)	0	2.1	2.1	0.9	0	0
TIME (MIN)	0.001	0.083	1	16.7	1440	7200

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 247501_1
REV 0
DATE 03-Dec-84
SHEET 1

INSIDE CONTAINMENT

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
		PARAMETER	SPECIFIED	QUALIFIED	DOCUMENT REFERENCE		QUAL	MARGIN	REMARKS
			VALUE	VALUE	SPECIFIED	QUALIFIED	METHOD	DEMO	
EQUIP NO.: SEE SHEET 2		OP.TIME:	100 DAYS	>100 DAYS	3	2	AN+DATA	YES	NOTE-3
SYSTEM: SEE SHEET 2		TEMP (F):							NOTE-1
		NORMAL	90	122	1	2	AN+DATA	NA	
		ABNORMAL	140	140	1	2	AN+DATA	NA	
TYPE: (DESCRIPTION)		ACCIDENT	220	385	1	2	TEST-SIM	YES	
SOLENOID VALVE		PRESS (PSIG)							NOTE-1
		NORMAL	-1" WG	0	1	2	AN+DATA	NA	NOTE-4
		ABNORMAL	2.3	66	1	2	AN+DATA	NA	NOTE-5
MANUFACTURER: TARGET ROCK		ACCIDENT	9	66	1	2	TEST-SIM	YES	
MODEL: SEE SHEET 2		RH (%)							NOTE-1
		NORMAL	20-50	55	1	2	AN+DATA	NA	
		ABNORMAL	100	ALL STEAM	1	2	AN+DATA	NA	NOTE-6
SAFETY FUNCTION: - - -		ACCIDENT	ALL STEAM	ALL STEAM	1	2	TEST-SIM	NA	
OPEN/CLOSE ON DEMAND		RADIATION:							NOTE-1
		NORM GAMMA							
		ACC GAMMA	2.9E7	3.5E7	1,4	2	TEST-SIM	YES	
OP. CODE: SEE SHEET 2		NORM BETA							
		ACC BETA							
		NEUTRON	NA	NA					
		SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -		SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA									
DEMO: NA									
ZONE NO.: SEE SHEET 2									
SUBMERGENCE:		DOCUMENT REFERENCE:							
SPRAY/FROTH:		1. SPECIFICATION 247.501 REV.1, ADD.2 & E&DCR NO.P40,667A							
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
		SDDF # 6247.501-240-008A							
EQUIPMENT NOT SUBJECTED TO		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
SUBMERGENCE OR SPRAY/FROTH		PAOP DOCUMENT NO. 245.600, REV.0							
		4. CALCULATION NO. 12210-EQS-23							
DOCUMENTATION ACCEPTABILITY:									
ACCEPTABLE TO NUREG 0588,CAT I									
MAINT/SURVEILL - - -									
REFERENCE: 2, SEE NOTE 2									
QUALIFIED LIFE - - -									
(YEARS): 5									
REFERENCE: 2									
SEE NOTE-2									

RBS ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247501-1
REV 0
SHEET NO. 2A
DATE 11/26/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME OC

SRN 247501-1				
SPEC 247.501				
CHS CONTAINMENT ATMOSPHERE MONITORING				
1CHS*SOV32A	77KK-002	CT-G	5 YR	1000 A
1CHS*SOV32G	77KK-002	CT-G	5 YR	1000 A
1CHS*SOV33A	77KK-003	CT-G	5 YR	1000 A
1CHS*SOV33AA	77KK-003	CT-G	5 YR	1000 A
1CHS*SOV33B	77KK-003	CT-G	5 YR	1000 A
1CHS*SOV33BB	77KK-003	CT-G	5 YR	1000 A
1CHS*SOV33C	77KK-003	CT-G	5 YR	1000 A
1CHS*SOV33D	77KK-003	CT-5A	5 YR	1000 A
1CHS*SOV33E	77KK-003	CT-G	5 YR	1000 A
1CHS*SOV33F	77KK-003	CT-5A	5 YR	1000 A
1CHS*SOV33G	77KK-003	CT-5	5 YR	1000 A
1CHS*SOV33H	77KK-003	CT-5A	5 YR	1000 A

RBS ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247501-1

REV 0

SHEET NO. 28

DATE 11/26/84

HARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBHRG	QUAL. LIFE	OPTIME OC
SRN 247501-1				
SPEC 247.501				
CHS CONTAINMENT ATMOSPHERE MONITORING				
1CHS#SOV33J	77KK-003	CT-G	5 YR	1000 A
1CHS#SOV33K	77KK-003	CT-G	5 YR	1000 A
1CHS#SOV33S	77KK-003	CT-5A	5 YR	1000 A
1CHS#SOV33T	77KK-003	CT-5	5 YR	1000 A
1CHS#SOV33U	77KK-003	CT-G	5 YR	1000 A
1CHS#SOV33V	77KK-003	CT-5A	5 YR	1000 A
1CHS#SOV33H	77KK-003	CT-G	5 YR	1000 A
1CHS#SOV33X	77KK-003	CT-5A	5 YR	1000 A
1CHS#SOV33Y	77KK-003	CT-G	5 YR	1000 A
1CHS#SOV33Z	77KK-003	CT-G	5 YR	1000 A
1CHS#SOV34A	77KK-003	CT-G	5 YR	1000 A
1CHS#SOV34B	77KK-003	CT-5A	5 YR	1000 A

RBS ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247501-1

REV 0

SHEET NO. 2C

DATE 11/26/04

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUCHRG	QUAL. LIFE	OPTIME OC
SRN 247501-1				
SPEC 247.501				
CHS CONTAINMENT ATMOSPHERE MONITORING				
1CHS#SOV34C	77HK-003	CT-G	5 YR	100D A
1CHS#SOV34D	77HK-003	CT-SA	5 YR	100D A
1CHS#SOV35A	77HK-002	CT-G	5 YR	100D A
1CHS#SOV35B	77HK-002	CT-SA	5 YR	100D A
1CHS#SOV35C	77HK-002	CT-G	5 YR	100D A
1CHS#SOV35D	77HK-002	CT-G	5 YR	100D A
SSR REACTOR PLANT SAMPLING SYSTEM				
1SSR#SOV130	77HK-008	CT-G	5 YR	100D A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247501-1

REV 0

SHEET NO. 3

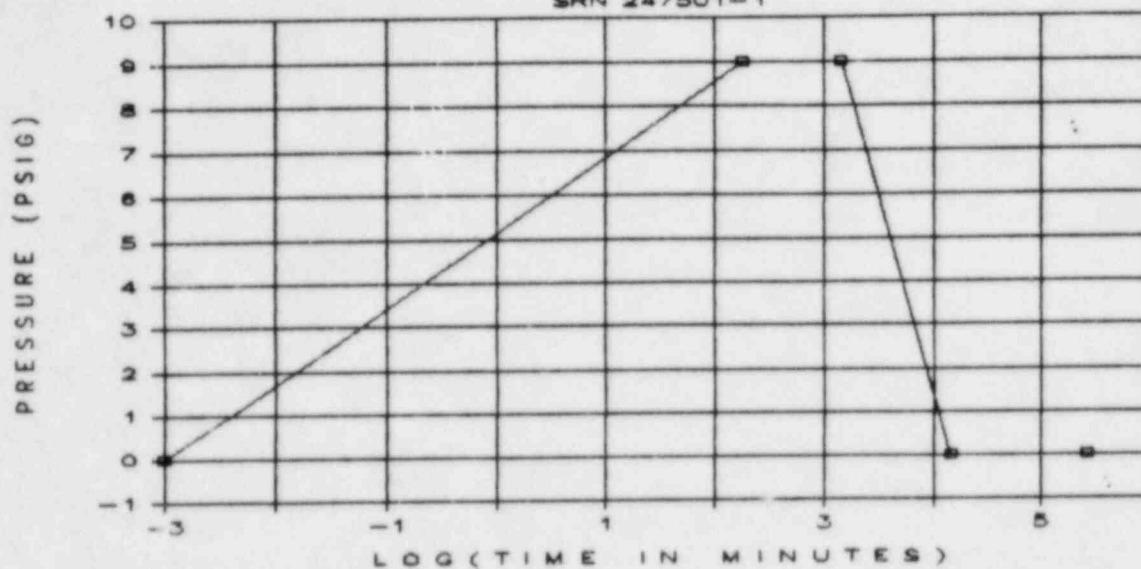
DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. Maintenance to replace elastomeric components every 5 years and maintenance to replace coil in solenoid every 5 years.
 3. Operability time extended from 14 days at the tested high temperature to 100 days plus margin at a lower specified temperature by use of the Arrhenius equation (see Reference 2).
 4. Solenoids are qualified for a pressure change from 0 to 66 psig; therefore, -1.0-in. water will not have any effect on the valve.
 5. Solenoids are qualified for 66 psig; therefore, 2.3 psig will not have any effect on the valve.
 6. Solenoids are qualified for operation at 100-percent RH; therefore, 100-percent abnormal RH will not have any effect on the valve.

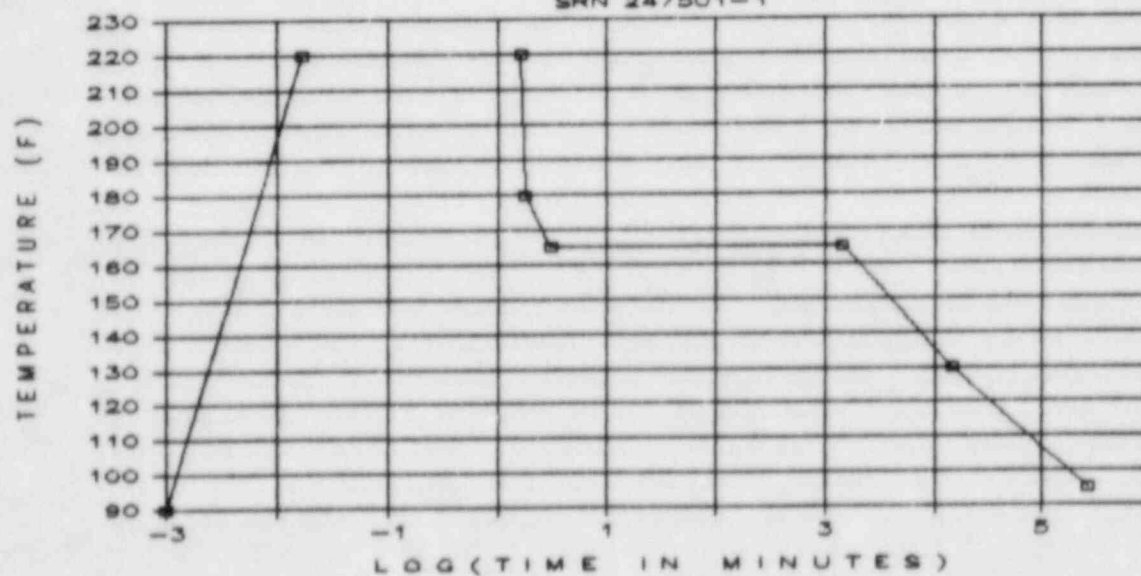
SPECIFIED ACCIDENT PROFILES

SRN 247501-1



SPECIFIED ACCIDENT PROFILES

SRN 247501-1



SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION: 247501

TEMPERATURE								
TIME	0	1sec	100sec	110sec	3min	24hrs	10days	180days
LOG(MINUTES)	-3.00	-1.78	0.22	0.25	0.48	3.16	4.16	5.41
TEMP(F)	90	220	220	180	165	165	130	95
TIME(MIN)	0.001	0.0167	1.65	1.77	3	1440	14400	259200
PRESSURE								
TIME	0	3hrs	1day	10days	180days			
LOG(MINUTES)	-3.00	2.26	3.16	4.16	5.41			
PRES(PSIG)	0	9	9	0	0	-1	10	
TIME(MIN)	0.001	180	1440	14400	259200			

OUTSIDE CONTAINMENT

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 247501_2
REV 0
DATE 03-Dec-84
SHEET 1

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

EQUIPMENT DESCRIPTION	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		DUAL METHOD	MARGIN: DEMO	REMARKS
				SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2	OP. TIME:	100 DAYS	>100 DAYS	3	2	AN+DATA	YES	NOTE-3
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE-1
	NORMAL	122	122	1	2	AN+DATA	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)	ACCIDENT	320	385	1	2	TEST-SIM	YES	
SOLENOID VALVE	PRESS (PSIG)							NOTE-1
	NORMAL	ATMOS	0	1	2	AN+DATA	NA	NOTE-4
	ABNORMAL	NA	NA	NA	NA	NA	NA	NOTE-5
MANUFACTURER: TARGET ROCK	ACCIDENT	13	66	1	2	TEST-SIM	YES	NOTE-5
	RH (%)							NOTE-1
MODEL: SEE SHEET 2	NORMAL	20-90	55	1	2	AN+DATA	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	NOTE-6
SAFETY FUNCTION: - - -	ACCIDENT	ALL STEAM	ALL STEAM	1	2	TEST-SIM	NA	
OPEN/CLOSE ON DEMAND	RADIATION:							NOTE-1
	NORM GAMMA							
	ACC GAMMA	1.14E7	3.5E7	1,4	2	TEST-SIM	YES	
OP. CODE: SEE SHEET 2	NORM BETA							
	ACC BETA							
	NEUTRON	NA	NA					
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:								
SPRAY/FROTH:								
EQUIPMENT NOT SUBJECTED TO								
SUBMERGENCE OR SPRAY/FROTH								
DOCUMENTATION ACCEPTABILITY:								
ACCEPTABLE TO NUREG 0588, CAT I								
MAINT/SURVEILL - - -								
REFERENCE: 2, SEE NOTE 2								
QUALIFIED LIFE - - -								
(YEARS): 5								
REFERENCE: 2								
SEE NOTE-2								

DOCUMENT REFERENCE:

1. SPECIFICATION 247.501 REV.1, ADD.2 & E&DCR NO.P40,667A
2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6247.501-240-008A
3. POST-ACCIDENT OPERABILITY PERIOD: SEE PAOP DOCUMENT NO. 245.600, REV.0
4. CALCULATION NO. 12210-E05-23

RBS ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247501-2

REV 0

SHEET NO. 2A

DATE 11/24/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBHRG	QUAL. LIFE	OPTIME OC

SRN 247501-2				
SPEC 247.501				
CHS CONTAINMENT ATMOSPHERE MONITORING				
1CHS*SOV31A	77KK-002	AB-114-6	5 YR	1000 A
1CHS*SOV31B	77KK-002	AB-141-3	5 YR	1000 A
1CHS*SOV31C	77KK-002	AB-114-6	5 YR	1000 A
1CHS*SOV31D	77KK-002	AB-141-3	5 YR	1000 A
CPP CONTAINMENT PURGE				
1CPP*SOV140	77KK-004	AB-114-6	5 YR	1000 A
E12 RESIDUAL HEAT REMOVAL				
1E12*SOVF060A	77KK-001	AB-070-2	5 YR	1000 A
1E12*SOVF060B	77KK-001	AB-070-5	5 YR	1000 A
1E12*SOVF075A	77KK-001	AB-070-2	5 YR	1000 A
1E12*SOVF075B	77KK-001	AB-070-5	5 YR	1000 A
1E12*SOVF095	77KK-001	AB-070-5	5 YR	N/R B

RBS ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247501-2
REV 0
SHEET NO. 2B
DATE 11/26/84

HARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME OC
SRN 247501-2				
E33 MAIN STEAM ISOLATION VALVE SEALS				
1E33*SOVF014	77KK-005	AB-141-4	5 YR	30 D B
1E33*SOVF034	77KK-005	AB-141-8	5 YR	30 D B
E51 REACTOR CORE ISOLATION COOLING SYSTEM				
1E51*PCVF015	77KK-015	AB-070-3	5 YR	70 H A
G33 REACTOR WATER CLEAN-UP				
1G33*SOVF041	77KK-001	AB-114-2	5 YR	N/R B
IAS INSTRUMENT AIR				
1IAS*SOV41A	77KK-005	AB-141-5	5 YR	100D A
1IAS*SOV41B	77KK-005	AB-141-6	5 YR	100D A
LSV LEAKAGE CONTROL - PENETRATION VALVE				
1LSV*SOVX26A	77KK-010	AB-141-2	5 YR	30D A
1LSV*SGVX26B	77KK-010	AB-141-3	5 YR	30D A
1LSV*SOVY26A	77KK-011	AB-141-2	5 YR	30D A
1LSV*SOVY26B	77KK-011	AB-141-3	5 YR	30D A

RBS ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247501-2
REV 0
SHEET NO. 2C
DATE 11/26/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBHRG	QUAL. LIFE	OPTIME OC
SRN 247501-2				
SSR REACTOR PLANT SAMPLING SYSTEM				
1SSR*SOV131	77KK-008	AB-141-4	5 YR	100D A
1SSR*SOV133	77KK-003	AB-114-6	5 YR	100D A
1SSR*SOV134	77KK-003	AB-114-6	5 YR	100D A
1SSR*SOV139	77KK-009	AB-095-8	5 YR	100D A
1SSR*SOV140	77KK-003	AB-114-6	5 YR	100D A
SVV STEAM VENTS - SAFETY VALVES				
1SVV*SOV20A	77KK-012	AB-141-2	5 YR	1 HR A
1SVV*SOV20B	77KK-012	AB-141-3	5 YR	1 HR A
1SVV*SOV21A	77KK-013	AB-141-3	5 YR	1 HR A
1SVV*SOV21B	77KK-013	AB-141-3	5 YR	1 HR A
1SVV*SOV22A	77KK-014	AB-141-2	5 YR	1 HR A
1SVV*SOV22B	77KK-014	AB-141-3	5 YR	1 HR A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247501-2

REV 0

SHEET NO. 3

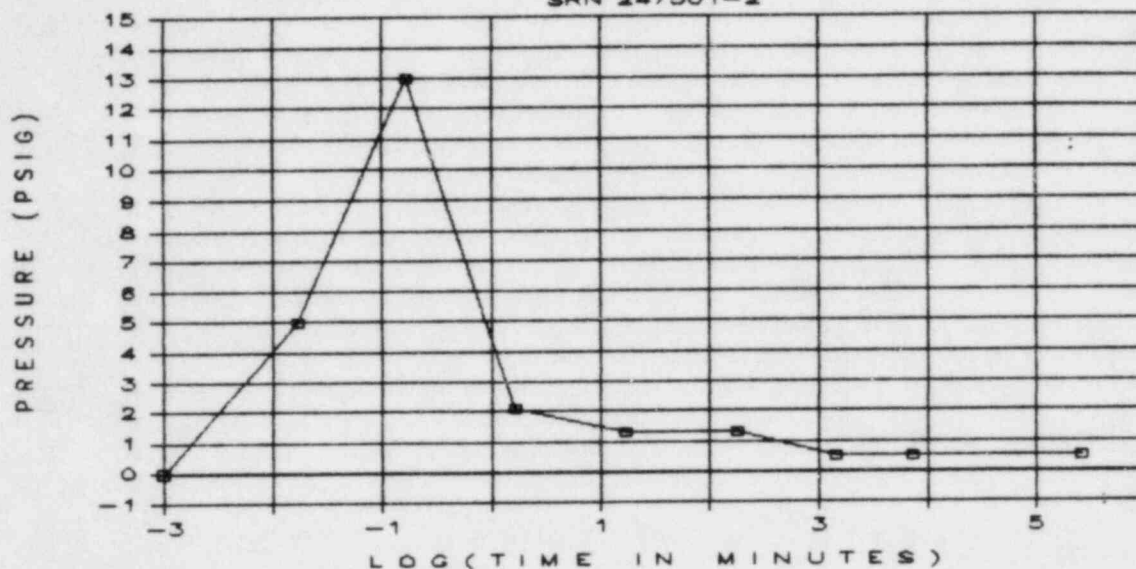
DATE 11/27/84

NOTES

1. For complete environmental conditions, see the document referenced.
2. Maintenance to replace elastomeric components every 5 years and maintenance to replace coil in solenoid every 20 years.
3. Operability time extended from 14 days at the tested high temperature to 100 days plus margin at a lower specified temperature by use of the Arrhenius equation (see Reference 2).
4. Solenoids are qualified for a pressure change from 0 to 66 psig; therefore, -1.0-in. water will not have any effect on the valve.
5. Solenoids are qualified for 66 psig; therefore, 13 psig will not have any effect on the valve.
6. Solenoids are qualified for operation at 100-percent RH; therefore, 100-percent abnormal RH will not have any effect on the valve.

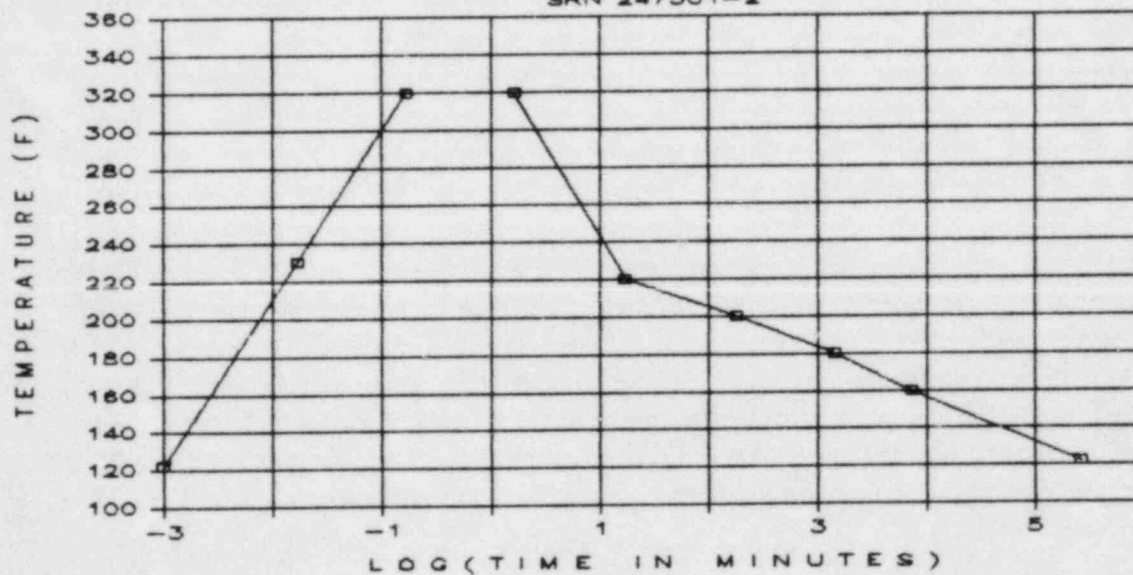
SPECIFIED ACCIDENT PROFILES

SRN 247501-2

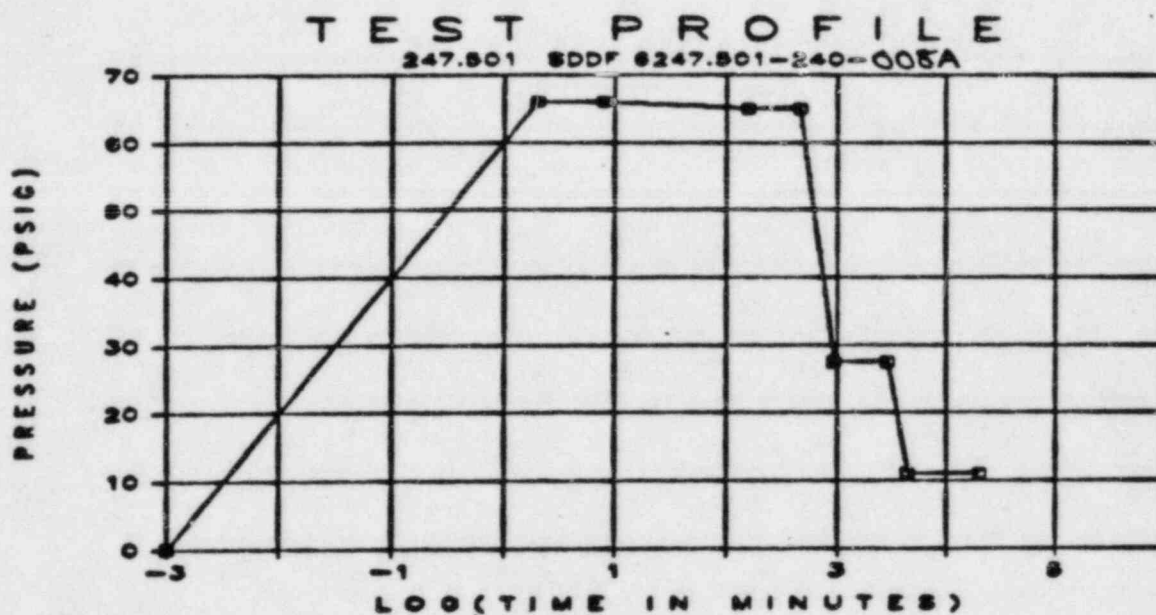
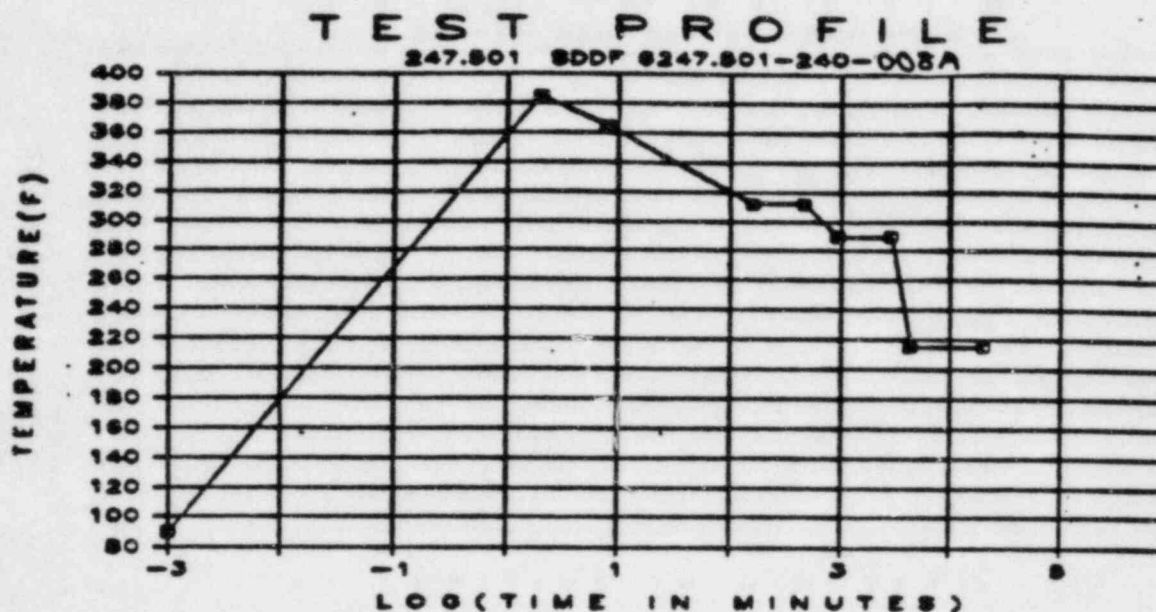


SPECIFIED ACCIDENT PROFILES

SRN 247501-2



TEMPERATURE									
TIME	0	1sec	10sec	100sec	1000sec	3hrs	1day	5days	180days
LOG (MINUTES)	-3.00	-1.78	-0.78	0.22	1.22	2.26	3.16	3.86	5.41
TEMP (F)	122	230	320	320	220	200	180	160	122
TIME (MIN)	0.001	0.0167	0.167	1.65	16.7	180	1440	7200	259200
PRESSURE									
TIME	0	1sec	10sec	100sec	1000sec	3hrs	1day	5days	180days
LOG (MINUTES)	-3.00	-1.78	-0.78	0.22	1.22	2.26	3.16	3.86	5.41
PRES (PSIG)	0	5	13	2.1	1.3	1.3	0.5	0.5	0.5
TIME (MIN)	0.001	0.0167	0.167	1.65	16.7	180	1440	7200	259200



TEST PROFILE DATA FOR 247.501 BDDF 247.501-240-002B

TIME	0	2min	8min	2hr40min	8hr	16hr	2days	3days	14days
LOG (MINUTES)	-3.00	0.30	0.90	2.20	2.68	2.98	3.46	3.64	4.30
TEMP (F)	90	385	365	312	312	290	290	215	215
PRES (PSIG)	0	66	66	65	65	27.5	27.5	11	11

FUEL BUILDING

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 247501_3

REV 0

DATE 03-Dec-84
SHEET 1

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

EQUIPMENT DESCRIPTION											
=====											
PARAMETER											
SPECIFIED											
QUALIFIED											
DOCUMENT REFERENCE											
QUAL											
MARGIN											
REMARKS											
=====											
EQUIP NO.: SEE SHEET 2											
SYSTEM: SEE SHEET 2											
TYPE: (DESCRIPTION)											
SOLENOID VALVE											
MANUFACTURER: TARGET ROCK											
MODEL: SEE SHEET 2											
SAFETY FUNCTION: - - -											
OPEN/CLOSE ON DEMAND											
OP. CODE: SEE SHEET 2											
ACCURACY - -											
SPEC: NA											
DEMO: NA											
ZONE NO.: SEE SHEET 2											
SUBMERGENCE:											
SPRAY/FROTH:											
EQUIPMENT NOT SUBJECTED TO											
SUBMERGENCE OR SPRAY/FROTH											
DOCUMENTATION ACCEPTABILITY:											
ACCEPTABLE TO NUREG 0588,CAT I											
MAINT/SURVEILL - - -											
REFERENCE: 2, SEE NOTE 2											
QUALIFIED LIFE - - -											
(YEARS): 5											
REFERENCE: 2											
SEE NOTE-2											

RBS ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247501-3
REV 0
SHEET NO. 2
DATE 11/26/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBHRC	QUAL. LIFE	OPTIME OC
SRN 247501-3				
SPEC 247.501				
IAS INSTRUMENT AIR				
1IAS#SOV45A	77KK-005	FB-148-G	5 YR	1000 A
1IAS#SOV45B	77KK-005	FB-148-G	5 YR	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247501-3

REV 0

SHEET NO. 3

DATE 11/26/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. Maintenance to replace elastomeric components every 5 years, and maintenance to replace coil in solenoid every 10 years.
 3. Operability time extended from 14 days at the tested high temperature to 100 days plus margin at a lower, acceptable temperature by use of the Arrhenius equation (see Reference 2).
 4. Solenoids are qualified for a pressure change from 0 to 66 psig; therefore, -1.0-in. water will not have any effect on the valve.
 5. Solenoids are qualified for 66 psig; therefore, 2.3 psig will not have any effect on the valve.
 6. Solenoids are qualified for operation at 100-percent RH; therefore, 100-percent abnormal RH will not have any effect on the valve.

SRN 247529-1
REV 1
DATE 10-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						DATE	REMARKS
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		DUAL METHOD	MARGIN DEMO	
					SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2		OP.TIME:	100 DAYS	>100 DAYS	3	2	AN+DATA	YES	NOTE-2,3
SYSTEM: SEE SHEET 2		TEMP (F):							NOTE-1,2
		NORMAL	90	158	1	2	AN+DATA	NA	
		ABNORMAL	140	158	1	2	AN+DATA	NA	
TYPE: (DESCRIPTION)		ACCIDENT	220	405	1	2	AN+DATA	YES	
POSITION TRANSMITTER RACK		PRESS (PSIG)							NOTE-1,2
		NORMAL	-1.0" H2O	14.2PSIA	1	2	AN+DATA	NA	
		ABNORMAL	2.3	63	1	2	AN+DATA	NA	NOTE-4
MANUFACTURER: TEC		ACCIDENT	9	63	1	2	AN+DATA	YES	
		RH (%):							NOTE-1,2
		NORMAL	50	100	1	2	AN+DATA	NA	
		ABNORMAL	100	100	1	2	AN+DATA	NA	
SAFETY FUNCTION: - - -		ACCIDENT	100	100	1	2	AN+DATA	NA	
PROVIDE HOUSING FOR		RADIATION:							NOTE-1,2
POSITION TRANSMITTER		NORM GAMMA	1E6		1			NA	
		ACC GAMMA	7E6	2.22E8	1	2	AN+DATA	YES	NOTE-5
OP. CODE: SEE SHEET 2		NORM BETA	2E3		1			NA	
		ACC BETA	1.5E8		1			YES	
		NEUTRON	0		1			NA	
ACCURACY - -		SPRAY	NA	NA	NA	NA	NA	NA	
SPEC: NA		SUBMERGENCE	NA	NA	NA	NA	NA	NA	
DEMO: NA									
ZONE NO.: SEE SHEET 2									
SUBMERGENCE:		DOCUMENT REFERENCE:							
SPRAY/FROTH:		1. SPECIFICATION 247.529 ADD.1 / E&DCR P40,798B							
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
		SDDF # 6247.529-332-002A							
		6247.529-332-003A							
		6247.529-332-004A							
		6247.529-332-005A							
		6247.529-332-006A							
		6247.529-332-009A							
		6247.529-332-002C							
		6247.529-332-002D							
DOCUMENTATION ACCEPTABILITY:		3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
ACCEPTABLE TO NUREG 0588,CAT I		PAOP DOCUMENT NO. 245.600, REV.0							
MAINT/SURVEILL - - -									
REFERENCE: NOT REQUIRED									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE: 2									

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247529-1

REV 0

SHEET NO. 2

DATE 11/27/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME OC
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SRN 247529-1

SPEC 247.529

SVV STEAM VENTS - SAFETY VALVES

1SVV*RAK5A	NONE,UNIQUE	CT-7	40 YEARS	100 DAY
1SVV*RAK5B	NONE,UNIQUE	CT-7	40 YEARS	100 DAY
1SVV*RAK5C	NONE,UNIQUE	CT-7	40 YEARS	100 DAY
1SVV*RAK5D	NONE,UNIQUE	CT-7	40 YEARS	100 DAY
1SVV*RAK5E	NONE,UNIQUE	CT-7	40 YEARS	100 DAY
1SVV*RAK5F	NONE,UNIQUE	CT-7	40 YEARS	100 DAY

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247529-1

REV 0

SHEET NO. 3

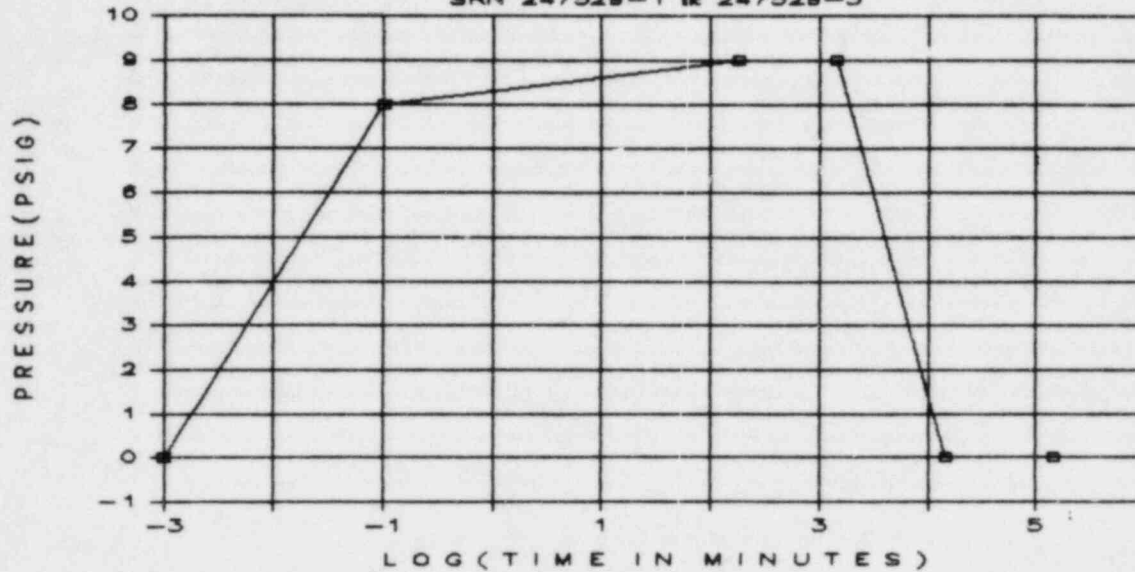
DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. Position transmitter rack is made of steel; therefore, qualified values of the rack are limited due to transmitters in it (see SRN 247529-3).
 3. Post-accident operability period for transmitters is extended to 100 days plus margin using Arrhenius equation.
 4. Rack is qualified for 63 psig; therefore, 2.3 psig will not have any effect on it.
 5. $2.22E8$ rads of gamma exceeds the total integrated dose of specified radiation plus margin.

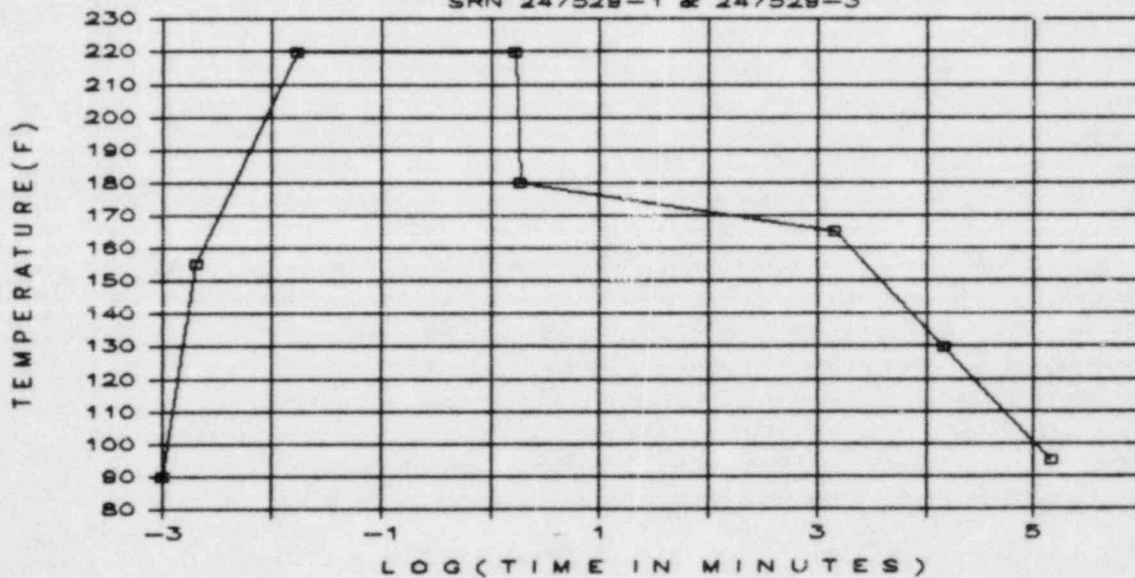
SPECIFIED ACCIDENT PROFILE

SRN 247529-1 & 247529-3

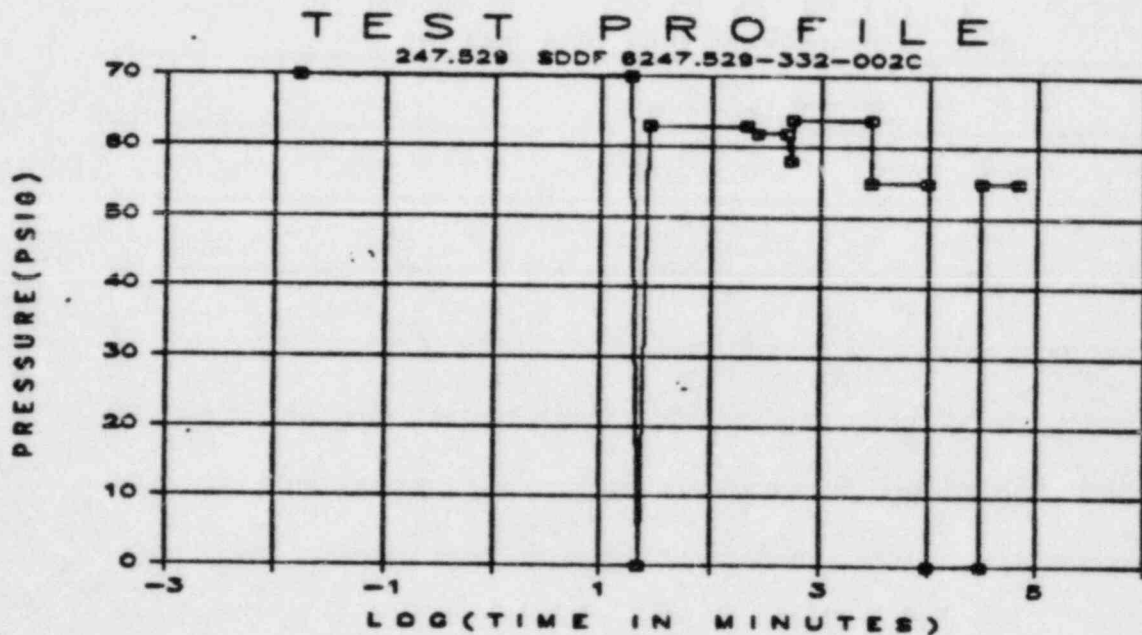
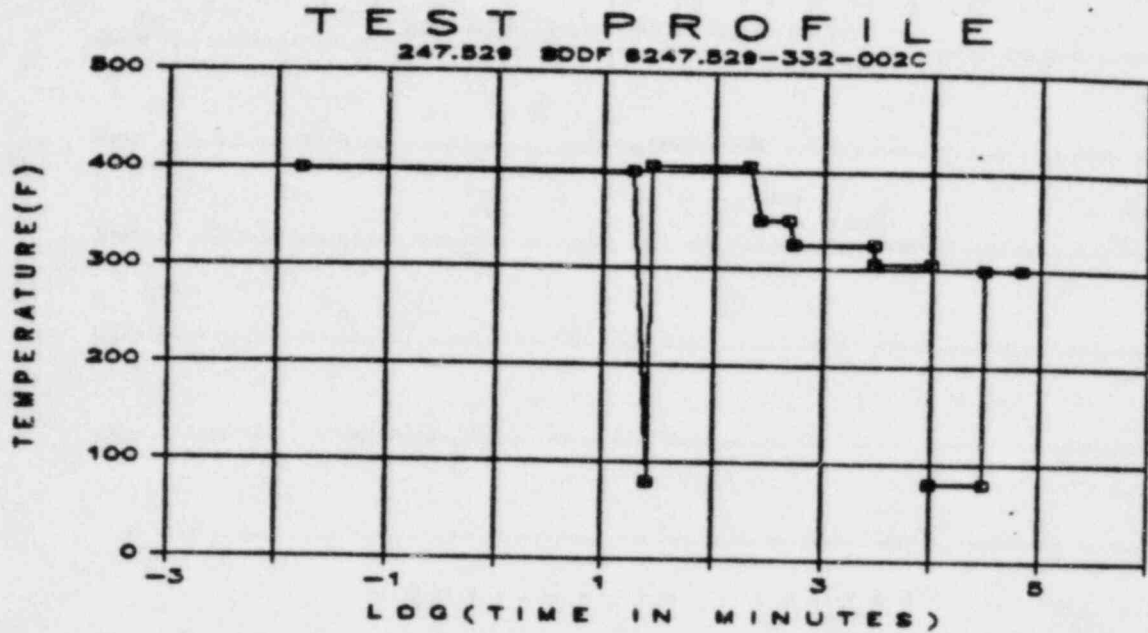


SPECIFIED ACCIDENT PROFILE

SRN 247529-1 & 247529-3



TEMPERATURE								
TIME	0sec	0.1sec	1sec	100sec	110sec	1day	10days	100days
LOG (MINUTES)	-3.00	-2.70	-1.77	0.22	0.26	3.16	4.16	5.16
TEMP(F)	90	155	220	220	180	165	130	95
TIME(MIN)	0.001	0.002	0.017	1.66666	1.83333	1440	14400	144000
PRESSURE								
TIME	0sec	6sec	3hrs	1day	10days	100days		
LOG(MINUTES)	-3.00	-1.00	2.26	3.16	4.16	5.16		
PRES(PSIG)	0	8	9	9	0	0	-1	10
TIME(MIN)	0.001	0.1	180	1440	14400	144000		



TEST PROFILE DATA FOR 247.529 SDDF 6247.529-332-002C

TEMPERATURE																		
TIME	1sec	18.3min	25min	26.6min	3hr	25min	4.4hr	7hr	55min	9hr	2days	2days	7days	7days	21days	21days	47days	
LOG(MINUTES)	-1.78	1.26	1.40	1.42	2.31	2.42	2.68	2.73	3.46	3.46	4.00	4.00	4.48	4.48	4.83			
TEMP(F)	400	400	80	405	405	350	350	325	325	305	305	80	80	300	300			
PRESSURE																		
TIME	1sec	18.3min	22min	26.6min	3hr	25min	4.4hr	7hr	55min	9hr	9.25hr	2days	2days	7days	7days	21days	21days	47days
LOG(MINUTES)	-1.78	1.26	1.34	1.42	2.31	2.42	2.68	2.73	2.74	3.46	3.46	4.00	4.00	4.48	4.48	4.83		
PRES(PSIG)	70	70	0	6	63	62	62	58	64	64	55	55	0	0	55	55		

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 247529-2
REV 1
DATE 10-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION							REMARKS
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	
EQUIP NO.: SEE SHEET 2	OP.TIME:	100 DAYS	>100 DAYS	3	2	AN+DATA	YES	NOTE-2
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE-1
	NORMAL	140	158	1	2	TEST-IDENT	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION)	ACCIDENT	330	405	1	2	TEST-IDENT	YES	
PRIMARY POSITION ELEMENT	PRESS (PSIG)							NOTE-1
	NORMAL	0.5	14.7PSIA	1	2	TEST-IDENT	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: ENDEVCO	ACCIDENT	-8 TO +25	-11 TO +63	1	2	AN+DATA	YES	
MODEL: SEE SHEET 2	IRH (%)							NOTE-1
	NORMAL	50	100	1	2	TEST-IDENT	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - -	ACCIDENT	100	100	1	2	TEST-IDENT	NA	
RELIEF VALVE POSITION MONITORING	RADIATION:							NOTE-1
	NORM GAMMA							
	ACC GAMMA	1.71EB TID	2.22EB	4	2	TEST-SIM	YES	
OP. CODE: SEE SHEET 2	NORM BETA							
	ACC BETA							
	NEUTRON							
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -	SUBMERGENCE:	NA	NA	NA	NA	NA	NA	
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:	DOCUMENT REFERENCE:							
SPRAY/FROTH:	1. SPECIFICATION 247.529 ADD.1 / E&DCR P40,798B							
	2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
	SDDF # 6247.529-332-002A							
	6247.529-332-003A							
	6247.529-332-004A							
	6247.529-332-005A							
DOCUMENTATION ACCEPTABILITY:	6247.529-332-006A							
ACCEPTABLE TO NUREG 0588,CAT I	6247.529-332-009A							
	6247.529-332-002C							
	6247.529-332-002D							
	3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
	PAOP DOCUMENT NO. 245.600, REV.0							
MAINT/SURVEILL - - -	4. CALCULATION NO. 12210-EDS-21							
REFERENCE: NOT REQUIRED								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 2								

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST

SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247529-2

REV 0

SHEET NO. 2 (PAGE 1 OF 2)

DATE 11/27/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUSHRG	QUAL. LIFE	OPTIME OC
SRN 247529-2				
SPEC 247.529				
SVV STEAM VENTS - SAFETY VALVES				
1SVV*ZE10A	E2273AH1 REG.G.1.97	DH-1	40 YEARS	1000 A
1SVV*ZE10B	E2273AH1 REG.G.1.97	DH-1	40 YEARS	1000 A
1SVV*ZE10C	E2273AH1 REG.G.1.97	DH-1	40 YEARS	1000 A
1SVV*ZE10D	E2273AH1 REG.G.1.97	DH-1	40 YEARS	1000 A
1SVV*ZE10E	E2273AH1 REG.G.1.97	DH-1	40 YEARS	1000 A
1SVV*ZE10F	E2273AH1 REG.G.1.97	DH-1	40 YEARS	1000 A
1SVV*ZE10G	E2273AH1 REG.G.1.97	DH-1	40 YEARS	1000 A
1SVV*ZE10H	E2273AH1 REG.G.1.97	DH-1	40 YEARS	1000 A
1SVV*ZE10J	E2273AH1 REG.G.1.97	DH-1	40 YEARS	1000 A

RBS- ENVIRONMENTAL QUALIFICATION PROGRAM

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

REV O

DATE 11/27/84

DATE 11/27/84

[illegible]

ENV. ZONE QUAL. LIFE
SUDNRG

OPTIME
CC

SPEC 247.529

1SVV*ZE10K

E2273AM1
REG.G.1.97

DW-1 40 YEARS

100D
A

E2273AM1
REG.G.1.97

DW-1 40 YEARS

1003
A

E2273AM1
REG.G.1.97

DW-1 40 YEARS

100D
A

E2273AM1
REG.G.1.97

DN-1 40 YEARS

1000
A

E2273AH1
REG.G.1.97

DW-1 40 YEARS

1000
A

E2273AM1
REG.G.1.97

DW-1 40 YEARS

100D
A

EE273AM1
REG.G.1.97

DN-1 40 YEARS

100D
A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247529-2

REV 0

SHEET NO. 3

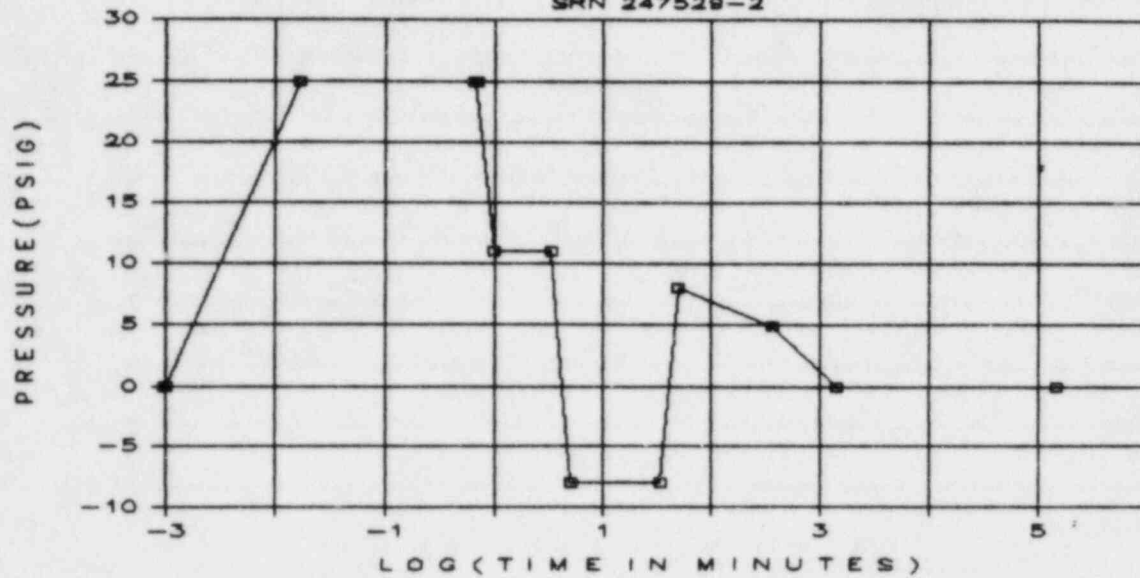
DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. Post-accident operability period is extended to 100 days plus margin using Arrhenius equation.

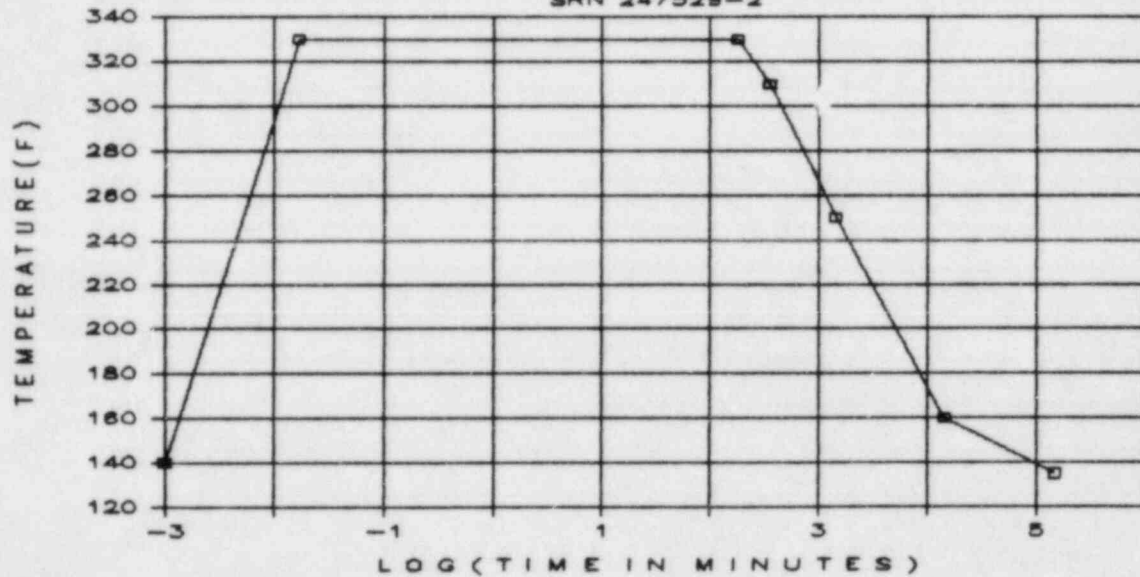
SPECIFIED ACCIDENT PROFILE

SRN 247529-2

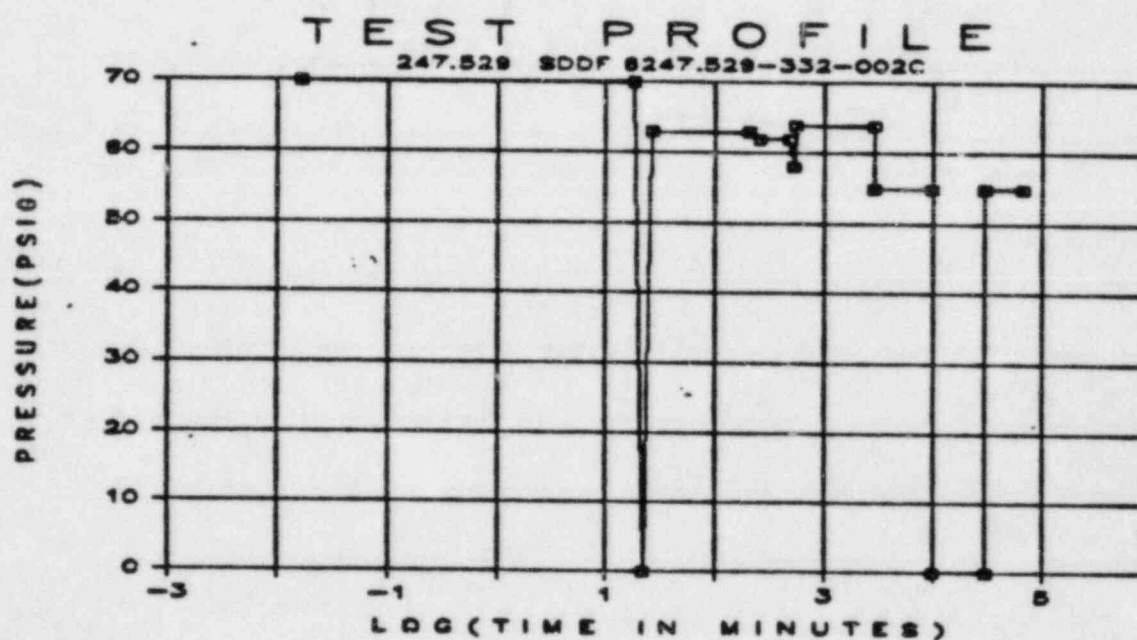
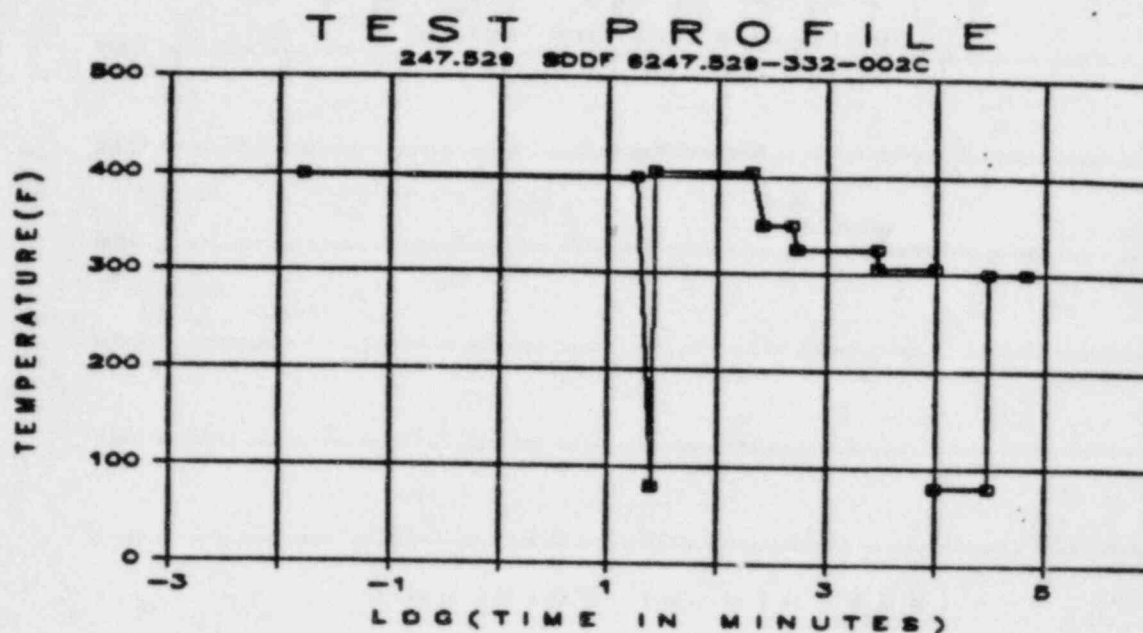


SPECIFIED ACCIDENT PROFILE

SRN 247529-2



TEMPERATURE											
TIME	0sec	1sec	3hrs	6hrs	1day	10days	100days				
LOG (MINUTES)	-3.00	-1.77	2.26	2.56	3.16	4.16	5.16				
TEMP(F)	140	330	330	310	250	160	135				
TIME(MIN)	0.001	0.017	180	360	1440	14400	144000				
PRESSURE											
TIME	0	1sec	40sec	60sec	200sec	300sec	2000sec	3000sec	6hrs	1day	100days
LOG(MINUTES)	-3.00	-1.77	-0.18	0.00	0.52	0.70	1.52	1.70	2.56	3.16	5.16
PRES(PSIG)	0	25	.25	11	11	-8	-8	8	5	0	0
TIME(MIN)	0.001	0.017	0.666	1	3.3333	5	33.3333	50	360	1440	144000



TEST PROFILE DATA FOR 247.529 SDDF 6247.529-332-002C

TEMPERATURE

TIME	1sec	18.3min	25min	26.6min	3hr	25min	4.4hr	7hr	55min	9hr	2days	2days	7days	7days	21days	21days	47days
LOG(MINUTES)	-1.78	1.26	1.40	1.42	2.31	2.42	2.68	2.73	3.46	3.46	4.00	4.00	4.48	4.48	4.83		
TEMP(F)	400	400	80	405	405	350	350	325	325	305	305	80	80	300	300		

PRESSURE

TIME	1sec	18.3min	22min	26.6min	3hr	25min	4.4hr	7hr	55min	9hr	9.25hr	2days	2days	7days	7days	21days	21days	47days
LOG(MINUTES)	-1.78	1.26	1.34	1.42	2.31	2.42	2.68	2.73	2.74	3.46	3.46	4.00	4.00	4.48	4.48	4.83		
PRES(PSIG)	70	70	0	6	63	62	62	58	64	64	55	55	0	0	55	55		

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SPN 247529-3
REV 1
DATE 10-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
	PARAMETER	SPECIFIED	QUALIFIED	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	REMARKS
		VALUE	VALUE	SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2	OP.TIME:	100 DAYS	>100 DAYS	3	2	AN+DATA	YES	NOTE-2
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE-1
	NORMAL	90	158	1	2	TEST-IDENT	NA	
	ABNORMAL	140	158	1	2	TEST-IDENT	NA	
TYPE: (DESCRIPTION)	ACCIDENT	220	405	1	2	TEST-IDENT	YES	
POSITION TRANSMITTER	PRESS (PSIG):							NOTE-1
	NORMAL	-1.0" H2O	14.2 PSIA	1	2	TEST-IDENT	NA	
	ABNORMAL	2.3	63	1	2	AN+DATA	NA	NOTE-3
MANUFACTURER: TEC	ACCIDENT	9	63	1	2	TEST-IDENT	YES	
	RH (%):							NOTE-1
MODEL: SEE SHEET 2	NORMAL	50	100	1	2	TEST-IDENT	NA	
	ABNORMAL	100	100	1	2	TEST-IDENT	NA	
SAFETY FUNCTION: - - -	ACCIDENT	100	100	1	2	TEST-IDENT	NA	
TRANSMITTING RELIEF VALVE	RADIATION:							NOTE-1
POSITION TO CONTROL ROOM	NORM GAMMA	1E6		1			NA	
	ACC GAMMA	7E6	2.22E8	1	2	TEST-IDENT	YES	NOTE-4
OP. CODE: SEE SHEET 2	NORM BETA	2E3		1			NA	
	ACC BETA	1.5E8		1			YES	
	NEUTRON	0		1			NA	
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:								
SPRAY/FROTH:								
EQUIPMENT NOT SUBJECTED TO								
SUBMERGENCE OR SPRAY/FROTH								
DOCUMENTATION ACCEPTABILITY:								
ACCEPTABLE TO NUREG 0588,CAT I								
MAINT/SURVEILL - - -								
REFERENCE: 2								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 2								

DOCUMENT REFERENCE:

- SPECIFICATION 247.529 ADD.1 / E&DCR P40,798B
- VENDOR ENVIRONMENTAL QUALIFICATION REPORT,
SDDF # 6247.529-332-002A
6247.529-332-003A
6247.529-332-004A
6247.529-332-005A
6247.529-332-006A
6247.529-332-009A
6247.529-332-002C
6247.529-332-002D
- POST-ACCIDENT OPERABILITY PERIOD: SEE
PAOP DOCUMENT NO. 245.600, REV.0

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247529-3
REV 0
SHEET NO. 2 (PAGE 1 OF 2)
DATE 11/27/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUDING	QUAL. LIFE	OPTIME OC

SRN 247529-3				
SPEC 247.529				
SVV STEAM VENTS - SAFETY VALVES				
1SVV*ZT10A	504A	CT-7	40 YEARS	100 DAY
1SVV*ZT10B	504A	CT-7	40 YEARS	100 DAY
1SVV*ZT10C	504A	CT-7	40 YEARS	100 DAY
1SVV*ZT10D	504A	CT-7	40 YEARS	100 DAY
1SVV*ZT10E	504A	CT-7	40 YEARS	100 DAY
1SVV*ZT10F	504A	CT-7	40 YEARS	100 DAY
1SVV*ZT10G	504A	CT-7	40 YEARS	100 DAY
1SVV*ZT10H	504A	CT-7	40 YEARS	100 DAY
1SVV*ZT10J	504A	CT-7	40 YEARS	100 DAY
1SVV*ZT10K	504A	CT-7	40 YEARS	100 DAY
1SVV*ZT10L	504A	CT-7	40 YEARS	100 DAY
1SVV*ZT10M	504A	CT-7	40 YEARS	100 DAY
1SVV*ZT10N	504A	CT-7	40 YEARS	100 DAY

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
SORTED BY SRN, SPEC, THEN SYSTEM - HARSH ENVIRONMENT ONLY

SRN 247529-3
REV 0
SHEET NO. 2 (PAGE 2 of 2)
DATE 11/27/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBIRG	QUAL. LIFE	OPTIME OC

SRN 247529-3				
SPEC 247.529				
SVV STEAM VENTS - SAFETY VALVES				
1SVV*ZT10P	504A	CT-7	40 YEARS	100 DAY
1SVV*ZT10Q	504A	CT-7	40 YEARS	100 DAY
1SVV*ZT10R	504A	CT-7	40 YEARS	100 DAY

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247529-3

REV 0

SHEET NO. 3

DATE 11/27/84

NOTES

-
1. For complete environmental conditions, see the document referenced.
 2. Post-accident operability period is extended to 100 days plus margin using Arrhenius equation.
 3. Position transmitter is qualified for operation at 63 psig; therefore, 2.3 psig will not have any effect on it.
 4. $2.22E8$ rads of gamma exceeds the total integrated dose of specified radiation plus margin.

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

NSSS EQUIPMENT LIST AND CROSS-REFERENCE

SUMMARY REFERENCE NUMBER	DESCRIPTION	MANUFACTURER
C01	Pressure Transmitter	Rosemount
C02	Level Transmitter	Gould
C03	Temperature Element	Pvco
C05	Insulated Detector	GE
C09	Pressure Switch	Barksdale
C11	Level Switch	Magnetrol
C26	Limit Switch	Namco
S01	RHR/LPCS/HPCS Motor	GE
S03	MOV Operator	Limitorque
S05A	MSIV Actuator	Sheffer
S05B	MSIV Limit Switch	Namco
S08/9	RCIC Turbine	Terry
S10	SLC Pump Motor	GE
S11	SLC Explosive Valve	Conax
S12	HCU Solenoid Valve	ASCO
S18A	SDV Solenoid Valve	Valcor
S18B	Backup Scram Valve	Valcor
S19	Main Steam Safety/Relief Valve	Crosby

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN C01
REV 1
DATE 12-13-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE SPECIFIED QUALIFIED		QUAL METHOD	MARGIN DEMO	NOTES (see sheet 3)
EQUIP NO: see sheet 2		OP. TIME:	100 days	2 days	3	3	TEST-SIM	Note 11	1,11
SYSTEM: see sheet 2		TEMP (F):							
		NORMAL	122	185	1	3	TEST-SIM	N/A	2
		ABNORMAL	140	185	1	3	TEST-SIM	N/A	2
TYPE: Pressure Transmitter		ACCIDENT	200	232	1	3	TEST-SIM	YES	2,7
		PRESS (PSIG):							
		NORMAL	atmospheric	atmospheric	1	3	TEST-SIM	N/A	2
		ABNORMAL	2.3	see Note 14	1	3	TEST-SIM	N/A	2,14
MANUFACTURER: Rosemount, Inc.		ACCIDENT	9	16.5	1	3	TEST-SIM	YES	2,8
		RH (%):							
		NORMAL	90	100	1	3	TEST-SIM	N/A	2
		ABNORMAL	100	100	1	3	TEST-SIM	N/A	2
SAFETY FUNCTION: Safeguards Actuation		ACCIDENT	100	100	1	3	TEST-SIM	N/A	2
		PADIATION:							
		NORM GAMMA	1.5E6 R	see Note 15	1	3	TEST-SIM	N/A	2,3,15
		ACC GAMMA	1.8E7 R	2.2E7 R	1	3	TEST-SIM	YES	2,4
OP. CODE: A		NORM BETA	5E2 R	shielded	1	3	N/A	N/A	2,3
		ACC BETA	1.5E8 R	shielded	1	3	N/A	N/A	2,4
		NEUTRON	0	N/A	1	N/A	N/A	N/A	
		SPRAY	7 seconds	2 days	2	3	TEST-SIM	N/A	5
ACCURACY (Note 9):		SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A	
SPEC: +5%									
DEMO: \leq +5%									
ZONE NO: see sheet 2		DOCUMENT REFERENCE:							
		1. Environmental Design Criteria (EDC) SWEC Document No. 215.150, Rev. 2 (including change notices no. 2-1, 2-2, and 2-3)							
FLOOD LEVEL		2. River Bend Station FSAR, Appendix 6A, Figure 6A-10.2							
ELEVATION: 109' (Note 6)		3. GE Interim Environmental Qualification Report QUAL-710-84-036							
ABOVE FLOOD									
LEVEL? Yes									
DOCUMENTATION ACCEPTABILITY:									
Acceptable to NUREG 0588, Cat 1									
per NEDE-24326-1-P (Note 11)									
MAINTENANCE/SURVEILLANCE:									
REFERENCE: 3									
QUALIFIED LIFE									
(YEARS): 10 (Note 10)									
REFERENCE: 3									

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN C01
REV 1
DATE 12-13-84
SHEET 2A

EQUIP. NO.	DRAWING NO.	MODEL NO.	ENV. ZONE	OP. TIME	NOTES
Nuclear Boiler System					
B21-NO62A	:169C8394P972203	: 1152GP9E22T0280PB	: CT-G	: 100 d	: 11
B21-NO62B	:169C8394P972203	: 1152GP9E22T0280PB	: CT-G	: 100 d	: 11
B21-NO67C	:169C8968P512203	: 1152AP5A22PB	: CT-G	: 100 d	: 11,12
B21-NO67G	:169C8968P512203	: 1152AP5A22PB	: CT-G	: 100 d	: 11,12
B21-NO67L	:169C8968P512203	: 1152AP5A22PB	: CT-G	: 100 d	: 11,12
B21-NO67R	:169C8968P512203	: 1152AP5A22PB	: CT-G	: 100 d	: 11,12
B21-NO68A	:169C8394P972203	: 1152GP9E22T0280PB	: CT-G	: 4 h	
B21-NO68B	:169C8394P972203	: 1152GP9E22T0280PB	: CT-G	: 4 h	
B21-NO68E	:169C8394P972203	: 1152GP9E22T0280PB	: CT-G	: 4 h	
B21-NO68F	:169C8394P972203	: 1152GP9E22T0280PB	: CT-G	: 4 h	
B21-NO73C	:169C8392P472203	: 1152DP4E22T0280PB	: CT-G	: 100 d	: 11
B21-NO73G	:169C8392P472203	: 1152DP4E22T0280PB	: CT-G	: 100 d	: 11
B21-NO73L	:169C8392P472203	: 1152DP4E22T0280PB	: CT-G	: 100 d	: 11
B21-NO73R	:169C8392P472203	: 1152DP4E22T0280PB	: CT-G	: 100 d	: 11
B21-NO75A	:169C8969P572203	: 1152AP5E22T0280PB	: TB-095-3:	: none	
B21-NO75B	:169C8969P572203	: 1152AP5E22T0280PB	: TB-095-3:	: none	
B21-NO75C	:169C8969P572203	: 1152AP5E22T0280PB	: TB-095-3:	: none	
B21-NO75D	:169C8969P572203	: 1152AP5E22T0280PB	: TB-095-3:	: none	
B21-NO76A	:169C8394P972203	: 1152GP9E22T0280PB	: TB-095-3:	: 1 h	
B21-NO76B	:169C8394P972203	: 1152GP9E22T0280PB	: TB-095-3:	: 1 h	
B21-NO76C	:169C8394P972203	: 1152GP9E22T0280PB	: TB-095-3:	: 1 h	
B21-NO76D	:169C8394P972203	: 1152GP9E22T0280PB	: TB-095-3:	: 1 h	
B21-NO78A	:169C8394P972203	: 1152GP9E22T0280PB	: CT-G	: 100 d	: 11
B21-NO78B	:169C8394P972203	: 1152GP9E22T0280PB	: CT-G	: 100 d	: 11
B21-NO78C	:169C8394P972203	: 1152GP9E22T0280PB	: CT-G	: 100 d	: 11
B21-NO78D	:169C8394P972203	: 1152GP9E22T0280PB	: CT-G	: 100 d	: 11
B21-NO80A	:169C8392P472203	: 1152DP4E22T0280PB	: CT-G	: 100 d	: 11
B21-NO80B	:169C8392P472203	: 1152DP4E22T0280PB	: CT-G	: 100 d	: 11
B21-NO80C	:169C8392P472203	: 1152DP4E22T0280PB	: CT-G	: 100 d	: 11
B21-NO80D	:169C8392P472203	: 1152DP4E22T0280PB	: CT-G	: 100 d	: 11

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN C01
REV 1
DATE 12-13-84
SHEET 2B

EQUIP. NO.	DRAWING NO.	MODEL NO.	ENV. ZONE	OP. TIME	NOTES
B21-NO81A	169C8392P572203	1152DP5E22T0280PB	CT-G	1 h	
B21-NO81B	169C8392P572203	1152DP5E22T0280PB	CT-G	1 h	
B21-NO81C	169C8392P572203	1152DP5E22T0280PB	CT-G	1 h	
B21-NO81D	169C8392P572203	1152DP5E22T0280PB	CT-G	1 h	
B21-NO91A	169C8392P572203	1152DP5E22T0280PB	CT-G	100 d	11
B21-NO91B	169C8392P572203	1152DP5E22T0280PB	CT-G	100 d	11
B21-NO91E	169C8392P572203	1152DP5E22T0280PB	CT-G	100 d	11
B21-NO91F	169C8392P572203	1152DP5E22T0280PB	CT-G	100 d	11
B21-NO94A	169C8969P572203	1152AP5E22T0280PB	CT-G	100 d	11
B21-NO94B	169C8969P572203	1152AP5E22T0280PB	CT-G	100 d	11
B21-NO94E	169C8969P572203	1152AP5E22T0280PB	CT-G	100 d	11
B21-NO94F	169C8969P572203	1152AP5E22T0280PB	CT-G	100 d	11
B21-NO95A	169C8392P472203	1152DP4E22T0280PB	CT-G	100 d	11
B21-NO95B	169C8392P472203	1152DP4E22T0280PB	CT-G	100 d	11
B33-NO14A	169C8392P572203	1152DP5E22T0280PB	CT-G	45 s	
B33-NO14B	169C8392P572203	1152DP5E22T0280PB	CT-G	45 s	
B33-NO14C	169C8392P572203	1152DP5E22T0280PB	CT-G	45 s	
B33-NO14D	169C8392P572203	1152DP5E22T0280PB	CT-G	45 s	
B33-NO24A	169C8392P572203	1152DP5E22T0280PB	CT-G	45 s	
B33-NO24B	169C8392P572203	1152DP5E22T0280PB	CT-G	45 s	
B33-NO24C	169C8392P572203	1152DP5E22T0280PB	CT-G	45 s	
B33-NO24D	169C8392P572203	1152DP5E22T0280PB	CT-G	45 s	
<u>Control Rod Drive Hydraulic System</u>					
C11-NO54A	169C8394P772203	1152GP7E22T0280PB	TB-095-2:	none	
C11-NO54B	169C8394P772203	1152GP7E22T0280PB	TB-095-2:	none	
C11-NO54C	169C8394P872203	1152GP8E22T0280PB	TB-095-2:	none	
C11-NO54D	169C8394P872203	1152GP8E22T0280PB	TB-095-2:	none	
<u>Reactor Protection System (RPS)</u>					
C71-NO50A	169C8969P572203	1152AP5E22T0280PB	CT-G	45 s	

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SPN C01
REV 1
DATE 12-13-84
SHEET 2C

EQUIP. NO.	DRAWING NO.	MODEL NO.	ENV. ZONE	OP. TIME	NOTES
C71-NO50B	169C8969P572203	1152AP5E22T0280PB	CT-G	45 s	
C71-NO50C	169C8969P572203	1152AP5E22T0280PB	CT-G	45 s	
C71-NO50D	169C8969P572203	1152AP5E22T0280PB	CT-G	45 s	
C71-NO52A	169C8394P972203	1152GP9E22T0280PB	TB-095-3	12 h	
C71-NO52B	169C8394P972203	1152GP9E22T0280PB	TB-095-3	12 h	
C71-NO52C	169C8394P972203	1152GP9E22T0280PB	TB-095-3	12 h	
C71-NO52D	169C8394P972203	1152GP9E22T0280PB	TB-095-3	12 h	
Residual Heat Removal (RHR) System					
E12-NO07A	169C8392P572203	1152DP5E22T0280PB	AB-095-8	100 d	11
E12-NO07B	169C8392P572203	1152DP5E22T0280PB	AB-095-7	100 d	11
E12-NO15A	169C8392P572203	1152DP5E22T0280PB	AB-095-8	100 d	
E12-NO15B	169C8392P572203	1152DP5E22T0280PB	AB-095-7	100 d	
E12-NO15C	169C8392P572203	1152DP5E22T0280PB	AB-095-7	100 d	
E12-NO52A	169C8392P372203	1152DP3E22T0280PB	AB-095-8	100 d	11
E12-NO52B	169C8392P372203	1152DP3E22T0280PB	AB-095-7	100 d	11
E12-NO52C	169C8392P372203	1152DP3E22T0280PB	AB-095-7	100 d	11
E12-NO55A	169C8394P772203	1152GP7E22T0280PB	AB-095-8	100 d	11,13
E12-NO55B	169C8394P772203	1152GP7E22T0280PB	AB-095-7	100 d	11,13
E12-NO55C	169C8394P772203	1152GP7E22T0280PB	AB-095-7	100 d	11,13
E12-NO56A	169C8394P772203	1152GP7E22T0280PB	AB-095-8	1 h	13
E12-NO56B	169C8394P772203	1152GP7E22T0280PB	AB-095-7	1 h	13
E12-NO56C	169C8394P772203	1152GP7E22T0280PB	AB-095-7	1 h	13
Low Pressure Core Spray (LPCS) System					
E21-NO03	169C8392P572203	1152DP5E22T0280PB	AB-095-1	100 d	11
E21-NO51	169C8392P372203	1152DP3E22T0280PB	AB-095-1	100 d	11,13
E21-NO52	169C8394P772203	1152GP7E22T0280PB	AB-095-1	1 h	13
E21-NO53	169C8394P772203	1152GP7E22T0280PB	AB-095-1	1 h	13

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN C01
REV 1
DATE 12-13-84
SHEET 2D

EQUIP. NO.	DRAWING NO.	MODEL NO.	ENV. ZONE	OP. TIME	NOTES
High Pressure Core Spray (HPCS) System					
E22-NO05	169C8392P572203	1152DP5E22T0280PB	AB-095-7:	100 d	11
E22-NO51	169C8394P972203	1152GP9E22T0280PB	AB-095-7:	100 d	11
E22-NO56	169C8392P472203	1152DP4E22T0280PB	AB-095-7:	100 d	11,13
Leak Detection System					
E31-NO75A	169C8392P572203	1152DP5E22T0280PB	AB-095-8:	10 m	
E31-NO75B	169C8392P572203	1152DP5E22T0280PB	AB-095-7:	10 m	
E31-NO76A	169C8392P572203	1152DP5E22T0280PB	CT-G	10 m	
E31-NO76B	169C8392P572203	1152DP5E22T0280PB	CT-G	10 m	
E31-NO77A	169C8392P572203	1152DP5E22T0280PB	AB-095-8:	10 m	
F31-NO77B	169C8392P572203	1152DP5E22T0280PB	AB-095-7:	10 m	
E31-NO83A	169C8392P572203	1152DP5E22T0280PB	AB-095-8:	10 m	13
F31-NO83B	169C8392P572203	1152DP5E22T0280PB	AB-095-7:	10 m	13
E31-NO84A	169C8392P572203	1152DP5E22T0280PB	CT-G	12 h	13
E31-NO84B	169C8392P572203	1152DP5E22T0280PB	CT-G	12 h	13
E31-NO85A	169C8394P772203	1152GP7E22T0280PB	CT-G	12 h	13
E31-NO85B	169C8394P772203	1152GP7E22T0280PB	CT-G	12 h	13
E31-NO86A	169C8392P772203	1152DP7E22T0280PB	CT-G	1 h	
E31-NO86B	169C8392P772203	1152DP7E22T0280PB	CT-G	1 h	
E31-NC86C	169C8392P772203	1152DP7E22T0280PB	CT-G	1 h	
E31-NO86D	169C8392P772203	1152DP7E22T0280PB	CT-G	1 h	
E31-NO87A	169C8392P772203	1152DP7E22T0280PB	CT-G	1 h	
E31-NO87B	169C8392P772203	1152DP7E22T0280PB	CT-G	1 h	
E31-NO87C	169C8392P772203	1152DP7E22T0280PB	CT-G	1 h	
E31-NC87D	169C8392P772203	1152DP7E22T0280PB	CT-G	1 h	
E31-NO88A	169C8392P772203	1152DP7E22T0280PB	CT-G	1 h	
E31-NO88B	169C8392P772203	1152DP7E22T0280PB	CT-G	1 h	
E31-NO88C	169C8392P772203	1152DP7E22T0280PB	CT-G	1 h	

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN C01
REV 1
DATE 12-13-84
SHEET 2E

EQUIP. NO.	DRAWING NO.	MODEL NO.	ENV. ZONE	OP. TIME	NOTES
E31-NO88D	:169C8392P772203	: 1152DP7E22T0280PB	CT-G	: 1 h	
E31-NO89A	:169C8392P772203	: 1152DP7E22T0280PB	CT-G	: 1 h	
E31-NO89B	:169C8392P772203	: 1152DP7E22T0280PB	CT-G	: 1 h	
E31-NO89C	:169C8392P772203	: 1152DP7E22T0280PB	CT-G	: 1 h	
E31-NO89D	:169C8392P772203	: 1152DP7E22T0280PB	CT-G	: 1 h	
Main Steam Positive Leakage Control System					
E33-NO01	:169C8969P672203	: 1152AP6E22T0280PB	AB-114-6:	30 d	: 11
E33-NO02	:169C8969P672203	: 1152AP6E22T0280PB	CT-G	: 30 d	: 11
E33-NO03	:169C8969P672203	: 1152AP6E22T0280PB	CT-G	: 30 d	: 11
E33-NO04	:169C8969P672203	: 1152AP6E22T0280PB	AB-114-6:	30 d	: 11
E33-NO05	:169C8969P672203	: 1152AP6E22T0280PB	AB-114-6:	30 d	: 11
E33-NO07	:169C8392P472203	: 1152DP4E22T0280PB	AB-114-6:	30 d	: 11
E33-NO21	:169C8969P672203	: 1152AP6E22T0280PB	AB-114-5:	30 d	: 11
E33-NO22	:169C8969P672203	: 1152AP6E22T0280PB	CT-G	: 30 d	: 11
E33-NO23	:169C8969P672203	: 1152AP6E22T0280PB	CT-G	: 30 d	: 11
E33-NO24	:169C8969P672203	: 1152AP6E22T0280PB	AB-114-5:	30 d	: 11
E33-NO25	:169C8969P672203	: 1152AP6E22T0280PB	AB-114-5:	30 d	: 11
E33-NO27	:169C8392P472203	: 1152DP4E22T0280PB	AB-114-5:	30 d	: 11
Reactor Core Isolation Cooling (RCIC) System					
E51-NO03	:169C8392P572203	: 1152DP5E22T0280PB	AB-095-8:	12 h	
E51-NO50	:169C8394P972203	: 1152GP9E22T0280PB	AB-095-8:	12 h	
E51-NO51	:169C8392P472203	: 1152DP4E22T0280PB	AB-095-8:	12 h	
E51-NO52	:169C8394P772203	: 1152GP7E22T0280PB	AB-095-1:	12 h	
E51-NO53	:169C8394P572203	: 1152GP5E22T0280PB	AB-095-8:	12 h	
E51-NO55A	:169C8394P672203	: 1152GP6E22T0280PB	AB-095-8:	12 h	: 13
E51-NO55B	:169C8394P672203	: 1152GP6E22T0280PB	AB-095-7:	12 h	: 13
E51-NO55B	:169C8394P672203	: 1152GP6E22T0280PB	AB-095-8:	12 h	: 13

SRN C01
REV 1
DATE 12-13-84
SHEET 2F

[illegible]

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN C01
REV 1
DATE 12-13-84
SHEET 3A

NOTES

1. The maximum specified operability time is 100 days. The actual operability time for each device is shown on sheet 2.
2. The specified value represents the maximum of the composite envelope for environmental zones CT-G, AB-095-1, AB-095-7, AB-095-8, AB-114-5, AB-114-6, TB-095-2, and TB-095-3.
3. The specified value represents the 10 year total integrated dose for normal (including abnormal) conditions.
4. The specified value represents the 180 day total integrated dose for design basis LOCA conditions.
5. All equipment located in the containment below the 120' elevation is specified as potentially exposed to spray/froth resulting from suppression pool swell following a design basis event.
6. Flooding applies only to equipment located in zone CT-G.
7. Temperature vs. time history:

Specified (see Note 2 above), °F

Qualified, °F

0- 1s	90-190	0 - 10m	232*
1s- 5s	190	10m- 17m	232-200
5s- 10s	190-200	17m- 1d	200
10s- 40s	200	1d-110d	200-137 (see Note 11 below)
40s- 60s	200-190		
60s-200s	190-176		
200s-530s	176-165		
530s- 1d	165		
1d- 10d	165-130		
10d-100d	130-122		

*rise time at the maximum capability of the test facility
s = seconds, m = minutes, h = hours, d = days

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN C01
RFV 1
DATE 12-13-84
SHEET 3B

: NOTES (continued) :

: 8. Pressure vs. time history: :

Specified (see Note 2 above), psig		Qualified, psig	
0- 1s	0-2.1	0- 1d	16.5*
1s- 6s	2.1-8	1d-110d	16.5-0 (see Note 11 below)
6s- 3h	8-9		
3h- 1d	9		
1d- 10d	9-0		
10d-100d	0		

: *rise time at the maximum capability of the test facility :

: 9. The accuracy is expressed as percentage of the upper range limit of the device and for the most limiting contributor (i.e., radiation) to inaccuracy. Verification of acceptability of device applications will be covered under a separate program using the proposed methods of the Licensing Review Group II (LRG-II) Setpoint Methodology Program. The results of this separate program will be issued pending NRC (ICSB) approval of the LRG-II Setpoint Methodology. :

: 10. The qualified life is 8.7 years for the following equipment. :

: B21-N075A-D
: B21-N076A-D
: C71-N052A-D

: 11. This SCEW sheet establishes qualification only for devices with an operability time of less than two days and within the limits of application described in Note 9 above. The test is continuing for a total duration of 110 days and is scheduled for completion during the first quarter of 1985. :

: 12. These transmitters are scheduled to be replaced with drawing no. 169C8969P582203 (model no. 1152AP5N22T0280) per field disposition instruction (FDI) MCWT. :

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN C02
REV 1
DATE 12-13-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL	MARGIN	NOTES
					SPECIFIED	QUALIFIED	METHOD	DEMO	(see sheet 2)
EQUIP NO: C11-N012A-D		OP. TIME:	12 hours	50 days	3	3	TEST-IDENT	YES	2
SYSTEM: Control Rod Drive Hydraulic System		TEMP (F):							
		NORMAL	90	see Note 9	1	3	N/A	N/A	9
		ABNORMAL	140	see Note 9	1	3	N/A	N/A	9
TYPE: Level Transmitter		ACCIDENT	165	290	1	3	TEST-IDENT	YES	3,4
		PRESS (PSIG):							
		NORMAL	- 1" W.G	atmospheric	1	3	N/A	N/A	
		ABNORMAL	2.3	see Note 10	1	3	N/A	N/A	10
MANUFACTURER: Gould, Inc.		ACCIDENT	9	17.6	1	3	TEST-IDENT	YES	3,5
		RH (%):							
MODEL: PD3218 (Note 1)		NORMAL	50	see below	1	3	N/A	N/A	
		ABNORMAL	100	see below	1	3	N/A	N/A	
SAFETY FUNCTION: Reactor Trip		ACCIDENT	100	100	1	3	TEST-IDENT	N/A	
		RADIATION:							
		NORM GAMMA	4E4	see Note 11	1	N/A	N/A	N/A	6,11
		ACC GAMMA	4E6	2E7	1	3	TEST-IDENT	YES	7
OP. CODE: A		NORM BETA	2E3	shielded	1	N/A	N/A	N/A	6
		ACC BETA	3.4E7	shielded	1	N/A	N/A	N/A	7
		NEUTRON	0	N/A	1	N/A	N/A	N/A	
		SPRAY	7 seconds	30 hours	2	3	TEST-IDENT	YES	
ACCURACY (Note 8) NORM ACC		SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A	
SPEC: +4% +8%									
DEMO: ≤ +4% ≤ +8%									
ZONE NO: CT-3		DOCUMENT REFERENCE:							
FLOOD LEVEL		1. Environmental Design Criteria (EDC)							
ELEVATION: 109'		SWEC Document No. 215.150, Rev. 2							
ABOVE FLOOD		(including change notices no 2-1, 2-2, and 2-3)							
LEVEL? Yes		2. River Bend Station FSAR, Appendix 6A, Figure 6A-10.2							
DOCUMENTATION ACCEPTABILITY:		3. GE Environmental Qualification Report NEDC-30372							
Acceptable to NUREG 0588, Cat 1									
per NEDE-24326-1-P									
MAINTENANCE/SURVEILLANCE:									
REFERENCE: 3									
QUALIFIED LIFE									
(YEARS): 15									
REFERENCE: 3									

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN C02
REV 1
DATE 12-13-84
SHEET 2A

NOTES

1. This model replaces the originally supplied equipment as documented in Field Disposition Instruction (FDI) MCWB.
2. An operability time of 12 hours is specified to account for the postulated maximum time period from the onset of a design basis event until initiation of a reactor scram.
3. The specified value represents the maximum of the envelope for a design basis LOCA and a small break accident.

4. Temperature vs. time history:

Specified (see Note 3 above), °F		Qualified, °F	
0 - 6s	90-165	0-15m	290* (first peak)
6s- 1d	165	0-1h	260* (second peak)
1d- 10d	165-130	1h-30h	260-227
10d-100d	130- 95	30h-7d	227-215

*rise time at the maximum capability of the test facility.

5. Pressure vs. time history:

Specified (see Note 3 above), psig		Qualified, psig	
0 - 6s	0-8	0-15m	17.6* (first peak)
6s- 3h	8-9	0-30h	17.6* (second peak)
3h- 1d	9	30h-7d	17.6-14
1d-10d	9-0		
10d-100d	0		

*rise time at the maximum capability of the test facility.

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-158

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN C02
REV 1
DATE 12-13-84
SHEET 2B

: NOTES

- : 6. The specified value represents the 40 year total integrated dose for normal (including abnormal) conditions.
- : 7. The specified value represents the 24 hour total integrated dose for design basis LOCA conditions.
- : 8. Accuracy is expressed as a percentage of the upper range limit of the device.
- : 9. Enveloped by accident temperature. The specified temperature for normal and abnormal environmental conditions is considered in the aging calculation.
- : 10. Enveloped by accident pressure.
- : 11. Included in accident gamma dose.

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN C03
REV 1
DATE 12-13-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
		PARAMETER	SPECIFIED	QUALIFIED	DOCUMENT REFERENCE		QUAL	MARGIN	NOTES
		VALUE	VALUE	SPECIFIED	QUALIFIED	METHOD	DEMO	(see sheet 3)	
EQUIP NO:	see sheet 2	OP. TIME:	24 hours	30 hours	2	2	TEST-IDENT	YES	1
SYSTEM:	see sheet 2	TEMP (F):							
		NORMAL	122	284	1	2	TEST-IDENT	N/A	2
		ABNORMAL	140	284	1	2	TEST-IDENT	N/A	2
TYPE:		ACCIDENT	320	364	1	2	TEST-IDENT	YES	2,5
Temperature Element		PRESS (PSIG):							
		NORMAL	atmospheric	atmospheric	1	2	TEST-IDENT	N/A	2
		ABNORMAL	2.3	see Note 2	1	2	TEST-IDENT	N/A	2,8
MANUFACTURER:	PYCO	ACCIDENT	21	38.5	1	2	TEST-IDENT	YES	2,6
		RH (%):							
MODEL:	see sheet 2	NORMAL	90	100	1	2	TEST-IDENT	N/A	2
		ABNORMAL	100	100	1	2	TEST-IDENT	N/A	2
SAFETY FUNCTION:		ACCIDENT	steam/100	steam/100	1	2	TEST-IDENT	N/A	2
Leak Detection		RADIATION:							
		NORM GAMMA	1.6E8 R	see Note 9	1	N/A	N/A	N/A	2,3,9
		ACC GAMMA	4E6 R	2.8E8 R	1	2	TEST-IDENT	YES	2,4
OP. CODE:	A	NORM BETA	2E3 R	shielded	1	2	N/A	N/A	2,3
		ACC BETA	3.4E7 R	shielded	1	2	N/A	N/A	2,4
		NEUTRON	2.2E5 R	see note	1	N/A	N/A	N/A	7
		SPRAY	N/A	29.6 hours	N/A	2	TEST-IDENT	YES	
ACCURACY		SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A	
		SPEC:	+3.1 F						
		DEMO:	≤ +3.1 F						
ZONE NO:	see sheet 2	DOCUMENT REFERENCE:							
		1. Environmental Design Criteria (EDC) SWEC Document No. 215.150, Rev. 2 (including change notices no. 2-1, 2-2 and 2-3)							
FLOOD LEVEL		2. GE Environmental Report NEDC-30373, SDDF# 8224.150-000-071A.							
ELEVATION:	109'								
ABOVE FLOOD									
LEVEL?	Yes								
DOCUMENTATION ACCEPTABILITY:									
Acceptable to NUREG 0588, Cat 1									
per NEDE-24326-1-P									
MAINTENANCE/SURVEILLANCE:									
REFERENCE:	2								
QUALIFIED LIFE									
(YEARS):	40								
REFERENCE:	2								

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN C03
REV 1
DATE 12-13-84
SHEET 2A

EQUIP. NO.	DRAWING NO.	MODEL NO.	ENV. ZONE	OP. TIME	NOTES
:Containment Leak Detection System					
:E31-N001A	: 145C3224P002	: 102-9039-11	: AB-070-5	: 24 h	:
:E31-N001B	: 145C3224P002	: 102-9039-11	: AB-070-5	: 24 h	:
:E31-N002A	: 145C3224P002	: 102-9039-11	: AB-070-5	: 12 h	:
:E31-N002B	: 145C3224P002	: 102-9039-11	: AB-070-5	: 12 h	:
:E31-N003A	: 145C3224P002	: 102-9039-11	: AB-070-5	: 12 h	:
:E31-N003B	: 145C3224P002	: 102-9039-11	: AB-070-5	: 12 h	:
:E31-N004A	: 145C3224P002	: 102-9039-11	: AB-070-4	: 12 h	:
:E31-N004B	: 145C3224P002	: 102-9039-11	: AB-070-4	: 12 h	:
:E31-N005A	: 145C3224P002	: 102-9039-11	: AB-070-4	: 24 h	:
:E31-N005B	: 145C3224P002	: 102-9039-11	: AB-070-4	: 24 h	:
:E31-N006A	: 145C3224P002	: 102-9039-11	: AB-070-4	: 24 h	:
:E31-N006B	: 145C3224P002	: 102-9039-11	: AB-070-4	: 24 h	:
:E31-N018A	: 145C3224P002	: 102-9039-11	: AB-070-2	: 24 h	:
:E31-N018B	: 145C3224P002	: 102-9039-11	: AB-070-2	: 24 h	:
:E31-N027A	: 145C3224P002	: 102-9039-11	: AB-070-2	: 12 h	:
:E31-N027B	: 145C3224P002	: 102-9039-11	: AB-070-2	: 12 h	:
:E31-N028A	: 145C3224P002	: 102-9039-11	: AB-070-2	: 12 h	:
:E31-N028B	: 145C3224P002	: 102-9039-11	: AB-070-2	: 12 h	:
:E31-N029A	: 145C3224P002	: 102-9039-11	: CT-9	: 12 h	:
:E31-N029B	: 145C3224P002	: 102-9039-11	: CT-9	: 12 h	:
:E31-N029C	: 145C3224P002	: 102-9039-11	: CT-9	: 12 h	:
:E31-N029D	: 145C3224P002	: 102-9039-11	: CT-9	: 12 h	:
:E31-N030A	: 145C3224P002	: 102-9039-11	: CT-9	: 12 h	:
:E31-N030B	: 145C3224P002	: 102-9039-11	: CT-9	: 12 h	:
:E31-N030C	: 145C3224P002	: 102-9039-11	: CT-9	: 12 h	:
:E31-N030D	: 145C3224P002	: 102-9039-11	: CT-9	: 12 h	:
:E31-N031A	: 145C3224P002	: 102-9039-11	: AB-114-2	: 12 h	:
:E31-N031B	: 145C3224P002	: 102-9039-11	: AB-114-2	: 12 h	:
:E31-N031C	: 145C3224P002	: 102-9039-11	: AB-114-2	: 12 h	:
:E31-N031D	: 145C3224P002	: 102-9039-11	: AB-114-2	: 12 h	:

GULF STATES UTILITIES
 RIVER BEND STATION - UNIT 1
 DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN C03
 REV 1
 DATE 12-13-84
 SHEET 2B

EQUIP. NO.	DRAWING NO.	MODEL NO.	ENV. ZONE	OP. TIME	NOTES
E31-N034A	145C3224P002	102-9039-11	CT-7	10 m	
E31-N034B	145C3224P002	102-9039-11	CT-7	10 m	
E31-N035A	145C3224P002	102-9039-11	CT-7	10 m	
E31-N035B	145C3224P002	102-9039-11	CT-7	10 m	
E31-N036A	145C3224P002	102-9039-11	CT-7	10 m	
E31-N036B	145C3224P002	102-9039-11	CT-7	10 m	
E31-N037A	145C3224P002	102-9039-11	AB-095-3	10 m	
E31-N037B	145C3224P002	102-9039-11	AB-095-3	10 m	
E31-N038A	145C3224P002	102-9039-11	AB-095-3	10 m	
E31-N038B	145C3224P002	102-9039-11	AB-095-3	10 m	
E31-N039A	145C3224P002	102-9039-11	AB-095-3	10 m	
E31-N039B	145C3224P002	102-9039-11	AB-095-3	10 m	
E31-N040A	145C3224P002	102-9039-11	AB-095-3	10 m	
E31-N040B	145C3224P002	102-9039-11	AB-095-3	10 m	
E31-N041A	145C3224P002	102-9039-11	AB-095-3	10 m	
E31-N041B	145C3224P002	102-9039-11	AB-095-3	10 m	
E31-N042A	145C3224P002	102-9039-11	AB-095-3	10 m	
E31-N042B	145C3224P002	102-9039-11	AB-095-3	10 m	
E31-N043A	145C3224P002	102-9039-11	CT-5	10 s	
E31-N043B	145C3224P002	102-9039-11	CT-5	10 s	
E31-N044A	145C3224P002	102-9039-11	CT-5	10 m	
E31-N044B	145C3224P002	102-9039-11	CT-5	10 m	
E31-N045A	145C3224P002	102-9039-11	CT-5	10 m	
E31-N045B	145C3224P002	102-9039-11	CT-5	10 m	
E31-N046A	145C3224P002	102-9039-11	CT-11	10 m	
E31-N046B	145C3224P002	102-9039-11	CT-11	10 m	
E31-N047A	145C3224P002	102-9039-11	CT-11	10 m	
E31-N047B	145C3224P002	102-9039-11	CT-11	10 m	
E31-N048A	145C3224P002	102-9039-11	CT-11	10 m	
E31-N048B	145C3224P002	102-9039-11	CT-11	10 m	
E31-N049A	145C3224P002	102-9039-11	CT-11	10 m	

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN C03
REV 1
DATE 12-13-84
SHEET 2C

[illegible]

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN C03
REV 1
DATE 12-13-84
SHEET 3A

: 1. The maximum specified operability time is 24 hours. The actual operability time for each device is
: shown on sheet 2.

: 2. The specified value represents the maximum value of the composite envelope for environmental zones CT-5, CT-7, CT-9, CT-11, AB-070-2, AB-070-4, AB-070-5, AB-095-3, and AB-114-2.

: 3. The specified value represents the 40 year total integrated dose for normal (including abnormal)
: conditions.

: 4. The specified value represents the 180 day total integrated dose for design basis LOCA conditions.

: 5. Temperature vs. time history:

Specified (see Note 2 above), °F

Qualified, ° F

0-.1s	122-230	0	355*
.1-.3s	230-270	0-1h	355
.3- 1s	270-320	1-2h	325
1- 10s	320	2-2.5h	325-227
10- 20s	320-250	2.5-24h	227
20- 60s	250	24-27h	227-200
60- 1000s	250-200	27-30h	200
1000s- 3h	200-180		
3h- 1d	180-165		
1d- 10d	165-130		
10d- 31d	130-122		
31d- 100d	122		

*rise time at the maximum capability of the test facility

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN C03
REV 1
DATE 12-13-84
SHEET 3B

NOTES (continued)

6. Pressure vs. time history:

Specified (see Note 2 above), psig

Qualified, psig

0-.1s	0-5	0-10m	38.5*
.1-.3s	5-6	10m- 1h	38.5-20
.3- 1s	6-13	1h-30h	20-16.5
1- 10s	13		
10- 20s	13-21		
20- 60s	21		
60s- 3h	21-9		
3h- 1d	9		
1- 10d	9-0		
10- 100d	0		

*rise time at the maximum capability of the test facility

7. One neutron per square centimeter is equivalent to $8E-9$ rads gamma radiation. The equivalent gamma amount is enveloped by the qualification total integrated dose.

8. Enveloped by accident pressure.

9. Included in accident gamma dose.

SYSTEM COMPONENT EVALUATION WORK SHEET

SPN C05
REV 0
DATE 12-06-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE SPECIFIED : QUALIFIED		QUAL METHOD	MARGIN DEMO	NOTES (see sheet 2)
EQUIP NO: D17-N003A-D		OP. TIME:	45 seconds	100 days	2	2	TEST-IDENT	YES	1,3
DWG NO: 237X731G001		TEMP (F):							
SYSTFM:		NORMAL	122	225	1	2	TEST-SIM	YES	
Process Radiation Monitoring		ABNORMAL	N/A	N/A	N/A	N/A	N/A	N/A	
TYPE:		ACCIDENT	320	340	1	2	TEST-IDENT	YES	1,3
Insulated Detector		PRESS (PSIG):							
{Ionization Chamber}		NORMAL	atmospheric	atmospheric	1	2	TEST-SIM	N/A	
MANUFACTURER: GE		ABNORMAL	N/A	N/A	N/A	N/A	N/A	N/A	
		ACCIDENT	13	60	1	2	TEST-IDENT	YES	1,3
MODEL: NA-05		RH (%):							
		NORMAL	90	95	1	2	TEST-SIM	N/A	
		ABNORMAL	N/A	N/A	N/A	N/A	N/A	N/A	
SAFETY FUNCTION:		ACCIDENT	steam/100	steam/100	1	2	TEST-IDENT	N/A	1,3
Main Steam Line Radiation Mon-		RADIATION:							
itoring		NORM GAMMA	3.2E7 R	2.9E8 R	1	2	AN+DATA	YES	4,6
		ACC GAMMA	4E6 R	see notes	N/A	N/A	N/A	N/A	5,7
OP. CODE: A		NORM BETA	0	N/A	1	N/A	N/A	N/A	4
		ACC BETA	500	see notes	N/A	N/A	N/A	N/A	5,7
		NEUTRON	N/A	N/A	N/A	N/A	N/A	N/A	
		SPRAY	N/A	N/A	N/A	N/A	N/A	N/A	
ACCURACY		SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A	
SPEC: Note 2									
DEMO: Note 2									
ZONE NO: AB-114-2		DOCUMENT REFERENCE:							
		1. Environmental Design Criteria (EDC,							
FLOOD LEVEL		SWEC Document No. 215.150, Rev. 2							
ELEVATION: NA		(including change notices no. 2-1 and 2-2)							
ABOVE FLOOD									
LEVEL? NA									
		2. GE Environmental Qualification Report							
DOCUMENTATION ACCEPTABILITY:		NEDC-30375, SDDF# 8224.150-000-041A							
Acceptable to NUREG 0588, Cat 1									
per NEDE-24326-1-P									
MAINTENANCE/SURVEILLANCE:									
None Required									
REFERENCE 2									
QUALIFIED LIFE									
(YEARS): 40									
REFERENCE: 2									

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN C05
REV 0
DATE 12-06-84
SHEET 2

- : 1. The device is required only for the mitigation of a control rod drop accident which does not result in temperature, pressure or humidity conditions above normal.
- : 2. The device sensitivity is specified as $3.7\text{E-}10 \pm 20\%$ amperes per rad/hour and was demonstrated as $4.4\text{E-}10$ amperes per rad/hour.
- : 3. A failure modes and effects analysis demonstrated that a postulated failure resulting from exposure to design basis LOCA conditions will have no safety significant consequences. In addition, the device was tested for 100 days in a post-LOCA environment.
- : 4. The specified value represents the 40 year total integrated dose for normal (including abnormal) conditions.
- : 5. The specified value represents the 180 day total integrated dose for design basis LOCA conditions.
- : 6. The ionization chamber does not contain any organic materials that are affected by gamma radiation. The insulation (Raychem splice) was tested to $2.9\text{E}8$ rads.
- : 7. The increase in main steam line radiation dose resulting from a control rod drop accident is insignificant compared to the specified normal radiation dose.

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN C09
REV 0
DATE 12-06-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	NOTES (see sheet 2)
EQUIP NO: C71-N005A-D		OP. TIME:	12 hours	see note	2	2	AN+DATA	N/A	1
DWG. NO. 163C1090P001		TEMP (F):							
SYSTEM: Reactor Protection System		NORMAL	120	300	1	2	AN+DATA	YES	
		ABNORMAL	N/A	N/A	N/A	N/A	N/A	N/A	
TYPE: Pressure Switch		ACCIDENT	N/A	N/A	N/A	N/A	N/A	N/A	
		PRESS (PSIG)							
		NORMAL	-0.125"W.G.	atmospheric	1	2	AN+DATA	N/A	
MANUFACTURER: Barksdale		ABNORMAL	N/A	N/A	N/A	N/A	N/A	N/A	
		ACCIDENT	N/A	N/A	N/A	N/A	N/A	N/A	
MODEL: TC 9622-3		RH (%)							
		NORMAL	29	ambient	1	2	AN+DATA	N/A	
SAFETY FUNCTION: Reactor Trip		ABNORMAL	N/A	N/A	N/A	N/A	N/A	N/A	
		ACCIDENT	N/A	N/A	N/A	N/A	N/A	N/A	
		RADIATION:							
		NORM GAMMA	1E6	1E6	1	2	AN+DATA	N/A	2
OP. CODE: D		ACC GAMMA	N/A	N/A	N/A	N/A	N/A	N/A	
		NORM BETA	0	N/A	N/A	N/A	N/A	N/A	
		ACC BETA	N/A	N/A	N/A	N/A	N/A	N/A	
		NEUTRON	N/A	N/A	N/A	N/A	N/A	N/A	
ACCURACY		SPRAY	N/A	N/A	N/A	N/A	N/A	N/A	
SPEC: 60 psig		SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A	
DEMO: 50 psig									
ZONE NO: TB-095-3		DOCUMENT REFERENCE:							
FLOOD LEVEL		1. Environmental Design Criteria (EDC)							
ELEVATION: NA		SWEC Document No. 215.150, Rev. 2							
ABOVE FLOOD		(including change notices no. 2-1 and 2-2)							
LEVEL? NA		2. GE Environmental Qualification Report							
DOCUMENTATION ACCEPTABILITY:		NEDC-30377, SDDF# 8224.150-000-039A							
Acceptable to NUREG 0588, Cat 1:									
per NEDE-24326-1-P									
MAINTENANCE/SURVEILLANCE:									
REFERENCE: 2									
QUALIFIED LIFE									
(YEARS): 6.6									
REFERENCE: 2									

SRN C09
REV 0
DATE 12-06-84
SHEET 2

1. The device provides a signal initiating reactor trip and recirculation pump trip coincident with main turbine control valve closure following turbine load rejection or turbine trip. An operability time of 12 hours is specified to account for the postulated maximum time period from the onset of a design basis event until initiation of a turbine trip. However, since the environment at the device location is unaffected by design basis events, the specified operability time is without consequence for the qualification.

2. The specified value represents the 6.6 year total integrated dose for normal (including abnormal) conditions.

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN C11
REV 1
DATE 12-13-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	NOTES (see sheet 3)
EQUIP NO:	see sheet 2	OP. TIME:	12 h	Later	Later	Later	Later	Later	
SYSTEM:	see sheet 2	TEMP (F):							
TYPE:	Level Switch	NORMAL	122	Later	1	Later	Later	Later	2
		ABNORMAL	N/A	Later	N/A	Later	Later	Later	3
		ACCIDENT	140	Later	1	Later	Later	Later	4
		PRESS (PSIG):							
MANUFACTURER:	Magnetrol	NORMAL	atmospheric	Later	1	Later	Later	Later	2
		ABNORMAL	N/A	Later	N/A	Later	Later	Later	3
		ACCIDENT	9	Later	1	Later	Later	Later	4
		RH (%)							
MODEL:	5.0-751	NORMAL	90	Later	1	Later	Later	Later	2
		ABNORMAL	N/A	Later	N/A	Later	Later	Later	3
		ACCIDENT	100	Later	1	Later	Later	Later	4
		RADIATION:							
SAFETY FUNCTION:	Safeguards Actuation	NORM GAMMA	4E4 R	Later	1	Later	Later	Later	2,6
		ACC GAMMA	4E6 R	Later	1	Later	Later	Later	5
		NORM BETA	3E3 R	Later	1	Later	Later	Later	2,6
		ACC BETA	3.4E7 R	Later	1	Later	Later	Later	5
OP. CODE:	A	NEUTRON	N/A	Later	N/A	Later	Later	Later	
		SPRAY	N/A	Later	N/A	Later	Later	Later	
		SUBMERGENCE	N/A	Later	N/A	Later	Later	Later	
		ACCURACY							
SPEC:	NA								
DEMO:	NA								
ZONE NO:	see sheet 2	DOCUMENT REFERENCE:							
		1. Environmental Design Criteria (EDC)							
FLOOD LEVEL		SWEC Document No. 215.150, Rev. 2							
ELEVATION:	109' (Note 1)	(including change notices no. 2-1, 2-2 and 2-3)							
ABOVE FLOOD									
LEVEL?	Yes								
DOCUMENTATION ACCEPTABILITY:									
Later NUREG 0588, CAT 1									
Qualification in progress									
MAINTENANCE/SURVEILLANCE:									
REFERENCE:	Later								
QUALIFIED LIFE									
(YEARS):	Later								
REFERENCE:	Later								

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN C11
REV 1
DATE 12-13-84
SHEET 2

EQUIP. NO.	DRAWING NO.	MODEL NO.	ENV. ZONE	OP. TIME	NOTES
Control Rod Drive Hydraulic System					
C11-NO13A	184C4776P003	5.0-751	CT-3	12 h	7
C11-NO13B	184C4776P003	5.0-751	CT-3	12 h	7
C11-NO13C	184C4776P003	5.0-751	CT-3	12 h	7
C11-NO13D	184C4776P003	5.0-751	CT-3	12 h	7
Reactor Core Isolation Cooling System					
E51-NO10	159C4361P005	5.0-751	AB-070-3	12 h	8
E51-NO37	159C4361P005	5.0-751	AB-070-3	12 h	8

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
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SYSTEM COMPONENT EVALUATION WORK SHEET

SPN C11
REV 1
DATE 12-13-84
SHEET 3

NOTES

1. Flooding applies only to locations in zone CT-3.
2. The specified value represents the maximum normal value for environmental zones CT-3 and AB-070-3.
3. The devices located in zone CT-3 are not required to operate following an abnormal (isolation) event.
The isolation event does not result in environmental conditions above normal in zone AB-070-3.
4. The specified value represents the value resulting in zone CT-3 from a small break accident.
5. The specified value represents the total integrated dose for design basis LOCA conditions which envelops
the total integrated dose resulting in zone AB-070-3 from a control rod drop accident.
6. The specified value represents the 40 year total integrated dose for normal (including abnormal)
conditions.
7. An operability time of 12 hours is specified to account for the postulated maximum time period from
the onset of a design basis event until initiation of a reactor scram.
8. Device is required only for the mitigation of a control rod drop accident.

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SYSTEM COMPONENT EVALUATION WORK SHEET

SRN C26
REV 0
DATE 12-06-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
		PARAMETER	SPECIFIED	QUALIFIED	DOCUMENT REFERENCE		QUAL	MARGIN	NOTES
		VALUE	VALUE	VALUE	SPECIFIED	QUALIFIED	METHOD	DEMO	(see sheet 2)
EQUIP NO:	C71-N006A-H	OP. TIME:	12 hours	see note	2	2	TEST-SIM	N/A	1
DWG NO:	163C1303P001	TEMP (F):							
SYSTEM:	Reactor Protection System	NORMAL:	120	248	1	2	TEST-SIM	YES	
		ABNORMAL:	N/A	N/A	N/A	N/A	N/A	N/A	
TYPE:	Limit Switch	ACCIDENT:	N/A	N/A	N/A	N/A	N/A	N/A	
		PRESS (PSIG):							
		NORMAL:	-0.125"W.G.	atmospheric	1	2	TEST-SIM	N/A	
		ABNORMAL:	N/A	N/A	N/A	N/A	N/A	N/A	
MANUFACTURER:	NAMCO	ACCIDENT:	N/A	N/A	N/A	N/A	N/A	N/A	
		RH (%):							
MODEL:	EA170-51101	NORMAL:	29	ambient	1	2	TEST-SIM	N/A	
		ABNORMAL:	N/A	N/A	N/A	N/A	N/A	N/A	
SAFETY FUNCTION:	Reactor Trip	ACCIDENT:	N/A	N/A	N/A	N/A	N/A	N/A	
		RADIATION:							
		NORM GAMMA:	6E6	2E8	1	2	TEST-SIM	YES	2
		ACC GAMMA:	N/A	N/A	N/A	N/A	N/A	N/A	
OP. CODE:	A	NORM BETA:	0	N/A	N/A	N/A	N/A	N/A	
		ACC BETA:	N/A	N/A	N/A	N/A	N/A	N/A	
		NEUTRON:	N/A	N/A	N/A	N/A	N/A	N/A	
		SPRAY:	N/A	N/A	N/A	N/A	N/A	N/A	
ACCURACY		SUBMERGENCE:	N/A	N/A	N/A	N/A	N/A	N/A	
	SPEC: NA								
	DEMO: NA								
ZONE NO:	TB-095-3	DOCUMENT REFERENCE:							
		1. Environmental Design Criteria (EDC)							
FLOOD LEVEL		SWEC Document No. 215.150, Rev. 2							
ELEVATION:	NA	(including change notices no. 2-1 and 2-2)							
ABOVE FLOOD		2. GE Environmental Qualification Report							
LEVEL?	NA	NEEC-30386, Rev. 1, SDDP# 8224.150-000-40B							
DOCUMENTATION ACCEPTABILITY:									
Acceptable to NUREG 0588, Cat 1:									
per NEDE-24326-1-P									
MAINTENANCE/SURVEILLANCE:									
None Required									
REFERENCE:	2								
QUALIFIED LIFE									
(YEARS):	7.9								
REFERENCE:	2								

: 1. The device provides a signal initiating reactor trip and recirculation pump trip coincident with main turbine stop valve closure following turbine load rejection or turbine trip. An operability time of 12 hours is specified to account for the maximum time from the onset of a design basis event until initiation of a turbine trip. However, since the device location is unaffected by design basis events, the specified operability time is without consequence for the qualification.

: 2. The specified value represents the 40 year total integrated dose for normal (including abnormal) conditions.

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN S01
REV 0
DATE 12-06-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DFMO	NOTES (see sheet 3)
EQUIP NO:	see sheet 2	OP. TIME:	100 days	100 days	2	2	TEST-SIM	N/A	
SYSTEM:	see sheet 2	TEMP (F):							
TYPE:	Pump Motor	NORMAL	122	212	1	2	TEST-SIM	YES	1
		ABNORMAL	N/A	N/A	N/A	N/A	N/A	N/A	
		ACCIDENT	140	212	1	2	TEST-SIM	YES	1,2
		PRESS(PSIG):							
MANUFACTURER:	GE	NORMAL	atmospheric	atmospheric	1	2	TEST-SIM	N/A	1
		ABNORMAL	N/A	N/A	N/A	N/A	N/A	N/A	
		ACCIDENT	2.1	see notes	1	2	TEST-SIM	Note 3	1,2,3
		RH (%)							
MODEL:	see sheet 2	NORMAL	90	100	1	2	TEST-SIM	YES	1
		ABNORMAL	N/A	N/A	N/A	N/A	N/A	N/A	
		ACCIDENT	100	steam/100	1	2	TEST-SIM	YES	1,2
		RADIATION:							
SAFETY FUNCTION:	Emergency Core Cooling, Containment Heat Removal	NORM GAMMA	2E5 R	see below	1	N/A	N/A	N/A	1
		ACC GAMMA	1.3E7 R	5E7 R	1	2	AN+DATA	YES	1
		NORM BETA	0	N/A	1	N/A	N/A	N/A	1
		ACC BETA	500 R	N/A	1	N/A	N/A	N/A	1
OP. CODE:	A	NEUTRON	0	N/A	1	N/A	N/A	N/A	1
		SPRAY	N/A	N/A	N/A	N/A	N/A	N/A	
		SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A	
ACCURACY									
SPEC:	NA								
DEMO:	NA								
ZONE NO:	see sheet 2	DOCUMENT REFERENCE:							
FLOOD LEVEL		1. Environmental Design Criteria (EDC)							
ELEVATION:	NA	SWEC Document No. 215.150, Rev. 2							
ABOVE FLOOD		(including change notices no. 2-1 and 2-2)							
LEVEL?	NA	2. GE Environmental Qualification Report							
DOCUMENTATION ACCEPTABILITY:		NEDC-30614, SDDP# 8224.150-000-057A							
Acceptable to NUREG 0588, Cat 1:									
per NEDE-24326-1-P									
MAINTENANCE/SURVEILLANCE:									
REFERENCE:	2								
QUALIFIED LIFE									
(YEARS):	40								
REFERENCE:	2								

SPN S01
REV 0
DATE 12-06-84
SHEET 2

[illegible]

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN S01
REV 0
DATE 12-06-84
SHEET 3

NOTES

1. The specified value represents the maximum of the composite envelope for environmental zones AB-070-1, -2, -4, -5 and -6.
2. The specified value results from a break of the RCIC turbine steam supply line in the auxilliary building and only affects zone AB-070-4.
3. The effect of the specified accident pressure is without significance since the motor is vented and pressure will not affect the cables, windings, etc.

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
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SYSTEM COMPONENT EVALUATION WORK SHEET

SRN S03
REV 1
DATE 12-13-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	NOTES (see sheet 3)
EQUIP NO: see sheet 2		OP. TIME:	100 days	Later		Later	Later	Later	1
SYSTEM: High Pressure Core Spray		TEMP (F):							
		NORMAL	122	Later	1	Later	Later	N/A	2
		ABNORMAL	N/A	N/A	N/A	N/A	Later	N/A	
TYPE: Valve Motor Operators		ACCIDENT	160	Later	1	Later	Later	Later	2
		PRESS (PSIG):							
		NORMAL	atmospheric	Later	1	Later	Later	N/A	2
		ABNORMAL	N/A	N/A	N/A	N/A	Later	N/A	
MANUFACTURER: Limitorque/Reliance		ACCIDENT	2.8	Later	1	Later	Later	Later	2
MODEL: see sheet 2		RH (%):							
		NORMAL	90	Later	1	Later	Later	N/A	2
		ABNORMAL	N/A	N/A	N/A	N/A	Later	N/A	
SAFETY FUNCTION: Emergency Core Cooling		ACCIDENT	100	Later	1	Later	Later	N/A	2
		RADIATION:							
		NORM GAMMA	2E5 R	Later	1	Later	Later	Later	2,3
		ACC GAMMA	1.1E7 R	Later	1	Later	Later	Later	2,4
OP. CODE: A		NORM BETA	0	N/A	1	N/A	Later	N/A	2,3
		ACC BETA	500 R	Later	1	Later	Later	Later	2,4
		NEUTRON	0	N/A	N/A	N/A	Later	N/A	2
		SPRAY	N/A	Later	N/A	Later	Later	Later	
ACCURACY		SUBMERGENCE	N/A	Later	N/A	Later	Later	Later	
SPEC: NA									
DEMO: NA									
ZONE NO: see sheet 2		DOCUMENT REFERENCE:							
		1. Environmental Design Criteria (EDC)							
FLOOD LEVEL		SWEC Document No. 215.150, Rev. 2							
ELEVATION: NA		(including change notices 2-1, 2-2 and 2-3)							
ABOVE FLOOD									
LEVEL? NA									
DOCUMENTATION ACCEPTABILITY:									
Later NUREG 0588, Cat 1									
Qualification is in progress									
MAINTENANCE/SURVEILLANCE:									
REFERENCE: Later									
QUALIFIED LIFE									
(YEARS): Later									
REFERENCE: Later									

SFN S03
 REV 1
 DATE 12-13-84
 SHEET 2

EQUIP. NO.	DRAWING NO.	MODEL NO.	ENV. ZONE	OP. TIME	NOTES
Pressure Core Spray (HPCS) System					
E22-F001	105D5007KG014	SMB-00-10	AB-070-6	24 h	
E22-F004	105D5007KG008	SB-3-80	AB-114-5	100 d	
E22-F010	105D5007KG006	SMB-4-200	AB-070-6	1 h	
E22-F011	105D5007KG006	SMB-4-200	AB-070-6	1 h	
E22-F012	105D5007KG002	SB-0-25	AB-070-7	100 d	
E22-F015	105D5007KG016	SB-1-40	AB-070-7	100 d	
E22-F023	105D5007KG006	SMB-3-150	AB-070-7	1 h	

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN S03
REV 1
DATE 12-13-84
SHEET 3

NOTES

1. The maximum specified operability time is 100 days. The actual operability time for each device is shown on sheet 2.
2. The specified value represents the maximum of the envelope for environmental zones AB-070-6,-7 and AB-114-5.
3. The specified value represents the 40 year total integrated dose for normal (including abnormal) conditions.
4. The specified value represents the 180 day total integrated dose for design basis LOCA conditions.

GULF STATES UTILITIES
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DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN S05A
REV 1
DATE 12-13-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	NOTES (see sheet 3)
EQUIP NO:	see sheet 2	OP. TIME:	1 hour	7 days	2	2	TEST-SIM	YES	
SYSTEM:	Nuclear Boiler System	TEMP (F):							
		NORMAL:	140	see Note 9	1	2	N/A	N/A	1,9
		ABNORMAL:	260	see Note 9	1	2	N/A	N/A	1,9
TYPE:	MSIV Actuator	ACCIDENT:	330	345	1	2	TEST-SIM	YES	1,7
		PRESS (PSIG):							
		NORMAL:	0.5	atmospheric	1	2	N/A	N/A	1
		ABNORMAL:	5	see Note 10	1	2	N/A	N/A	1,10
MANUFACTURER:	Sheffer Corp	ACCIDENT:	25	33	1	2	TEST-SIM	YES	1,8
		RH (%):							
MODEL:	see sheet 2	NORMAL:	90	see below	1	2	N/A	N/A	1
		ABNORMAL:	100	see below	1	2	N/A	N/A	1
SAFETY FUNCTION:	Containment Isolation	ACCIDENT:	steam/100	steam/100	1	2	TEST-SIM	N/A	1,8
		RADIATION:							
		NORM GAMMA:	9.4E6 R	see Note 11	1	2	N/A	N/A	1,2,11
		ACC GAMMA:	1E6 R	3.7E7 R	1	2	TEST-SIM	YES	1,3
OP. CODE:	A	NORM BETA:	6.3E3 R	see Note 11	1	2	N/A	N/A	1,2,11
		ACC BETA:	1.3E7 R	see Note 11	1	2	N/A	N/A	1,3,11
		NEUTRON:	2.2E6 R	see Note 11	1	2	N/A	N/A	1,2,4,11
		SPRAY:	N/A	N/A	N/A	N/A	N/A	N/A	
ACCURACY		SUBMERGENCE:	N/A	N/A	N/A	N/A	N/A	N/A	
	SPEC: NA								
	DEMO: NA								
ZONE NO:	see sheet 2	DOCUMENT REFERENCE:							
		1. Environmental Design Criteria (EDC)							
		SWEC Document No. 215.150, Rev. 2							
		(including change notices no. 2-1, 2-2 and 2-3)							
FLOOD LEVEL		2. GE Environmental Qualification Report							
ELEVATION:	105'-3" (Note 5)	NEDC-30801, SDDF# 8224.150-000-074A							
ABOVE FLOOD									
LEVEL?	Yes								
DOCUMENTATION ACCEPTABILITY:									
Acceptable to NUREG 0588, Cat 1:									
per NEDE-24326-1-P									
MAINTENANCE/SURVEILLANCE:									
REFERENCE:	2								
QUALIFIED LIFE									
(YEARS):	5 (Note 6)								
REFERENCE:	2								

SYSTEM COMPONENT EVALUATION WORK SHEET

SPN S05A
REV 1
DATE 12-13-84
SHEET 2

[illegible]

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN S05A
REV 1
DATE 12-13-84
SHEET 3A

: NOTES

- : 1. The specified value represents the maximum of the composite envelope for environmental zones DW-1 and
: AB-114-2.
- : 2. The specified value represents the 5 year total integrated dose for normal (including abnormal
: conditions.
- : 3. The specified value represents the 1 hour total integrated dose for design basis LOCA conditions.
- : 4. One neutron per square-centimeter is equivalent to $8E-9$ rads gamma radiation.
- : 5. Flooding applies only to equipment located in zone DW-1.
- : 6. The stated qualified life is based on the shortest qualified life of any MSTV actuator component.
- : 7. Temperature vs. time history:

Specified (see Note 1 above), ° F			Qualified, ° F		
0	-	0.1s	122-230	0	135-345*
0.1	-	0.3s	230-270	0-3h	345
0.3	-	1s	270-330	3-6h	345-325
1s	-	3h	330	6h-30h	325-265
3h	-	6h	310	30h-7d	265-200
6h	-	1d	310-250		
1d	-	10d	250-160		
10d	-	100d	160-140		

: *rise time at the maximum capability of the test facility.

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN S05A
REV 1
DATE 12-13-84
SHEET 3B

: NOTES (continued)

: 8. Pressure vs. time history:

Specified (see Note 1 above), psig		Qualified, psig	
0-1s	0-25	0	0-33*
1s-40s	25	0 -40s	33
40s-60s	25-11	40s-60s	33-16.5
60s- 1d	11	60s- 3h	16.5
1d-10d	11-0	3h- 6h	16.5-15.9
		6h-24h	15.9-12.1
		24h- 7d	12.1

: *rise time at the maximum capability of the test facility.

: 9. Enveloped by accident temperature. The specified temperature for normal and abnormal environmental conditions is considered in the aging calculation.

: 10. Enveloped by accident pressure.

: 11. Included in accident gamma dose.

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN S05B
REV 1
DATE 12-13-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE	QUAL	MARGIN	NOTES	
					SPECIFIED	QUALIFIED	METHOD	DEMO	
EQUIP NO: see sheet 2									
SYSTEM: Nuclear Boiler System		OP. TIME:	1 hour	>7 days	2	2	TEST-IDENT	YES	
		TEMP (F):							
		NORMAL	140	see Note 8	1	2	N/A	N/A	
		ABNORMAL	260	see Note 8	1	2	N/A	N/A	
TYPE: MSIV Limit Switch		ACCIDENT	330	357	1	2	TEST-IDENT	YES	
		PRESS (PSIG):							
		NORMAL	0.5	atmospheric	1	2	N/A	N/A	
		ABNORMAL		see Note 9	1	2	N/A	N/A	
MANUFACTURER: Namco		ACCIDENT	25	69	1	2	TEST-IDENT	YES	
		RH (%):							
MODEL: EA 740, Rev. K		NORMAL	90	see below	1	2	N/A	N/A	
		ABNORMAL	100	see below	1	2	N/A	N/A	
SAFETY FUNCTION: Reactor Trip		ACCIDENT	steam/100	steam/100	1	2	TEST-IDENT	N/A	
		RADIATION:							
		NORM GAMMA	9.4E6 R	1.87E7 R	1	2	N/A	N/A	
		ACC GAMMA	1E6 R	2.97E8 R	1	2	TEST-IDENT	YES	
OP. CODE: A		NORM BETA	6.3E3 R	see Note 10	1	2	N/A	N/A	
		ACC BETA	1.3E7 R	see Note 10	1	2	N/A	N/A	
		NEUTRON	2.2E6 R	see Note 10	1	2	N/A	N/A	
		SPRAY	N/A	N/A	N/A	N/A	N/A	N/A	
ACCURACY		SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A	
SPEC: NA									
DEMO: NA									
ZONE NO: see sheet 2		DOCUMENT REFERENCE:							
		1. Environmental Design Criteria (EDC)							
FLOOD LEVEL		SWEC Document No. 215.150, Rev. 2							
ELEVATION: 105'-3" (Note 5)		(including change notices no. 2-1, 2-2 and 2-3)							
ABOVE FLOOD		2. GE Environmental Qualification Report							
LEVEL? Yes		NEDC-30848							
DOCUMENTATION ACCEPTABILITY:									
Acceptable to NUREG 0588, Cat 1									
per NEDE-24326-1-P									
MAINTENANCE/SURVEILLANCE:									
REFERENCE: 2									
QUALIFIED LIFE									
(YEARS): 5									
REFERENCE: 2									

SRN S05B
REV 1
DATE 12-13-84
SHEET 2

[illegible]

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN S05B
REV 1
DATE 12-13-84
SHEET 3A

NOTES

1. The specified value represents the maximum of the composite envelope for environmental zones DW-1 and AB-114-2.
2. The specified value represents the 5 year total integrated dose for normal (including abnormal) conditions.
3. The specified value represents the 1 hour total integrated dose for design basis LOCA conditions.
4. One neutron per square-centimeter is equivalent to $8E-9$ rads gamma radiation.
5. Flooding applies only to equipment located in zone DW-1.
6. Temperature vs. time history:

Specified (see Note 1 above), ° F		Qualified, ° F	
0 - 0.1s	122-230	0 - 52m	357*
0.1 - 0.3s	230-270	52m- 3h	357-346
0.3 - 1s	270-330	3h- 6h	346-327
1s- 3h	330	6h- 30h	327-272
3h- 6h	310	30h- 4d	272-260
6h- 1d	310-250	4d- 34d	260-215
1d- 10d	250-160	34d-100d	215
10d- 100d	160-140		

*rise time at the maximum capability of the test facility.

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SPN S05B
REV 1
DATE 12-13-84
SHEET 3B

: NOTES (continued)

: 7. Pressure vs. time history:

Specified (see Note 1 above), psig		Qualified, psig	
0 - 1s	0-25	0 - 52m	69*
1s- 40s	25	52m- 3h	69
40s- 60s	25-11	3h- 1d	44
60s- 1d	11	1d- 4d	28
1d-100d	0	4d-100d	11

: *rise time at the maximum capability of the test facility.

: 8. Enveloped by accident temperature. The specified temperature for normal and abnormal environmental conditions is considered in the aging calculation.

: 9. Enveloped by accident pressure.

: 10. Included in accident gamma dose.

SRN S08/09
REV 0
DATE 12-06-84
SHEET 1

GULF STATES UTILITIES
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DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN S08/09
REV 0
DATE 12-06-84
SHEET 2

: NOTES

- : 1. The device is required only for the mitigation of a control rod drop accident.
- : 2. The specified accident environments result from a control rod drop accident.
- : 3. The specified value represents the 40 year total integrated dose for normal (including abnormal) conditions.
- : 4. The 5 year total integrated dose at the location of the turbine control panel (AB-095-4) for normal (including abnormal) conditions plus the control rod drop accident is 1275 rads. The turbine control panel components are qualified to 1E4 rads.
- : 5. The stated qualified life is based on the shortest qualified life of any RCIC turbine component.

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN S10
REV 1
DATE 12-13-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	NOTES (see Sheet 2)
					SPECIFIED	QUALIFIED			
EQUIP NO: C41-C001A,B		OP. TIME:	2 hours	36 hours	2	2	Test Ident:	Yes	1
SYSTEM: Standby Liquid Control System		TEMP (F):							
		NORMAL	90	104	1	2	Test Ident:	Yes	
		ABNORMAL	140	150	1	2	Test Ident:	Yes	
TYPE: Pump Motor		ACCIDENT	165	200	1	2	Test Ident:	Yes	2,5
		PRESS (PSIG):							
		NORMAL	- 1"W.G.	atmospheric	1	2	Test Ident:	Yes	
		ABNORMAL	2.3	18	1	2	Test Ident:	Yes	
MANUFACTURER: GE		ACCIDENT	9	16.5	1	2	Test Ident:	Yes	2,6
		PH (%):							
MODEL: 5K324AN2960		NORMAL	50	ambient	1	NA	NA	NA	
		ABNORMAL	100	100	1	2	Test Ident:	NA	
SAFETY FUNCTION: Reactivity Control		ACCIDENT	100	100	1	2	Test Ident:	NA	
		RADIATION:							
		NORM GAMMA	9E2	see Note 7	1	NA	NA	NA	3,7
		ACC GAMMA	2E6	3.9E7R	1	2	Test Ident:	Yes	4
OP. CODE: A		NORM BETA	2E3	see Note 7	1	NA	NA	NA	3,7
		ACC BETA	1.8E7	see Note 7	1	NA	NA	NA	4,7
		NEUTRON	0	NA	1	NA	NA	NA	
		SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY		SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA									
DENO: NA									
ZONE NO: CT-4		DOCUMENT REFERENCE:							
		1. Environmental Design Criteria (EDC)							
		SWEC Document No. 215.150, Rev. 2							
		(including change notices 2-1, 2-2 and 2-3)							
FLOOD LEVEL		2. GE Environmental Qualification Report							
ELEVATION: 109'		NEDC-30797, SDDF #8224.150-000-073A							
ABOVE FLOOD									
LEVEL? Yes									
DOCUMENTATION ACCEPTABILITY:									
Acceptable to NUREG 0588,Cat 1:									
per NEDE-24326-1-P									
MAINTENANCE/SURVEILLANCE:									
REFERENCE: 2									
QUALIFIED LIFE									
(YEARS): 40									
REFERENCE: 2									

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN S10
REV 1
DATE 12-13-84
SHEET 2A

NOTES

1. The specified value is not applicable for accident conditions. Equipment is only required to mitigate the consequences of a failure of the normal reactivity control system (control rods), i.e., abnormal event or ATWS.
2. The specified value represents the maximum of the composite envelope for environmental conditions resulting from a design basis LOCA and a small energy line break.
3. The specified value represents the 40 year total integrated dose for normal (including abnormal) conditions.
4. The specified value represents the 6 hour total integrated dose for design basis LOCA conditions.

5. Temperature vs. time history:

Specified (see note above), °F		Qualified, °F	
0-6s	90-165	0- 6s*	100-200
6s-1d	165	6s*- 1d	200
1d-10d	165-130	1d-12d	200-188

*rise time at the maximum capability of the test facility.

6. Pressure vs. time history:

Specified (see Note 2 above), psig		Qualified, psig	
0-6s	0-8	0- 6s*	0-16.5
6s-3h	8-9	6s*- 1d	16.5
2h-1d	9	1d-12d	16.5-15.3
1d-10d	9-0		

*rise time at the maximum capability of the test facility.

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN S10
REV 1
DATE 12-13-84
SHEET 2B

NOTES (continued)

7. Included in accident gamma dose.

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN S11
REV 1
DATE 12-13-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
		PARAMETER	SPECIFIED	QUALIFIED	DOCUMENT REFERENCE		QUAL.	MARGIN	NOTES
		VALUE	VALUE	SPECIFIED	QUALIFIED	METHOD	DEMO	(see Sheet 2)	
EQUIP NO: C41-P004A,B		OP. TIME:	1 hour	see notes	2	2	TEST-IDENT	YES	1,2
SYSTEM: Standby Liquid Control System		TEMP (F):							
		NORMAL	90	see Note 10:	1	N/A	N/A	N/A	10
		ABNORMAL:	140	see Note 10:	1	N/A	N/A	N/A	10
TYPE: Explosive Valve		ACCIDENT:	165	200	1	2	TEST-IDENT	YES	3,7
		PRESS (PSIG):							
		NORMAL	-1"W.G.	atmospheric:	1	N/A	N/A	N/A	
		ABNORMAL:	2.3	see Note 11:	1	N/A	N/A	N/A	11
MANUFACTURER: Conax		ACCIDENT:	9	16.5	1	2	TEST-IDENT	YES	3,8
		RH (%):							
MODEL: 7048-17000-01		NORMAL	50	N/A	1	N/A	N/A	N/A	
		ABNORMAL:	100	N/A	1	N/A	N/A	N/A	
SAFETY FUNCTION: Reactivity Control		ACCIDENT:	100	100	1	2	TEST-IDENT	N/A	
		RADIATION:							
		NORM GAMMA:	9E2 R	see Note 12:	1	N/A	N/A	N/A	4,12
		ACC GAMMA:	7E4 R	4.1E5 R	1	2	TEST-IDENT	YES	5,9
OP. CODE: A		NORM BETA:	2E3 R	see Note 12:	1	N/A	N/A	N/A	4,12
		ACC BETA:	5E5 R	see Note 12:	1	N/A	N/A	N/A	5,6,12
		NEUTRON	0	N/A	1	N/A	N/A	N/A	
		SPRAY	N/A	N/A	N/A	N/A	N/A	N/A	
ACCURACY		SUBMERGENCE:	N/A	N/A	N/A	N/A	N/A	N/A	
SPEC: NA									
DEMO: NA									
ZONE NO: CT-4		DOCUMENT REFERENCE:							
		1. Environmental Design Criteria (EDC)							
FLOOD LEVEL		SWEC Document No. 215.150, Rev. 2							
ELEVATION: 109'		(including change notices 2-1, 2-2 and 2-3)							
ABOVE FLOOD		2. GE Environmental Qualification Report							
LEVEL? Yes		NEDC-30674, SDDF# 8224.150-000-062B							
DOCUMENTATION ACCEPTABILITY:									
Acceptable to NUREG 0588,Cat 1:									
per NEDE-24326-1-P									
MAINTENANCE/SURVEILLANCE:									
Replace primer/trigger									
assembly and inlet fitting									
every 3 years									
REFERENCE: 2									
QUALIFIED LIFE									
(YEARS): 40									
REFERENCE: 2									

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN S11
REV 1
DATE 12-13-84
SHEET 2A

: NOTES

- : 1. The specified value is not applicable for design basis accident conditions. Equipment is only
: required to mitigate the consequences of a failure of the normal reactivity control system (control
: rods), i.e. abnormal event or ATWS.
- : 2. The valve self-actuated after 34 minutes of exposure to design basis LOCA conditions and demonstrated
: the operability of the explosive charge in its end-of-life condition. The pressure build-up in the
: unvented charge due to aging and high temperatures increases the volatility of the explosive and raises
: the probability for inadvertent self-actuation. Self-actuation opens the valve and is, therefore, a
: change into the safe direction.
- : 3. The specified value represents the maximum of the composite envelope for environmental conditions
: resulting from a design basis LOCA and a small break accident.
- : 4. The specified value represents the 40 year total integrated dose for normal (including abnormal)
: conditions.
- : 5. The specified value represents 10% of the 1 hour total integrated dose for design basis LOCA conditions.
- : 6. The specified beta dose of 5E5 rads is equivalent to a gamma dose of 1.9E5 rads as documented in
: Reference 2.

: 7. Temperature vs. time history:

Specified (see Note 2 above), °F		Qualified, °F	
0-6s	90-165	0-6s*	100-200
6s-1d	165	6s-70m	200
1d-10d	165-130		
10d-100d	130- 95		

: *rise time at the maximum capability of the test facility

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN S11
REV 1
DATE 12-13-84
SHEET 2B

: NOTES (continued)

: 8. Pressure vs. time history:

Specified (see Note 2 above), psig		Qualified, psig	
0-6s	0-8	0-6s*	0-16.5
6s-3h	8-9	6s-70m	16.5
3h-1d	9		
1d-10d	9-0		

: *rise time at the maximum capability of the test facility.

: 9. The qualified dose is the most limiting dose and applies to the primer/trigger assembly which is replaced every 3 years. The remainder of the valve is qualified for 1.3F6 rads.

: 10. Enveloped by accident temperature. The specified temperature for normal and abnormal environmental conditions is considered in the aging calculation.

: 11. Enveloped by accident pressure.

: 12. Included in accident gamma dose.

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN S12
REV 1
DATE 12-13-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	NOTES (see sheet 2)
					SPECIFIED	QUALIFIED			
EQUIP NO: C11-D001		OP. TIME:	see notes	see notes	3	3	TEST-IDENT:	N/A	1,2
SYSTEM: Control Rod Drive Hydraulic System		TEMP (F):							
		NORMAL:	90	see Note 11	1	N/A	N/A	N/A	11
		ABNORMAL:	140	see Note 11	1	N/A	N/A	N/A	11
TYPE: 3-Way Solenoid Valve		ACCIDENT:	165	215	1	3	TEST-IDENT:	YES	3,7
		PRESS (PSIG):							
		NORMAL:	-1"W.G.	atmospheric	1	N/A	N/A	N/A	
		ABNORMAL:	2.3	see Note 12	1	N/A	N/A	N/A	12
MANUFACTURER: ASCO		ACCIDENT:	9	17	1	3	TEST-IDENT:	YES	3,8
MODEL: HVA-176-816-1		RH (%):							
		NORMAL:	50	N/A	1	N/A	N/A	N/A	
		ABNORMAL:	100	N/A	1	N/A	N/A	N/A	
SAFETY FUNCTION: Reactor Scram		ACCIDENT:	100	100	1	3	TEST-IDENT:	N/A	
		RADIATION:							
		NORM GAMMA:	4E4	see Note 13	1	N/A	N/A	N/A	4,13
		ACC GAMMA:	7E5	4E6	1	3	TEST-IDENT:	YES	5
OP. CODE: A		NORM BETA:	2E3	shielded	1	3	N/A	N/A	4
		ACC BETA:	5E6	shielded	1	3	N/A	N/A	5
		NEUTRON:	0	N/A	1	N/A	N/A	N/A	
		SPRAY:	7 seconds	see below	2	N/A	see below:	N/A	6
ACCURACY		SUBMERGENCE:	N/A	2 hours	N/A	3	TEST-IDENT:	YES	6
SPEC: NA									
DEMO: NA									
ZONE NO: CT-3		DOCUMENT REFERENCE:							
		1. Environmental Design Criteria (EDC) SWEC Document No. 215.150, Rev. 2 (including change notices 2-1, 2-2 and 2-3)							
FLOOD LEVEL		2. River Bend Station FSAR, Appendix 6A, Figure 6A-10.2							
ELEVATION: 109'		3. GE Environmental Qualification Report NEDC-30820							
ABOVE FLOOD									
LEVEL? Yes									
DOCUMENTATION ACCEPTABILITY:									
Acceptable to NUREG 0588, Cat 1									
per NEDE-24326-1-P									
MAINTENANCE/SURVEILLANCE:									
REFERENCE: 3 (Note 9)									
QUALIFIED LIFE									
(YEARS): 40 (Note 10)									
REFERENCE: 3									

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN S12
REV 1
DATE 12-13-84
SHEET 2A

NOTES

1. The specified value is 30 seconds for design basis LOCA conditions and 12 hours for a small break accident.
2. The qualified value is 2 hours for design basis LOCA conditions and 14 hours for a small break accident.
3. The specified value represents the maximum of the composite envelope for a design basis LOCA and a small break accident.
4. The specified value represents the 40 year total integrated dose for normal (including abnormal) conditions.
5. The specified value represents the 1 hour total integrated dose for design basis LOCA conditions. The small break accident does not result in an additional dose above the specified normal (including abnormal) conditions.
6. The qualification for spray conditions is accomplished by submerging the device for 2 hours.
7. Temperature vs. time history:

Specified (see Note 3 above), ° F

Qualified, ° F

0-6s	90-165	0	215*
6s-1d	165	0-100s	215
1d-10d	165-130	100s-19m	215-200
10d-100d	130- 95	19m-14h	200

*rise time at the maximum capability of the test facility

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN S12
REV 1
DATE 12-13-84
SHEET 2B

: NOTES (continued) :

: 8. Pressure vs. time history: :

Specified (see Note 3 above), psig		Qualified, psig	
0-6s	0-8	0	17*
6s-3h	8-9	0-14h	17
3h-1d	9		
1d-10d	9-0		

: *rise time at the maximum capability of the test facility :

: 9. Refurbish the device with ASCO replacement kit FV-186-495 every 5 years. At the same time, inspect
: the wire connections in the junction box for tightness. :

: 10. Subject to the maintenance/surveillance activity described under Note 9 above. :

: 11. Enveloped by accident temperature. The specified temperature for normal and abnormal environmental
: conditions is considered in the aging calculation. :

: 12. Enveloped by accident pressure. :

: 13. Included in accident gamma dose. :

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN S18A
PEV 1
DATE 12-13-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
		PARAMETER	SPECIFIED	QUALIFIED	DOCUMENT REFERENCE		QUAL	MARGIN	NOTES
			VALUE	VALUE	SPECIFIED	QUALIFIED	METHOD	DEMO	(see sheet 2)
EQUIP NO: C11-P009,-F182		OP. TIME:	12 hours	13 hours	3	3	TEST-IDENT:	YES	1
SYSTEM: Control Rod Drive		TEMP (F):							
Hydraulic System		NORMAL:	90	see Note 7	1	N/A	N/A	N/A	7
		ABNORMAL:	140	see Note 7	1	N/A	N/A	N/A	7
TYPE: Pilot Solenoid Valve		ACCIDENT:	165	215	1	3	TEST-IDENT:	YES	4,6
		PRESS (PSIG):							
		NORMAL:	-1"W.G.	atmospheric	1	3	TEST-IDENT:	N/A	
		ABNORMAL:	2.3	see Note 8	1	N/A	N/A	N/A	8
MANUFACTURER: Valcor		ACCIDENT:	9	17.05	1	3	TEST-IDENT:	YES	5,6
		RH (%):							
MODEL: V70900-45		NORMAL:	50	N/A	1	N/A	N/A	N/A	
		ABNORMAL:	100	N/A	1	N/A	N/A	N/A	
SAFETY FUNCTION:		ACCIDENT:	100	100	1	3	TEST-IDENT:	N/A	
Scram Discharge Volume		RADIATION:							
Isolation		NORM GAMMA:	4E4 R	see Note 9	1	N/A	N/A	N/A	2,9
		ACC GAMMA:	7E5 R	3.9E7 R	1	3	TEST-IDENT:	YES	3
OP. CODE: A		NORM BETA:	2E3 P	see Note 9	1	N/A	N/A	N/A	2,9
		ACC BETA:	5E6 R	see Note 9	1	N/A	N/A	N/A	3,9
		NEUTRON:	0	N/A	1	N/A	N/A	N/A	
		SPRAY:	7 seconds	3 hours	2	3	TEST-IDENT:	YES	
ACCURACY		SUBMERGENCE:	N/A	N/A	N/A	N/A	N/A	N/A	
SPEC: NA									
DEMO: NA									
ZONE NO: CT-3		DOCUMENT REFERENCE:							
		1. Environmental Design Criteria (EDC)							
FLOOD LEVEL		SWEC Document No. 215.150, Rev. 2							
ELEVATION: 109'		(including change notices no. 2-1, 2-2 and 2-3)							
ABOVE FLOOD		2. River Bend Station PSAR, Appendix 6A,							
LEVEL? Yes		Figure 6A-10.2							
DOCUMENTATION ACCEPTABILITY:		3. GE Environmental Qualification Report							
Acceptable to NUREG 0588,Cat 1:		NEDC-30759, SDDF# 8224.150-000-075A							
per NEDE-24326-1-P									
MAINTENANCE/SURVEILLANCE:									
Replace 0-rings every 5 years									
REFERENCE: 3									
QUALIFIED LIFE									
(YEARS): 40									
REFERENCE: 3									

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SPN S18A
REV 1
DATE 12-13-84
SHEET 2

NOTES

1. The specified operability time accounts for the postulated maximum time period from the onset of a design basis event (small break accident) until the initiation of a reactor scram. The operability time for a design basis LOCA event is 30 seconds.
2. The specified value represents the 40 year total integrated dose for normal (including abnormal) and small break accident conditions.
3. The specified value represents the 1 hour total integrated dose for design basis LOCA conditions.
4. Temperature vs. time history:

Specified (see Note 6 below), °F		Qualified, °F	
0-6s	90-165	0-10s	108-215
6s-1d	165	10s-13h	215
5. Pressure vs. time history

Specified (see Note 6 below), psig		Qualified, psig	
0-6s	0-8	0-10s	0-17.05
6s-3h	8-9	10s-13h	17.05
3h-1d	9		
6. The specified value represents the maximum of the composite envelope for environmental conditions resulting from a design basis LOCA and a small high energy line break.
7. Enveloped by accident temperature. The specified temperature for normal and abnormal environmental conditions is considered in the aging calculation.
8. Enveloped by accident pressure.
9. Included in accident gamma dose.

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN S18B
REV 1
DATE 12-13-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL	MARGIN	NOTES
					SPECIFIED	QUALIFIED	METHOD	DEMO	(see sheet 2)
EQUIP NO: C11-F110A,B		OP. TIME:	None	100 days	3	3	TEST-IDENT:	YES	
SYSTEM: Control Rod Drive Hydraulic System		TEMP (F):							
		NORMAL	90	see Note 6	1	N/A	N/A	N/A	6
		ABNORMAL	140	see Note 6	1	N/A	N/A	N/A	6
TYPE: Backup Scram Solenoid Valve		ACCIDENT	165	215	1	3	TEST-IDENT:	YES	
		PRESS (PSIG):							
		NORMAL	-1"W.G.	atmospheric	1	3	TEST-IDENT:	N/A	
		ABNORMAL	2.3	see Note 7	1	N/A	N/A	N/A	7
MANUFACTURER: Valcor		ACCIDENT	9	17.05	1	3	TEST-IDENT:	YES	1,4
		RH (%):							
MODEL: V70900-43		NORMAL	50	N/A	1	N/A	N/A	N/A	
		ABNORMAL	100	N/A	1	N/A	N/A	N/A	
SAFETY FUNCTION: Not Safety-Related		ACCIDENT	100	100	1	3	TEST-IDENT:	N/A	1,5
		RADIATION:							
		NORM GAMMA	4E4 R	see Note 8	1	N/A	N/A	N/A	2,8
		ACC GAMMA	1.4E7 R	3.9E7	1	3	TEST-IDENT:	YES	3
OP. CODE: B		NORM BETA	2E3 R	shielded	1	3	N/A	N/A	2
		ACC BETA	1.5E8 R	shielded	1	3	N/A	N/A	3
		NEUTRON	0	N/A	1	N/A	N/A	N/A	
		SPRAY	7 seconds	12 days	2	3	TEST-IDENT:	YES	
ACCURACY		SUBMERGENCE	N/A	5 seconds	N/A	3	TEST-IDENT:	N/A	
SPEC: NA									
DEMO: NA									
ZONE NO: CT-3		DOCUMENT REFERENCE:							
		1. Environmental Design Criteria (EDC) SWEC Document No. 215.150, Rev. 2 (including change notice 2-1, 2-2 and 2-3)							
FLOOD LEVEL		2. River Bend Station FSAR, Appendix 6A, Figure 6A-12.2							
ELEVATION: 109'		3. GE Environmental Qualification Report NEDC-30669, SDDF# 8224.150-000-072A							
ABOVE FLOOD									
LEVEL? Yes									
DOCUMENTATION ACCEPTABILITY:									
Acceptable to NUREG 0588, Cat 1									
per NEDE-24326-1-P									
MAINTENANCE/SURVEILLANCE:									
Replace O-rings and Grafoil									
gasket every 5 years									
REFERENCE: 3									
QUALIFIED LIFE									
(YEARS): 40									
REFERENCE: 3									

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN S18B
REV 1
DATE 12-13-84
SHEET 2A

NOTES

1. The specified value represents the maximum of the composite envelope for environmental conditions resulting from a design basis LOCA and a small break accident.
2. The specified value represents the 40 year total integrated dose for normal (including abnormal) conditions.
3. The specified value represents the 180 day total integrated dose for design basis LOCA conditions.
4. Temperature vs. time history:

Specified (see Note 1 above), °F

Qualified, °F

0-6s	90-165	0-10s	108-205
6s-1d	165	10s-1m	205
1d-10d	165-130	1m-1h	205-215
10d-100d	130- 95	1h-30h	215
		30h-55h	215-197
		55h-100h	197
		100h-120h	197-163
		120h-100d	163

5. Pressure vs. time history:

Specified (see Note 1 above), psig

Qualified, psig

0-6s	0-8	0-10s	0-16.5
6s-3h	8-9	10s-1m	16.5-17.05
3h-1d	9	1m-55h	17.05
1d-10d	9-0	55h-100h	17.05-16.83
		100h-120h	16.83-16.72
		120h-100d	16.72- 7.7

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN S18B
REV 1
DATE 12-13-84
SHEET 2B

: NOTES (continued)

- : 6. Enveloped by accident temperature. The specified temperature for normal and abnormal environmental conditions is considered in the aging calculation.
- : 7. Enveloped by accident pressure.
- : 8. Included in accident gamma dose.

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN S19
REV 1
DATE 12-13-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						
PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	NOTES (see sheet 3)	
EQUIP NO: see sheet 2								
SYSTEM: Nuclear Boiler System	OP. TIME: 100 days	Later	Later	Later	Later	Later	1	
	TEMP (F):							
	NORMAL: 140	Later	1	Later	Later	Later		
	ABNORMAL: 260	Later	1	Later	Later	Later		
TYPE: Main Steam Safety/Relief Valve	ACCIDENT: 280	Later	1	Later	Later	Later	2,4	
	PRESS (PSIG):							
	NORMAL: 0.5	Later	1	Later	Later	Later		
	ABNORMAL: 5	Later	1	Later	Later	Later		
MANUFACTURER: Crosby	ACCIDENT: 11	Later	1	Later	Later	Later	2,5	
	RH (%):							
MODEL: see sheet 2	NORMAL: 50	Later	1	Later	Later	Later		
	ABNORMAL: 100	Later	1	Later	Later	Later		
SAFETY FUNCTION: RPV Overpressure Protection	ACCIDENT: steam/100	Later	1	Later	Later	Later		
	RADIATION:							
	NORM GAMMA: 9.4E6 R	Later	1	Later	Later	Later	3	
	ACC GAMMA: 0	Later	2	Later	Later	Later		
OP. CODE: A	NORM BETA: 6.3E3 R	Later	1	Later	Later	Later	3	
	ACC BETA: 0	Later	2	Later	Later	Later		
	NEUTRON: 2.2E6 R	Later	1	Later	Later	Later	3,6	
	SPRAY: N/A	N/A	N/A	N/A	N/A	N/A		
ACCURACY	SUBMERGENCE: N/A	N/A	N/A	N/A	N/A	N/A		
	SPEC: NA							
	DEMO: NA							
ZONE NO: DW-1	DOCUMENT REFERENCE:							
	1. Environmental Design Criteria (EDC)							
FLOOD LEVEL	SWEC Document No. 215.150, Rev. 2							
ELEVATION: 105'-3"	(including change notices no. 2-1, 2-2 and 2-3)							
ABOVE FLOOD	2. GSS-4058 dated January 3, 1984							
LEVEL? Yes								
DOCUMENTATION ACCEPTABILITY:								
Later NUREG 0588, CAT 1								
Qualification is in progress								
MAINTENANCE/SURVEILLANCE:								
REFERENCE: Later								
QUALIFIED LIFE								
(YEARS): Later								
REFERENCE: Later								

SYSTEM COMPONENT EVALUATION WORK SHEET

SRN S19
REV 1
DATE 12-13-84
SHEET 2

[illegible]

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
DOCKET NUMBER 50-458

SYSTEM COMPONENT EVALUATION WORK SHEET

SPN S19
REV 1
DATE 12-13-84
SHEET 3

NOTES

1. The equipment is only required for the mitigation of a small break accident (break area less than 0.5 square feet, Reference 2). The operability time is 2 days for active cycling and 100 days for maintaining the operator selected position.
2. The specified value represents the maximum value resulting from a small break accident (break area less than 0.5 square-feet).
3. The specified value represents the 5 year total integrated dose for normal (including abnormal) conditions. The small break accident (break area less than 0.5 square-feet) does not result in an additional dose above normal (including abnormal) conditions.

4. Temperature vs. time history:

Specified, ° F	Qualified, ° F
0 - 60s	140-330
60s- 3h	330
3h- 6h	310-250
1d- 10d	250-160
10d-100d	160-140

5. Pressure vs. time history:

Specified, psig	Qualified, psig
0-60s	0-11
60s- 1d	11
1d-10d	11-0

6. One neutron per square-centimeter is equivalent to $8E-9$ rads gamma radiation.